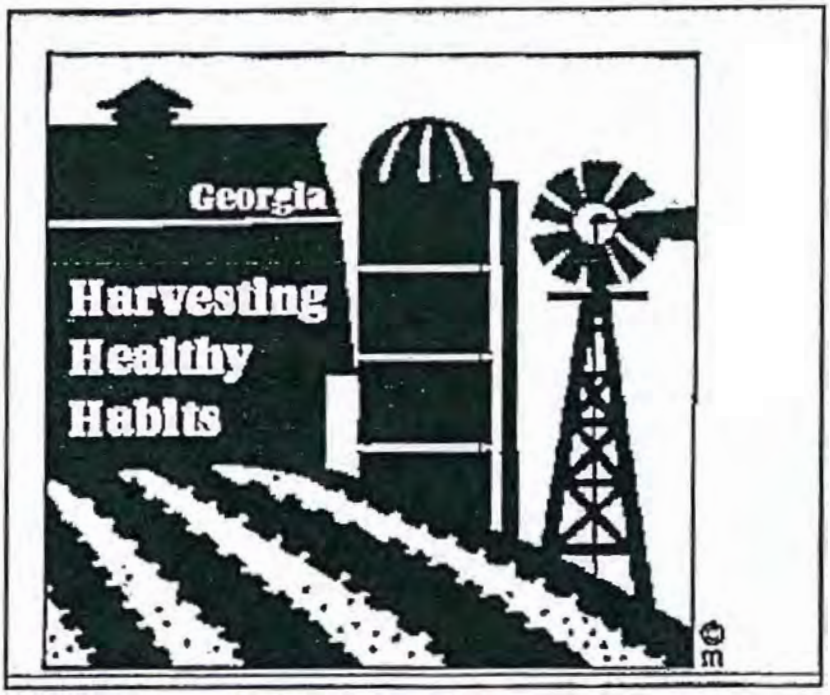
Georgia's Harvesting Healthy Habits Project



NIOSH-Funded: Cancer Control Among Agricultural Workers

Cooperative Agreement #U03/CCU410103
Final Report
Compiled December 1997

Project Manual

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1997 Cancer Conference

Integrating Public Health Programs for Cancer Control

Westin Peachtree Plaza
Atlanta, Georgia
September 2 -5, 1997

Program Agenda and Abstracts

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

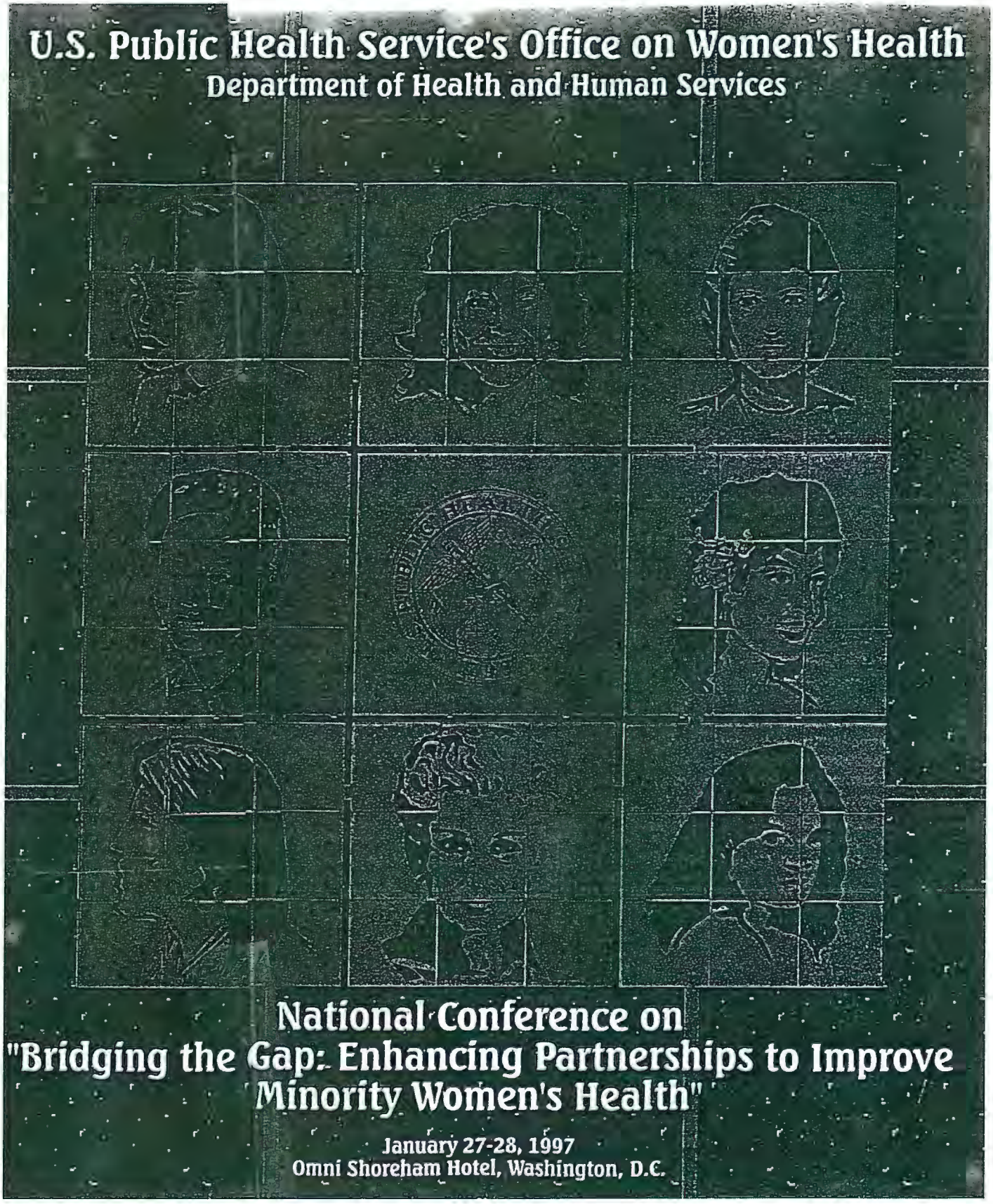
CDC
CENTERS FOR DISEASE CONTROL AND PREVENTION

PUBLIC HEALTH IN RETAIL STORES

Georgia Department of Human Resources -
Cancer Control
Karyn Jones, M.A.
Dawn Lewis, B.S.
Carol Steiner, M.N., R.N.

University of Georgia -
Dept. Of Speech Communications
Roxanne Parrott, Ph.D.

The Georgia Harvesting Healthy Habits Campaign has taken Public Heath Education a step beyond. The project developed Skin Cancer Prevention Displays with free pamphlets available for retail stores. The project is geared toward skin cancer prevention in the farming community. Farmers, for the most part, are under-insured and do not seek preventative health services. Most use over the counter medications to treat any illness rather than seeking medical attention. The displays were set up in local feed and seed stores where farmers go to buy supplies. The displays had pictures of skin cancer and information about skin cancer prevention and detection. The farmer could also pick up a brochure which had the same information. As a result of the display over 3000 brochures were distributed, 16 classes on skin cancer prevention have been taught, a statewide 4-H educational program was developed, a program for high school students is currently being field tested, and a national company is getting ready to develop this display for national distribution.


U.S. Public Health Service's Office on Women's Health
Department of Health and Human Services
National Conference on
"Bridging the Gap: Enhancing Partnerships to Improve
Minority Women's Health"
January 27-28, 1997
Omni Shoreham Hotel, Washington, D.C.

Bridging the Gap: Enhancing Partnerships To Improve Minority Women's Health

sponsored by the
U.S. Public Health Service's Office on Women's Health
Department of Health and Human Services

Omni Shoreham Hotel
Washington, DC
January 27-28, 1997

SUBMITTED ABSTRACTS DIRECTORY

NATIONAL CONFERENCE ON MINORITY WOMEN'S HEALTH
U.S. PUBLIC HEALTH SERVICE'S OFFICE ON WOMEN'S HEALTH
ABSTRACT SUBMISSION FORM

Abstract Title: Reaching the Hard to Reach through Expanded Partnerships: Cancer Contr in the Hispanic/Migrant Community

Presenter: Dawn Lewis, B.S & Karyn Jones, M.S.

Affiliation: GA Dept. of Human Resources Telephone: (912)389-4009 FAX: (912)383-0394

Address: 707 East Ward St. Douglas, GA 31533

Completing the Abstract Submission Form
***All text should be typed within the perimeters of the box shown. Fonts no smaller than 10 points should be used.**
***Organize the text of the abstracts as follows: 1)objectives; 2)partnership description; 3) analysis of the strengths and weaknesses; and 4) results.**

Objectives: To disseminate cancer control information regarding the prevention and early detection of skin, breast, and cervical cancers to Hispanic migrant farm workers and their families, and to increase cancer screening in this medically under-served group. **Partnership Descriptions:** Our skin cancer prevention and early detection project partnered with local county health departments to provide education and screening for skin, breast and cervical cancers to Hispanic migrant farm workers and their families. We purchased four Spanish videos for the health departments for use in educating their migrant clients, and a breast model to assist instruction in self-breast examination. We also disseminate Spanish educational materials at Hispanic Community Health Fairs. Promotional items, including sun-protective hats, water bottles and t-shirts, are distributed as incentives for sharing information. **Analysis of the strengths and weaknesses:** Extensive formative research was conducted to assess the health needs, beliefs and behaviors of this minority group; this has largely resulted in providing information, developing incentives and meeting needs in a useful and culturally appropriate manner. The partnership with county health departments has proved highly beneficial, since they were found to be the migrants' primary point of access to health care. The public health nurses and outreach staff have been a tremendous resource. **Results:** Our combined efforts have resulted in the screening of over 300 low-income Hispanic women for skin, breast and cervical cancers; at least 50 of these women have been diagnosed and treated for precancerous changes of the cervix and 2 women have had pre-cancerous lumps excised. Use of the breast model in self breast-exam instruction has helped overcome cultural barriers to self-touching. Treatment is a major concern for these clients; health department staff have worked diligently to find treatment sources as needed. A main concern with serving the Hispanic migrants is successful follow-up, since they are a mobile population. Staff have had to be flexible and sensitive to the many cultural subgroups that exist in this population.

Address Submissions to : Elena Rios, M.D., M.S.P.H.
Office on Women's Health
200 Independence Ave. SW, Rm. 728F
Washington, DC 20201

Telephone: (202) 690-7650
FAX: (202) 260-6537 or
(202) 690-7172
E-mail: erios@osophs.ssw.dhhs.gov

Deadline for Submission: November 25, 1996

Assistant Secretary for He
Office of Public Health and Scie
Washington D.C. 20

May 8, 1997

Dawn Lewis
Project Coordinator
Department of Cancer Control
Georgia Department of Human Resources
707 East Ward Street
Douglas, GA 31533

Dear Ms. Lewis:

On behalf of the U.S. Public Health Service's Office on Women's Health, I want to thank you for your participation in the "Bridging the Gap: Enhancing Partnerships to Improve Minority Women's Health" conference on January 27-28, 1997, in Washington, D.C. The conference was a great success. Conference evaluations indicated that the conference goals of presenting information on the status of minority women's health, discussing innovative partnership models, providing skill-building workshops, and involving key stakeholders in discussions on strategies to improve minority women's health were achieved.

We expect the networks that were developed at the conference and the recommendations that were introduced at the final session to improve the health of women of color and will help stimulate national and local public/private sector partnerships in this area.

Thank you for your excellent contribution to this conference and for your dedicated efforts to improve the health of women of color in the United States.

Sincerely,

Susan J. Blumenthal, M.D., M.P.A.
Deputy Assistant Secretary for Health (Women's Health)
Assistant Surgeon General

National Institute for Occupational Safety and Health

NIOSH

AGRICULTURAL HEALTH & SAFETY CONFERENCE 1987

FINAL PROGRAM

AGRICULTURAL HEALTH & SAFETY CONFERENCE

July 15–17, 199
NIOSH Morgantown Facili
Morgantown, W

3:30 pm **Communicating Agricultural Fatality Data (#30)** - *T. W. Struttmann. M.S.P.H.; E. Moon. M.A.; A. Scheerer; Kentucky Injury Prevention and Research Center, Lexington, Kentucky*

3:45 pm **FACE-ing Facts About Agricultural Fatalities in the Western High Plains (#31)** - *S.J. Hewitt, High Plains Intermountain Center for Agricultural Health and Safety, Colorado State University, Fort Collins, Colorado and L.E. McKenzie, Colorado Department of Public Health and Environment, Denver, Colorado; W. Hetzler, State of Nebraska, Department of Labor, Omaha, Nebraska; J. Rolf, Wyoming Department of Health, Cheyenne, Wyoming*

4:00 pm Group Discussions (Involving session chairs, presenters, and the audience)

B3 - CANCER ISSUES FOR AGRICULTURAL POPULATIONS

(NIOSH Facility, Room L 3044/45)

Session Chairs: Barbara Connally, NIOSH; Avima Ruder, NIOSH

3:00 pm **Skin Cancer Awareness and Prevention Among Agricultural Workers in North Carolina: The Dark Side of the Sun (#118)** - *Ellen Smoak, Judy Mock, and Ellen Miller*

3:15 pm **Overcoming Barriers to Effective Skin Cancer Prevention Among Agricultural Professionals (#86)** - *P.A. Litow, C.S. Sisneros and D. F. Goldsmith*

3:30 pm **Skin Cancer in Rural Farm Populations (#61)** - *Dawn C. Lewis & Karyn O. Jones, GA Dept. of Human Resources*

3:45 pm **Cervical and Breast Cancer Prevention Among Central California Farmworkers (#87)** - *M. Velasquez, B. Ruiz, M.-F. Vega, H. Gomez, R. Delgado, P. Litow, G. C. Sisneros and D. F. Goldsmith*

4:00 pm Group Discussions (Involving session chairs, presenters, and the audience)

B4 - PARTNERING FOR PREVENTION IN AGRICULTURE

(NIOSH Facility, Room L 4044/45)

Session Chairs: Anthony Yancey, NIOSH; Eric M. Hallman, Cornell University

3:00 pm **Building Partnerships for Agricultural Injury Prevention (#62)** - *Peggy Hickman, EdD, RN, University of Kentucky College of Nursing; Larry Piercy, University of Kentucky College of Agriculture; Michael Auslander, DVM, Kentucky Department for Public Health; & Joe Claxon, BS, Kentucky Farm Bureau Federation*

National Institute for Occupational Safety and Health

NIOSH

AGRICULTURAL HEALTH & SAFETY CONFERENCE 1997

ABSTRACTS

AGRICULTURAL HEALTH & SAFETY CONFERENCE

July 15–17, 199
NIOSH Morgantown Facili
Morgantown, W

ABSTRACT # 56

Title: **Farm-related Occupational Injury Reporting in Two California Counties**

Author(s): Ana Maria Osorio, Christine Geiser, Lee Husting and Kate Summerill

A pilot program for the surveillance of work-related agricultural injuries/fatalities was developed for two agricultural counties in the state (Fresno and Monterey). The primary objective was to prevent occupational farm-related injuries through active surveillance of incident cases, selective field investigations and health education/outreach. Case definition included three criteria: (1) Occupational: The injury is defined as occupational if it occurred at an agricultural site where the person was working (whether paid or unpaid), or occurred during a task associated with agricultural production or services, or resulted from using or being exposed to farm machinery or other agricultural hazards; (2) Agricultural: Injuries may be included if they occur in industries with SIC codes in Division A: Agriculture, Forestry, and Fishing under major groups 01 (Agricultural Production-Crops), 02 (Agricultural Production-Livestock and Animal Specialties), or 07 (Agricultural Services). Injuries with SIC codes 08 (Forestry) and 09 (Fishing, Hunting, and Trapping) are excluded. An agricultural injury is one that occurs at a farm, dairy, packing shed, food processing plant, or similar site, and is related to agricultural production or services; and (3) Injury: The case must involve an injury such as fractures, lacerations, burns, strains, insect bites, and effects of exposure to chemical agents. *Population*: agricultural workers in Fresno and Monterey counties with high percentage of migrant latinos. *Time period:* 1991-1996. *Information collected*: There are >5000 case reports in the database. Variety of case reporting sources were used: California mandated Doctor's First Reports (which provided the majority of cases), hospitals, clinics, various state agencies and the media. Type of data collected included: demographics of the person injured, employer name and nature of business, incident time and place, nature of the injury and the external cause. *Information dissemination:* Health and safety outreach was conducted in Spanish and English and targeted health care providers, agribusiness representatives, farm workers, and local agencies and institutions interested in agricultural or migrant health and safety. *Case follow-up:* Fatal, serious, frequent, and/or unusual injuries are investigated. Of all the reports received, 35 have resulted in more detailed reports containing a description of the incident, suggestions for prevention of similar injuries, and a single page Spanish summary. Over 400 sets of these in-depth reports have been distributed. Types of injuries profiled include: workers struck or crushed by objects, injured by a fall, or affected by heat and, less common, electrocutions, spider bites, scalping and amputations by equipment, and death from lightning. *Conclusion:* The NURSE incident database is a valuable resource for research and public health policy. The large number of cases (over 5000), and providers (over 30) involved plus the long period of observation has resulted in a very detailed and extensive farm-related occupational injury database. This talk will present the characteristics and trends of agricultural injury in two California counties. In addition, there will be discussion of selective illustrative case reports, lessons learned in the development of this project, recommendations for the prevention of occupational injury in this industry and potential use of this surveillance model in other areas of the country.

ABSTRACT # 61

Title: **Skin Cancer in Rural Farm Populations**

Author(s): Dawn C. Lewis & Karyn O. Jones, GA Dept. of Human Resources

The Georgia Harvesting Healthy Habits Campaign is an effort to educate the farmer and farm worker of the dangers of skin cancer. According to our research the average farmer does not practice skin cancer prevention practices. Farmers were contacted by phone and participated in an extensive phone interview. The interview contained questions about skin care practices and general farming information. Based on the information we received, efforts to educate the farmer were focused on public education. Farmers generally do not seek preventative health care since most are not insured or underinsured. A large percentage of the farmers surveyed had never received a skin exam. We decided to provide the health information in places the farmer frequently visits. The majority of farmers surveyed visit their local feed and seed store regularly. The GHHH Project developed displays which were placed in feed and seed stores. The displays contained skin cancer prevention messages. The displays were also stocked with brochures the farmer could take home. The brochures contained information about skin self-exam, sunscreens, and protective clothing. Most farmers surveyed never wore sunscreen. The farmers received a coupon for a sun protection cap developed by GHHH. The caps were to be picked up in the feed and seed stores which contained the displays. As a result of these efforts several hats and brochures have been distributed.

GPHA

May 7-9, 1997

Welcome

to the 68th
Annual Meeting
of the
Georgia Public Health
Association

"Public Health: Linking People, Pride, and Professionalism"

May 7-9, 1997
Jekyll Island, Georgia

takes participants through the steps the hospital took to produce the new program for dual disordered patients. A thorough literature review will be presented representing the most up-to-date programming for this difficult population, and the special problem areas this work entails. Finally, a description of the current program, a profile of the patients, and creative innovations in treatment are presented. In all, it has been a journey for both the hospital and the patients from coercion to self-efficacy.

Current Public Health Research

Beachside Ballroom - Room 12

Presider: *Bruce Leonard, MPH, CHES*

The purpose of this workshop is for presenters to share their research or program data.

8:30 Evaluation of Predictive Value of Transferrin Receptor Levels in the Early Identification of Iron Deficiency in Infants
Rebecca Black, MS

8:45 Redefining Criteria for Success When Evaluating Long-term Compliance in Interventions Involving Weight Loss, Diet, and Exercise
Rita DiGioacchio, PhD, MPH, CHES

9:00 Retail Stores Provide a Successful Avenue for Public Health Education
Dawn Lewis, Karyn Jones

9:15 Syringe Disposal Behaviors of Injection Drug Users
Kristen Springer, MPH, Claire Sterk, PhD, Stephen Jones, MD, Kathy Miner, PhD, MPH, CHES, Jennifer Taussig, MPH, CHES

9:30 6th Grade Hepatitis B Project
Sandy Blair, RN

9:45 Characteristics of Young Women in Georgia Who Are Chronic or Binge Drinkers
Mary Mathis, PhD, MPH, Roger Rochat, Florina Serbanescu, Carol Hadley

10:00 Public Health Specialists Need to Educate Public on Foot Care
Barbara McCarthy, MHS

10:15 CDC Director's Physical Activity Challenge
Bruce Leonard, MPH, CHES and Sharon Hammond

Disability Evaluation under Social Security

Beachside Hall - Room 13

Presenter: *Bruce Johnston,* Professional Relations Manager, Disability Adjudication Section

Social Security administers two disability programs: Title II (regular Social Security Disability Insurance program) and Title XVI (Supplemental Security Income Disability program). According to the Congressional Research Service (1/1/96) these two programs constitute the fourth largest category of entitlement spending with an estimated 10 million recipients in 1995. These recipients range in age from birth to 65 years plus. Disability Adjudication Services (DAS), is the arm of Georgia State Government which is funded by SSA to make the medical eligibility decision on disability claims. DAS would like the opportunity to address interested GPHA conferees about disability program requirements and the role various health professionals play in the disability adjudication process. Many GPHA members already receive written request from DAS about their patients/clients. They might like to know more about the eligibility criteria as well as the decision making process. This knowledge could help them in dealing with their clients and could also be valuable for them personally should they every find themselves unable to work due to a disability.

Current Public Health Research Abstracts

EVALUATION OF PREDICITIVE VALUE OF TRANSFERRIN RECEPTOR LEVELS IN THE EARLY IDENTIFICATION OF IRON DEFICIENCY IN INFANTS

Rebecca Black, MS

This study evaluated growth parameters, dietary intake, and iron status indicators in nine exclusively breastfed (plus infant cereal) and seven exclusively formula fed (plus infant cereal) infants at six months of age to investigate the sensitivity of transferrin receptor in detecting early iron deficiency. A negative correlation of protein intake per kg of body weight with transferrin receptor levels ($p=0.005$) was found in the breastfed group. The transferrin receptor was negatively correlated with ferritin in the breastfed group ($p=0.034$). Erythrocyte protoporphyrin levels were positively correlated with length gain per day in the formula fed group ($p=0.031$). The amount of cereal fed was positively correlated with ferritin ($p=0.033$). and hemoglobin ($p=0.047$) in the breastfed group. The formula fed infants took a higher proportion of total calories ($p<0.001$) and iron ($p<0.001$) from cereal than did the breast fed infants. Transferrin receptor was helpful in identifying early iron depletion in 33% of the breastfed group.

REDEFINING CRITERIA FOR SUCCESS WHEN EVALUATING LONG-TERM COMPLIANCE IN INTERVENTIONS INVOLVING WEIGHT LOSS, DIET, AND EXERCISE

R.F. DiGioacchino, R.G. Sargent, H.J. Rankin, J.R. Hussey, P.A. Sharpe, P.M. Miller

Traditional evaluations of weight loss intervention programs have focused on weight loss compliance with discouraging results. While weight loss is important in health risk reduction, improved diet and exercise adherence carry important independent risk reduction qualities. The long term effects of an intensive 26-day residential weight loss intervention program were determined in 198 men and women 1-5 years post-treatment. While only 16.0% and 19.7% : males and females respectively were able to maintain a 10% weight loss at follow-up (based : program entry weight), 87% reported to engage in regular walking, of which 76% did so three more days per week at a high intensity (77.6%) for an average duration of 45 min/session. Overall 56.7% were categorized as high actives. Additionally, respondents reported an average 2.81±1.23, 2.43±1.12, and 3.26±1.77, fruit, vegetable and bread/cereal servings per day respectively; and only 1.99±1.12 meat servings per day. The conclusion is that while weight : maintenance was modest, most of the intervention group practiced risk reducing exercise and behaviors. Although conventional evaluation protocol regarding the effectiveness of the wei control program may suggest this program unsuccessful, redefining "success" provides us with encouraging results. Thereby, redefining measures of success will enable us to identify progra that stimulate and help maintain changes in exercise habits and dietary behaviors providing protective effects of their own.

RETAIL STORES PROVIDE A SUCCESSFUL AVENUE FOR PUBLIC HEATH EDUCATION. Dawn Lewis and Karyn O. Jones. Farmers are underinsured and do not seek preventative health services. Most use over the counter medications to treat any illness rather than seeking medical services. Because of the difficulty in reaching farming populations with health messages, the Cancer Control Section/ University of Georgia Grant - Georgia Harvesting Healthy Habits has taken Public Health Education a step beyond. The project developed Skin Cancer Prevention Displays with free pamphlets available for retail stores. The project is geared toward Skin Cancer Prevention in the farming community. The goal of the project was to educate the target audience in a creative and innovative way. The method used made the health message readily available. The displays were set up in local feed and seed stores where farmers go to buy farm supplies. The displays had pictures of different types of skin cancer and information about skin cancer prevention and detection. The farmer could also pick up a brochure which had the same information. As a result of these displays, over 3000 brochures were distributed, 10 classes on skin cancer prevention have been taught, a statewide 4-H education program was developed, and a National Company is getting ready to develop these displays for national distribution.

SYRINGE DISPOSAL BEHAVIORS OF INJECTION DRUG USERS

Kristen W. Springer, MPH, Claire Sterk, PhD, T. Stephen Jones, MD, Kathy Miner, PhD, MPH, CHES, Jennifer Taussig, MPH, CHES

Background: Syringes discarded by injection drug users (IDUs) may place community members, refuse workers and other IDUs at risk for injury or infection with HIV, HBV and HCV. However, few communities have syringe disposal programs designed for IDUs.

Objectives: 1) To examine current syringe disposal behaviors of IDUs in one Atlanta, Georgia community. 2) To assess factors influencing where, how and when IDUs dispose used syringes. 3) To investigate IDUs' attitudes toward three specific syringe disposal interventions: a one-way drop box, a syringe exchange program (SEP) and home collection.

Methodology: One hour, semi-structured interviews were conducted with 26 IDUs in Atlanta. Data analysis was guided by Green and Krueter's PRECEDE model and data were coded using The Ethnograph qualitative software package.

Results: Most IDUs reported taking some precautions when disposing syringes, including breaking the needle, containing the syringe in a soda can and disposing the syringe in the trash or sewer. The most common reason cited for disposing with precautions was to protect children and other IDUs. Fear of arrest for syringe possession was a common factor motivating IDUs to dispose syringes indiscriminately. A syringe exchange program was the preferred syringe disposal intervention because IDUs could obtain a new syringe for each used syringe.

6TH GRADE HEPATITIS B PROJECT. Sandy Blair, RN.

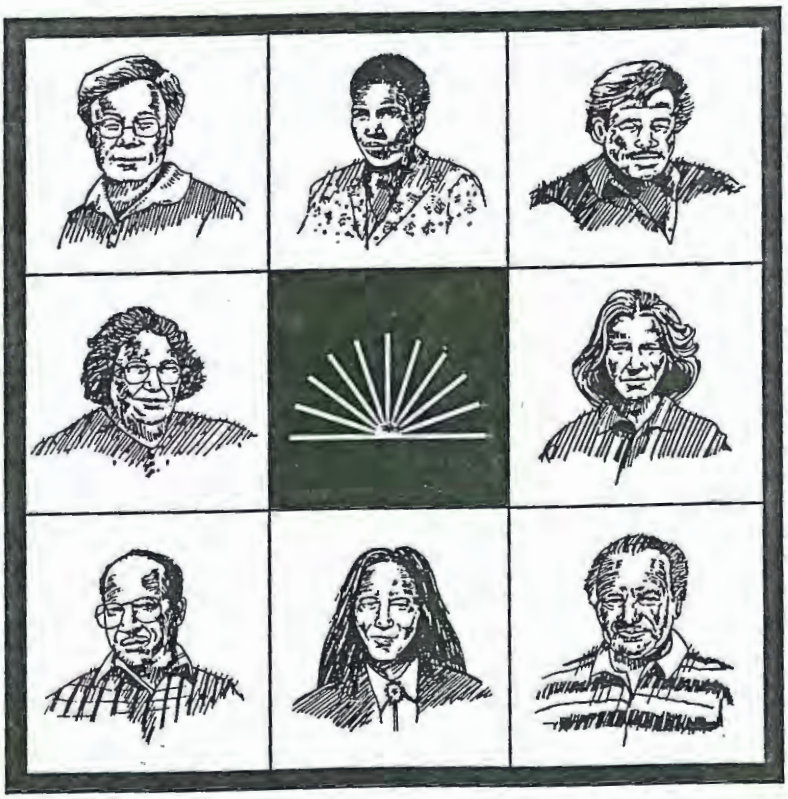
This one year project involved our twelve county district office nursing staff working with Smith KlineBeecham, who supplied the vaccine, and the Occupational Medical Center from Miami, Florida. Sixth graders were selected to be immunized as the specific population before they became sexually active. Statistics have shown that Hepatitis B has been on the rise in non-symptomatic carriers and its is the only vaccine to prevent a cancer causing disease. Boards of Education had to be convinced of the importance of the vaccine, yet we were still unable to get approval from all counties. Communication with the front line people in the schools were difficult, yet this project sparked enough interest that several teacher went to the Health Departments to receive this vaccine. Speaking at PTA and PTO meeting raised positive concerns from parents which resulted in their other children being vaccinated. Many good things happened as a result of this project and over four thousand of our now seventh graders are immunized against Hepatitis B.

CHARACTERISTICS OF YOUNG WOMEN IN GEORGIA WHO ARE CHRONIC OR BINGE DRINKERS. Mary P. Mathis[1], Roger Rochat[1,2], Florina Serbanescu[2], Carol Hadley[1].

Background: Previous studies based on survey data provide limited information about women of reproductive age at risk of chronic or binge drinkers because most surveys contain small numbers of women whose use of alcohol is excessive, most do not cover the entire age group, and few include questions about the consequences of chronic or binge use. **Methods:** During 1995 the Georgia Division of Public Health, in collaboration with CDC, conducted a statewide telephone survey on women's health issues, including alcohol use and its consequences. A probability sample of 3,130 women ages 15-44 years (73% response rate) was selected by Random Digit Dialing. Bivariate analysis determined correlates of use and consequences. **Results:** Approximately 15% of women surveyed reported that, on average, they had 1+ drinks/ day or that, at least once during the past year, they had 5+ drinks in a row. This pattern of use was associated with being white, being previously or never married , having smoked within the past year, and having attended or completed college. Chronic or binge drinking was negatively related to number of living children and to the frequency with which the woman attended church. Further, for this subgroup of women, alcohol use had negative consequences. Approximately 44% indicated that they had sometimes felt they should drink less, 22% reported that at least once they had drunk alcohol with memory loss, 11% reported that friends or family had sometimes complained about their drinking, and 6% reported that at least once they had had a drink first thing in the morning to prevent being sick. **Conclusions:** Since a minority of women of reproductive age(15%) engage in chronic or binge drinking which, for many, creates personal and social problems, prevention messages should emphasize the consequences of excessive/regular use of alcohol, and providers of health care should screen patients to determine use so that appropriate interventions can be made.

[1]Georgia DPH; [2]NCCDPHP,CDC.

6TH BIENNIAL SYMPOSIUM ON MINORITIES, the MEDICALLY UNDERSERVED & CANCER



HYATT REGENCY ON CAPITOL HILL, WASHINGTON, DC
APRIL 23-27, 1997

FINAL PROGRAM

SYMPOSIUM PROGRAM

Session V — *YORKTOWN*

- Thomas S. Granchi, Co-Chair
- Vivian Porche, MD, Co-Chair

3:15 Terry Davis, PhD
Non-Traditional Approach Improved Mammography Screening in a Public Hospital

3:30 Georgia Robins Sadler, PhD
Breast Cancer Screening Adherence in African American Women: Black Cosmetologists' Promoting Health Program

3:45 M. McCurdy, MSA
Outreach Strategies for Middle Aged & Older Women - Community Based Organization Demonstration Projects

4:00 Edward Partridge, MD
The Black Belt Cancer Linkage Initiative (BBCLI) Cancer Management in Rural Alabama

4:15 Dawn Lewis, BS
Expanded Partnerships Reaching the Medically Underserved with Cancer Prevention and Detection Information

4:30 Sheila Thompson and Keith Rodgers
Using Lay Volunteers to Reduce Women's Cancer and Cardiovascular Disease Risks

4:45 Dawn Lewis, BS
Extensive Research Overcomes Barriers in Reaching Minorities with Cancer Prevention and Detection Information/Treatment

5:00 Ellen Phillips-Angeles, M.S.
King County Breast and Cervical Health Program: Tapping Women's Power to Improve Women's Health

Session VI — *VALLEY FORGE*

- Moon S. Chen, Jr., PhD, Co-Chair
- Marion C. Johnson-Thompson, PhD, Co-Chair

3:15 Tom Baranowski, PhD
Ethnic Differences in Cancer Risk Behaviors in the Transition Out of High School

3:30 Roselyn Payne Epps, MD, MPH, MA
A Comprehensive Minority Intervention to Tobacco Control

3:45 Terry Davis, PhD
Tobacco Knowledge and Practices Among African American and White Low-Income Pregnant Women

4:00 Rod Lew, MPH
National Effort to Reduce Tobacco Use Among APIs Through Advocacy Capacity Building and Leadership Development

4:15 Royalyn Reid, MS
Increasing African American Volunteer Involvement in the American Cancer Society Establishing, Strengthening and Maintaining Relationships

4:30 Janet Hegland, BS
Increasing the Likelihood of Identifying an Unrelated Marrow Donor for Minority Patients: A Progress Report of the NMDP

4:45 Marilyn Duncan, MD
Development of a Minority Focus in the Cooperative Group Setting The Pediatric Oncology Group (POG) Experience

5:00 Anne Lanier, MD, MPH
The Alaska Native Tumor Registry: Report of 25 Years of Cancer Data and Operation of the Registry

6:00 PM - 8:30 PM CONGRESSIONAL FORUM ON CAPITOL HILL — *DIRKSEN SENATE OFFICE BUILDING I, ROOM G-50*

Hosted by the Intercultural Cancer Council

Members of Congress to be Announced

STATEMENTS FROM MEMBERS OF CONGRESS
BRIEF PRESENTATIONS FROM CONSTITUENTS

Research and Training
- Franklin C. Prendergast, MD, PhD
- John F. Alderete, PhD

Cancer Prevention & Control
- Armin D. Weinberg, PhD
- Linda Burhansstipanov, DrPH, MSPH

Managed Care
- David S. Rosenthal, MD

Survivorship
- Ellen L. Stovall
- Susan M. Shinigawa

Policy Considerations
- Donald S. Coffey, PhD
- Lovell A. Jones, PhD

Open Mike Session

6TH Biennial Symposium on Minorities, the Medically Underserved & Cancer

April 23-27, 1997
Washington, DC








cancers (in rank order) are lung, colon/rectum, prostate and stomach; while in women, the most frequently diagnosed cancers are breast, colon/rectum, lung and cervix. The top four cancers comprise more than half of all cancers diagnosed in men and women. Rates for lung cancer have increased most rapidly during the 25 years. Although originally, cancer in Alaska Natives occurred *less* often than in U.S. whites, age-adjusted rates for all cancers combined are now as *high* as those of U.S. whites.

Over the years the registry has received financial support from the National Cancer Institute Division of Cancer Etiology and Cancer Prevention and Control. Since 1984 operational support has come from the University of New Mexico Cancer Center and Cancer Registry. Data collected follow NCI SEER (Surveillance, Epidemiology and End Results) Program procedures and guidelines. Computer software (PC-DASH) developed by the New Mexico SEER program has been modified to meet the needs of the Alaska registry. Modification of software was made to include additional demographics, death certificate information, files of cases not meeting criteria for inclusion, and generation of periodic regional lists for follow-up of cancer patients. This system could be useful particularly in other American Indian/Alaska Native facilities treating cancer patients. The presentation will include discussion and examples of the cancer registry - data entry forms, automated and special reports, follow-up lists, etc.

25. Rod Lew, MPH. ***A National Effort to Reduce Tobacco Use Among APIs Through Advocacy, Capacity Building and Leadership Development.*** AAPCHO, 1440 Broadway St., Suite 510, Oakland, CA 94612.

Tobacco is the single most preventable cause of death. Some Asian Pacific Islander American (APIA) ethnic groups, like Laotian and Cambodian, have smoking prevalence for males, well above that for general U.S. males. APIAs are at particular high risk for tobacco-related diseases including lung cancer and heart disease. APIAs are also being heavily targeted by the tobacco industry both here in the U.S. and overseas. Despite some accomplishments among APIA tobacco control projects in California, nationally APIAs still have a low capacity to respond to tobacco control. However, CDC funded the APPEAL Program to address tobacco control for APIA's. The APPEAL Program has increased its membership to 125 organizations and has helped to build the capacity of local regions throughout the U.S. and the Pacific. This session will discuss APPEAL's national tobacco control agenda and strategies focusing on three major areas: capacity building, policy/advocacy and models for leadership development. It will also review the planning process for the 1997 APPEAL Tobacco Control Leadership Summit.

26. Dawn Lewis, BS, Karyn Jones MS, Roxanne Parrott, PhD. ***Expanded Partnerships Reaching the Medically Underserved with Cancer Prevention and Detection Information.*** 707 East Ward St., Douglas, GA 31533.

Statement of the Problem: Migrants do not have health insurance and do not seek preventative health care or services such a s mammograms or pap tests.

Purpose of the Research Project: To improve access to cancer prevention and detection information, education, and screening for migrant farm workers and their families and to develop innovative cancer prevention programs.

Methodology/Approach to Solving the Problem Disseminate cancer control information in Spanish regarding the prevention and early detection of skin, breast, and cervical cancer. The project partially funded Migrant Health Clinics and outreach workers for two counties. Brochures, T-Shirts, water bottles, magnets, sun protection hats, coloring books, and paint sheets all with health care and prevention messages. The project partnered with another program called BreasTEST and BreasTEST & More to provide information and preventative health care for breast and cervical cancer. We also partnered with hospitals and doctors to provide necessary treatment at no cost to the patients. The migrant health clinics were given breast models to teach self-breast

exams. We also attended migrant health fairs and conducted interviews to find out what migrants knew about cancer and health care services. Other questions on the interview sheet were social activities and gathering places. We wanted to find out where the best places would be to post any health care messages. In return for the completed surveys, each participant received one of the following: water bottle, t-shirt, or magnet. The children who were present received a coloring book or paint sheet.

Results: Our combined efforts have resulted in the screening of over 300 low-income Hispanic women for skin, breast, and cervical cancers. Two women have had pre-cancerous lumps removed and approximately 50 women have been treated for precancerous changes of the cervix. In 1995, 144 Hispanic women received pap smears. In the first six months of 1996, 139 women have received pap smears. These figures are based on the five counties the project is working in.

Outcome/Conclusions: The partnership with an existing state program proved highly successful in reaching our target population. The extensive research conducted prior to the intervention assisted our efforts to be culturally sensitive while fulfilling the migrants' health education needs.

27. Dawn Lewis, BS, Karyn Jones, MS, Roxanne Parrott, PhD. ***Extensive Research Overcomes Barriers in Reaching Minorities with Cancer Prevention and Detection Information/Treatment.*** 707 East Ward St., Douglas, GA 31533.

Statement of Problem: Farm families tend to have less health insurance, less coverage for preventative care, and often do not seek preventative services such as mammogram and pap tests.

Purpose of the Research Project: To improve access to cancer prevention and detection information, education, and screening for agricultural workers and their families and to develop innovative cancer prevention and detection programs.

Methodology/Approach to Solving the Problem: Disseminate cancer control information regarding the prevention and early detection of skin, breast, and cervical cancer to farm wives through health fairs, direct mail, and educational seminars. The project partnered with an existing program called BreasTEST and BreasTEST & More which provides free pap tests and mammograms. This program has been advertised at various meetings that farm wives attend & brochures handed out. We also provide free self-breast exam training with mini-breast models.

Results: Since the project started 1,927 women have been screened in the counties which are receiving the project information. In the control counties only 513 women have been screened.

Outcomes/Conclusions: A partnership with existing resources and programs, and a combined approach to disseminating information where the target population go contribute to the success of this project.

28. Linda Linville, PhD, Marilyn Swan. **Woman Talk: *A Video Promoting Cervical Health.*** Markey Cancer Center, 206 Davis Bldg., MCC/MRI, Lexington, KY 40536-0098.

Woman Talk... was produced to assist health care providers with a tool to educate women on the risks of lack of prevention and early detection with regard to cervical cancer. The purpose of this production was to explore the barriers to screening and counter this with education regarding benefits that were meaningful to women. Educating women of all ages about the disease, HPV and how to talk to one's teenage daughters were the main objectives. Particularly rural, poor and often women of limited literacy levels, cervical cancer morbidity and mortality are quite high. Thus the target population for utilization of this production are rural women of all ages, with a racial composition to represent the rural Midwest locality. A social marketing process methodology was used to cover issues of knowledge, attitudes, and behaviors regarding cervical health. A diverse population of women of all ages, women at risk, parents and health educators were

Communicating Safe Sun Practices to Farm Youth: A Model and Field Test of a Proposed Curriculum

Donald R. Turk, MA
Roxanne Parrott, PhD
Mary Martin, MA
Carol Steiner, RN, MN
Dawn Lewis, BA

SUMMARY. The Georgia Harvesting Healthy Habits Campaign evaluated farm youths' skin cancer prevention outcome expectancies us-

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Carol Steiner is affiliated with the Georgia Department of Human Resources, Division of Public Health, Cancer Control Section, Atlanta, GA 30303.

Dawn Lewis is affiliated with Coffee County Agricultural Extension, Harvesting Healthy Habits Campaign.

The authors thank Mary Martin for data entry assistance. The authors also acknowledge Linda Goldenhar, PhD, the Project Officer for this research, which was supported by Cooperative Agreement No. U03/CCU410103 from the National Institute for Occupational Safety and Health, and a fellowship to the second author from the Institute of Behavioral Research at the University of Georgia.

[Haworth co-indexing entry note]: ''Communicating Safe Sun Practices to Farm Youth: A Model and Field Test of a Proposed Curriculum.'' Turk, Donald R. et al. Co-published simultaneously in *Journal of Agromedicine* (The Haworth Medical Press, an imprint of The Haworth Press, Inc.) Vol. 4, No. 3/4, 1997, pp. 391-395; and: *Agricultural Health and Safety: Recent Advances* (ed: Kelley J. Donham et al.) The Haworth Medical Press, an imprint of The Haworth Press, Inc., 1997, pp. 391-395. Single or multiple copies of this article are available for a fee from The Haworth Document Delivery Service [1-800-342-9678, 9:00 a.m. - 5:00 p.m. (EST). E-mail address: getinfo@haworth.com].

ing Social Cognitive Theory as a framework. The evaluation was designed to enable farm youth to experience sun protection and skin cancer prevention behaviors and to form outcome expectancies about performance. It also provided the opportunity for participants to observe peers performing these promoted practices–a method of facilitating the formation of outcome expectancies. It was hypothesized that positive outcome expectancies would positively correlate with behavioral intentions to wear and negatively correlate with intentions to not wear particular sunscreens and hats while in the sun. Implications for the design of health education curricula to increase farm youths' positive outcome expectancies for sun protective practices are discussed. *[Article copies available for a fee from The Haworth Document Delivery Service: 1-800-342-9678. E-mail address: getinfo@haworth.com]*

KEYWORDS. Skin cancer, social cognitive theory

INTRODUCTION

Research has previously established the higher incidence of some types of cancer among agricultural populations as compared to other occupational groups.[1] Increased risk for skin cancer has been observed in farmers, and by extension, owing to the nature of farming as a ''family business,''–farm children are also at risk for skin cancers due to overexposure to the sun while working on the farm. Research has demonstrated that many farmers begin working on the farm at a relatively young age, a tradition passed on to their own children.[2] This in turn, increases their exposure to the sun and risk of skin cancer. The current project was designed to identify the barriers and motivators to farm youths' performance of skin cancer prevention and detection behaviors in order to design curricula which could directly address both.

Social Cognitive Theory[3] was employed to help guide the development of the study. One focus of the theory is on outcome expectations, or the beliefs individuals have about costs and benefits associated with performing protective behaviors at physical, personal and social levels. Previous research has not examined youths' direct experiences of sun protective practices.[4] The present project sought to provide farm youth with opportunities to try the behaviors being recommended to reduce skin cancer risks, thereby promoting the formation of outcome expectations.

The developed curriculum was pilot tested in 1994 at the Georgia Healthy Farmers "Farm Kids" Safety Camp. Experimental data were collected at the same camp in 1995 with the following hypotheses being forwarded:

H1: Positive outcome expectancies will correlate with intentions to wear particular hats while in sun.
H2: Negative outcome expectancies will correlate with intentions to not wear particular hats while in the sun.
H3: Positive outcome expectancies will correlate with intentions to wear particular sunscreens while in the sun.
H4: Negative outcome expectancies will correlate with intentions to not wear particular sunscreens while in the sun.

METHODS

Participants and Procedures

Participants were 82 (47 female and 35 male) prepubescent/adolescent children of Georgia farmers. The children ranged in age from eight to fifteen years old (M = 11.5; SD = 1.4). Approximately one quarter of the children had attended the previous year's pilot program.

Eight Sun Safety classes were held over the course of two days. Participants were seated in a large conference room where they received a research questionnaire packet consisting of a skin cancer prevention/detection knowledge measure, three skin cancer-related fact sheets, and a workbook to be used to rate various skin cancer prevention/detection materials and behaviors staged at centers around the room. A brief presentation about the dangers of sun exposure and skin cancer prevention behaviors was given after which subjects participated in three activities: a sun protection hat station, a sun block station, and a skin self-exam station. Participants rated hats which varied in their sun protection qualities (e.g., presence or absence of hat brim and ear/neck protection, color, weave and density of material). Sunscreens varied in SPF values, scent, water resistance, and thickness.

RESULTS

To evaluate the hypotheses, student *t*-tests were conducted comparing the outcome expectancy scores for individuals who reported that they would wear the particular hat or sunscreen with outcome expectancy scores for individuals who reported that they would not wear the particular hat or sunscreen. For four out of five of the hats surveyed, participants who reported that they would wear the hat had significantly higher posi-

tive outcome expectancy scores than those who said they would not wear those hats ($p < 0.05$). For four of the hats, participants who reported that they would not wear those hats had significantly higher negative outcome expectancy scores than those who reported that they would wear them ($p < 0.05$).

Four significant correlations supported hypothesis number three (H3) as well. For four out of five sun blocks, participants who reported that they would wear these blocks had significantly higher positive outcome expectancies than those reporting that they would not wear them ($p < 0.05$). For hypothesis number four (H4), only one sunscreen yielded a significant correlation between negative outcome expectancies and behavioral intentions.

DISCUSSION

As a result of this project several significant insights are gained that should contribute to the future design of programs aimed at educating youth about skin cancer. First, youth are less ambivalent about their positive evaluations of both sun protective clothing and sunscreens than they are about negative evaluations of these same behaviors. Their behavioral intentions are aligned with the positive outcome expectations that they form in relation to behavioral performance. When they evaluate a hat more positively, they are more likely to wear that hat. When they rate a sunscreen more positively, they are more likely to wear that sunscreen. This tells health educators that the need exists to build positive outcome expectations in association with desired behavioral practices.

A second significant outcome from this project relates to the finding that youths' negative outcome expectations did not determine their behavioral intentions. Thus it would seem less efficient for educators to address the negative. Youth find all practices being promoted with regard to protective clothing and sunscreen use to be equally likely to share particular negative evaluations, but that does not determine their intention to either wear the clothing or the sunscreen.

A third finding from this project with important implications is that youth do not distinguish among various hats and sunscreens regarding their efficacy in protecting them from the sun. Their intentions to wear particular hats or sunscreens are rated equally positive or negative across conditions, such that a baseball cap that youth intend to wear is rated as positively as a more protective safari-type cap with ears and neck protection. A hat they have no intention of wearing is rated no more negatively than a hat they expect to wear. Health education curricula to promote sun safety to youth must focus on building (1) positive outcome expectancies

in relation to the most efficacious practices, and (2) in drawing clear distinctions for youth among their options, so that they are able to make these decisions for themselves. Only in this way are we likely to impact both knowledge and behavior, and in the long term, the incidence of skin cancer in youth.

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3. Bandura, A. Social foundation of thought and action: A social cognitive approach. Englewood Cliffs: Prentice Hall, 1986.

4. Hughes, BR, Altman, DG, and Newton, JA. Melanoma and skin cancer: Evaluation of a health education program for secondary schools. British Journal of Dermatology 1993; 128:412-417.

PARTNERS FOR A SAFER COMMUNITY™

February 14, 1997

Dawn Lewis
Georgia Harvesting Healthy Habits
707 East Ward Street
Douglas, GA 31533

Dear Ms. Lewis:

As we have discussed, *Partners for a Safer Community* is a national collaborative effort to compile and distribute agricultural youth safety education resources to agriculture teachers and community leaders across the country (please refer to the attached project fact sheet).

To help accomplish this goal, *Partners for a Safer Community* has compiled a community-based agricultural youth safety program and instructional package designed for teaching safety to secondary and elementary school students. This package includes:

- a teacher, student and community development guide,
- a set of agricultural safety education resources in hard copy,
- a set of agricultural safety education resources on CD-ROM and
- a categorized resource guide that lists additional materials.

The project's advisory committee has reviewed and selected one of your organization's publications for inclusion in the educational package's set of sample resources. With your permission, *Partners for a Safer Community* would like to use *Communicating Skin Cancer Prevention Messages to Farm Kids: A Curriculum* on our CD-ROM.

We hope to reach 4,000 communities through training on this educational program by the end of 1999.

If it is acceptable for *Partners for a Safer Community* to include your material in our program's educational package, **please sign and date this letter and return to me by mail at 151 Mansfield St., #1, New Haven, CT 06511 or by fax at (203) 773-3886 by Monday, March 3, 1997.**

NIOSH Workshop on Cancer Control Research

Demonstration Projects for Farmers:

Lessons, Issues, and Future Directions

NIOSH Workshop on Cancer Control Research
Demonstration Projects for Farmers:
Lessons, Issues, and Future Directions

Omni Netherland Plaza Hotel
Cincinnati, Ohio

May 8 - 9, 1995

& Objectives:

1. To offer insight into the publication of results of the demonstration projects

2. To exchange ideas and recommendations for the ongoing program activities

3. To contribute to the body of research on cancer control interventions, formative research methodologies, etc.

4. To foster collaborative links between NIOSH, its cooperators, and other federal agencies having mandates t conduct cancer research

5. To widely disseminate successful cancer intervention methods, materials, and strategies to appropriate audience

NIOSH Workshop on Cancer Control Research
Demonstration Projects for Farmers:
Lessons, Issues, and Future Directions

ay, May 8, 1995

1:00 - 1:15 pm	NIOSH Opening Remarks
1:15 - 1:45 pm	Iowa Overview
1:45 - 2:15 pm	Michigan Overview
2:15 - 2:45 pm	California Overview
2:45 - 3:00 pm	Break
3:00 - 3:30 pm	Wisconsin Overview
3:30 - 4:00 pm	PATH Overview
4:00 4:30 pm	NIOSH Pooled Barriers Analysis
4:30 - 4:45 pm	Break
4:45 - 5:15 pm	Nebraska Overview
5:15 - 5:45 pm	Georgia Overview
5:45 - 6:15 pm	Minnesota Overview
6:15 - 6:30 pm	Closing Remarks
6:30 - 7:30 pm	Reception

Tuesday, May 9, 1995

8:45 - 9:00 am	Call to Order/Define Tasks
9:00 - 10:15 am	Working Group Sessions
10:15 - 10:30 am	Break
10:30 - 12:00 pm	Working Groups Resume
12:00 - 1:30 pm	Luncheon & Guest Speaker
1:30 - 2:00 pm	Plenary Session to Assemble Ne Working Groups
2:00 - 3:15 pm	Working Groups Resume
3:15 - 3:30 pm	Break
3:30 - 4:00 pm	Breakout Reports/ Recommendations & Closing Remarks

Four working groups will each address the following issues:

1. What did you learn that was beneficial to bringing cancer interventions to farmers and their families?

2. What problems (and solutions) did you experience in identifying barriers to cancer control and in developing the relate interventions?

3. How can we best build on the information and lessons learned from the projects?

4. What are your recommendations for disseminating the results from the projects (in addition to professional journ publications)?

Identifying Gaps and Bridging Solutions:

An Overview of Georgia's Harvesting Healthy Habits Campaign

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The project presenters acknowledge Linda Goldenhar, Ph.D., the Project Officer for GHHH. This research was supported by Grant No. U03/CCU410103 from the National Institute of Occupational Safety & Health.

Identifying Gaps and Bridging Solutions: An Overview of Georgia's Harvesting Healthy Habits Campaign

Roxanne Parrott, Carol Steiner, Dawn Lewis

ABSTRACT

Health planners, policy-makers, and providers often acknowledge the importance of "identifying gaps" as part of the planning and delivery of health education and services. The process of identifying gaps, however, has not been articulated, leaving one to assume that the task is simple, easy, understood, and/or intuitive. Because the published and anecdotal evidence of those who attempt to provide health education and services to the public suggests that the process is neither easy nor understood, we identify the steps undertaken by the Georgia project to identify gaps as part of laying the foundation for the Harvesting Healthy Habits campaign.

Research conducted during the past decade, primarily in relation to safety and injury prevention for farmers, demonstrates that agricultural workers have an increased incidence of both skin and prostate cancers in comparison to other occupational groups and the general public (Blair & Zahm, 1991). Essentially every study of NMSC death in farmers has demonstrated that farmers have an elevated relative risk (e.g., Blair, Maler, Cantor, Burmeister, & Wilklund, 1985), with farmers working in the southeastern United States having been found to have a mortality ratio of 1.80 (Delzell & Grufferman, 1985). The case for elevated melanoma mortality risk in farmers is mixed, with some studies showing an elevated risk (Blair et al., 1985), while research has shown a decreased risk (Fincham, Hanson, & Berkel, 1992). Many papers demonstrating a decreased risk, however, have studied populations far from the equator, such as Iceland, Alberta, and Washington state--locations where farmers probably receive less intense solar exposure, particularly in comparison to farmers in states in the southern United States. Even in the Midwestern United States, however, a skin cancer screening directed toward outdoor workers, many of whom were farmers, detected 228 lesions in the 447 persons screened, a 48% incidence rate; only 20% of participants said that they use sunscreens (Gilmore, 1989). The researchers in this study concluded that community skin cancer screening and education programs need to be developed and conducted to encourage "the participation of those individuals involved in outdoor occupations such as farmers" (Gilmore, 1989, p. 212). The Georgia Harvesting Healthy Habits campaign is just such a program, and the efforts undertaken to identify gaps, a primary outcome of conducting formative research to guide campaign development, will be discussed in our project overview, together with highlights of two programs [farm kids' skin cancer class and health care providers' skin cancer class] designed in response.

I. *Step One*: Recognize the value of identifying gaps as part of formative research.

The data for this project were gathered from Georgia:

* a state in the southeastern United States where 36% of the population live in rural areas,

* and there are more than 43,000 farm operators,

* farming contributes significantly to economic activity in the state,

* a recent study examining the State's tumor registry data for patients with newly diagnosed invasive malignancies found that residents from the rural areas were twice as likely to have unstaged cancers as were urban residents, and rural patients with known stage of diagnosis had more advanced disease than urban patients (Liff, Chow & Greenberg, 1991). These differences could reflect lack of access to education, screening, and state-of-the-art treatment and/or the un·under insured status that characterize the state's agricultural workers generally, as well as other more individual variables. We set out during year one of GHHH to identify such gaps that would block the project's ability to attain its objectives.

A. **Formative Research Defined**: formative research comprises the purposive activities undertaken as part of the planning process before campaign interventions are designed.

Often, these activities are comprised of pilot-testing of messages and/or programs. Additionally, "identifying gaps" are said to be one objective of conducting formative research, but the meaning of this notion or how to accomplish this task have not been precisely articulated.

B. **Gaps Defined**: gaps represent differences between potential and actual realities as constructed by planners versus their publics, owing to legislative or community structural barriers, as well as cognitive limits to involvement and knowledge.

C. **Conclusion**: identifying gaps fulfills an ethical obligation to refrain from promotion in an environment not equipped to support practices (see Parrott, Kahl, & Maibach, 1995).

II. *Step Two*: Use the knowledge-behavior gap hypothesis as a construct to guide the identification of gaps.

A. **Knowledge-Behavior Gap Defined**: based on findings that mass media information diffused into a social system leads to a greater increase in awareness in higher socioeconomic groups as compared to lower socioeconomic groups; as a result, the distance between the two actually increases rather than decreases (Tichenor, Donohue, & Olien, 1970).

Explanations for this outcome include: (1) the structural characteristics of communities; (2) structural characteristics of individuals; (3) community social influences; (4) learned characteristics of individuals; and (5) enduring characteristics of individuals (Hornik, 1989, p. 118).

B. **Extension of the General Premise to the Specific Situation**: explore the reasons why the diffusion of mass media information about skin cancer's incidence and causes [e.g., overexposure to sun] might lead to greater increase in awareness and cancer control behaviors among some groups but not among farmers.

Method used: A county similar in location, size, and farming characteristics to the counties where the demonstration project is being conducted was selected for the site of formative research and a triangulated method was used to conduct:

> ***(1) 155 short interviews*** comprised primarily of closed questions, with several open-ended questions at the end of the interview to assess general farming experiences, health behaviors, and past experience with skin cancer;

Similar to the development of survey items for the conduct of an exploratory factor analysis, we approached the development of the short interviews in an open-ended fashion, conducting literature reviews and brainstorming about the barriers or facilitators to performance of the target behaviors [in this case, wearing sunscreen, long-sleeved shirt, wide-brimmed hat, and pesticide protection; conducting skin self exams and obtaining clinical skin exams]. As a result, the following ***reasons to perform the target behaviors were identified***: my doctor recommends it; I know that I should; it makes me feel protected from the sun; it is easy to do; I don't want to get skin cancer; it is affordable; it is easy to remember. ***Reasons for failure to perform the behavior included***: my doctor did not recommend it; I did not know that I should; it is not available where I shop; it costs too much; it takes too much time; it does not work; it is embarrassing; I don't like it; I forget; I put off doing it; I am allergic; I want to tan. This led to the development of one of two forms of the short interview, which was administered to 78 farmers during a state farming conference. Interviews were conducted at a table set-up in the conference display area.

A second short interview schedule was developed around the goal of further identifying gaps in knowledge, self-efficacy, and social network support. This interview was administered to 77 farmers in attendance at a different farming conference from the one during which the first interview was administered; no one participated in both interviews. Both short interviews included several open-ended questions relevant to the goal of understanding farmers' experiences, including: if you wanted information about skin cancer, how would you get that information; have you ever had skin cancer and, if yes, where; how many people have you known who have had skin cancer; has a physician ever

advised you to get a skin exam; do you know how to conduct a skin self exam; how many years have worked on farm; number of employees; kind of farm, size, own tractor, other equipment, any with cabs or umbrellas; exposure history in relation to coal, creosote, tar, arsenic, pitch, and radium.

(2) field observations of (a) 144 outdoor workers; (b) 12 feed and seed supply stores--five full service; (c) 14 health clinics; (d) 4 libraries; and (e) 5 book and 8 video stores.

The field observation forms were developed with the goal of assessing the availability and cost of information and products relating to skin cancer prevention and detection. In preparation for conducting field observations, an intensive two-day, 16 hour seminar on field methods, including an overview of the project and project goals, attire and demeanor during field observation [including the wearing of name badges to associated all trainees with the project; and carrying business cards with project logo, names, address, and phone number], ethical considerations, and answers to anticipated questions was undertaken. Nine participants were trained, with training culminating in practice with field visits to clinics, libraries, feed and seed stores, as well as observations of outdoor workers in the university community where the training took place. This provided impetus to further refine the field observation forms for use in the project.

(3) 30 in-depth long interviews of (a) 10 legislators; (b) 10 public health nurses; and (c) 10 farmers.

General open-ended questions provide the opportunity for narratives to emerge in which both barriers and facilitators to a behavior become emergent--barriers/facilitators that individuals may not have top of the memory recall of when asked about these matters in short interviews. Thus, long interview schedules must be constructed in ways that grant opportunities for these stories to be told, and the interviewers conducting long interviews must display interest in hearing these stories of situations as experienced by the interviewees.

Communicating to Farm Youth About Safe Sun Practices:

A Model and Field Test of a Proposed Curriculum

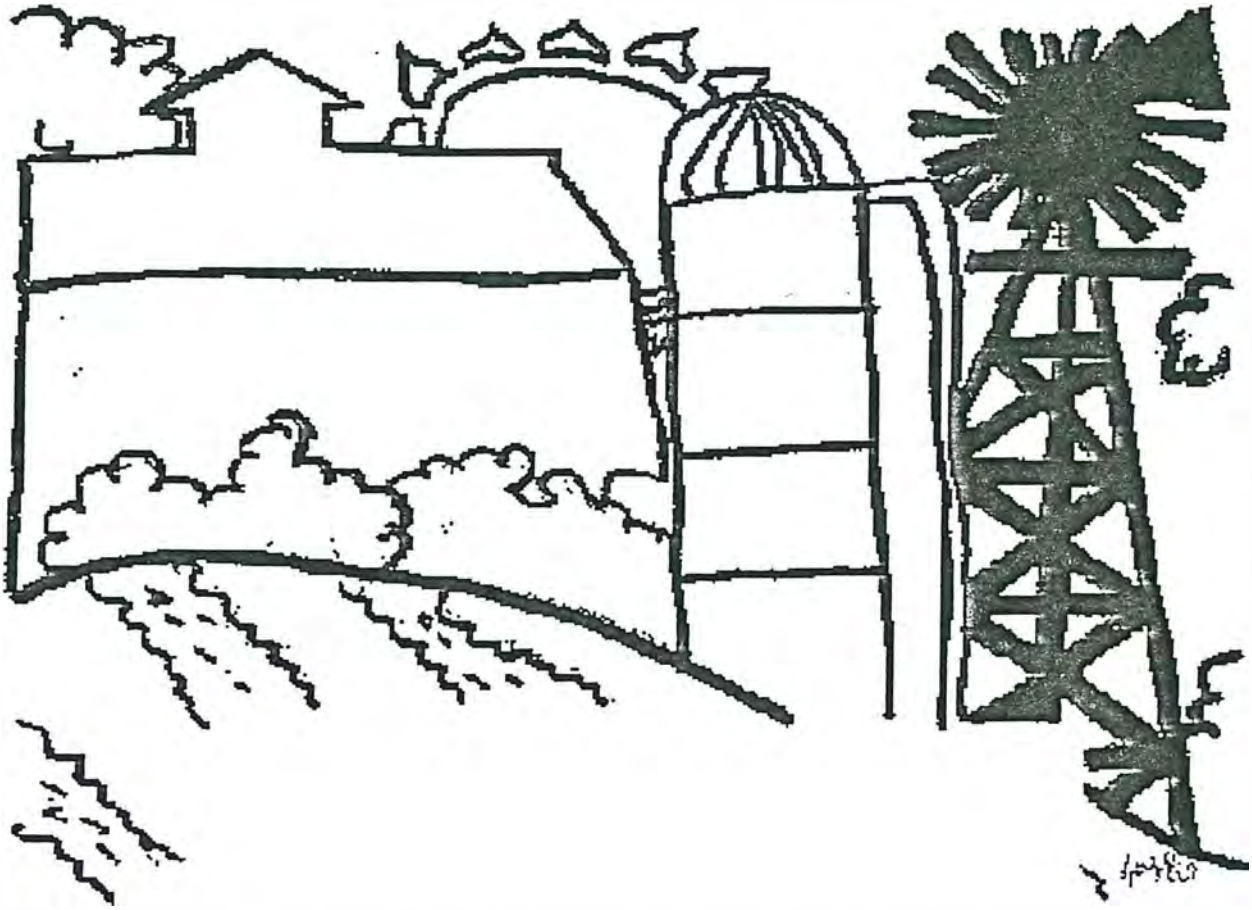
ABSTRACT

The Georgia Harvesting Healthy Habits Campaign developed and evaluated a skin cancer prevention curriculum using Social Cognitive Theory (Bandura, 1986) as a framework. The curriculum was designed to enable farm youth to experience sun protection and skin cancer prevention behaviors, building positive outcome expectancies and self-efficacy about performance. It also provided the opportunity for participants to observe peers performing these promoted practices-- a method of facilitating the formation of outcome expectancies. It was hypothesized and supported that outcome expectancies would positively correlate with behavioral intentions to wear and negatively correlate with intentions to not wear particular sunscreens and hats while in the sun.

Coloring Books

SAVE YOUR OWN SKIN

A COLORING BOOK FOR SUN SAFETY ON THE FARM

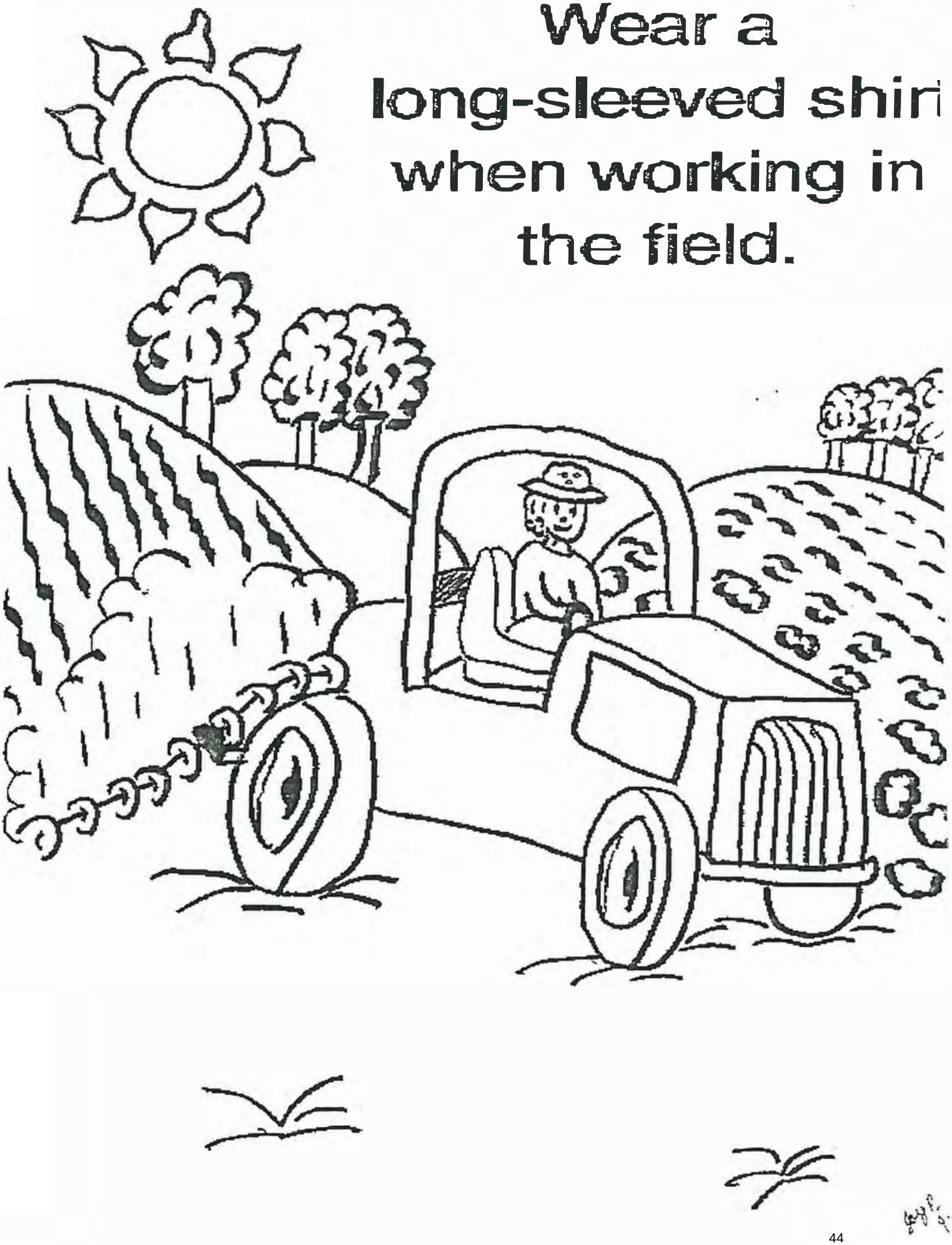


Georgia's Harvesting Healthy Habits Campaign

A Program of The Georgia Dept. of Human Resources and the University of Georgia

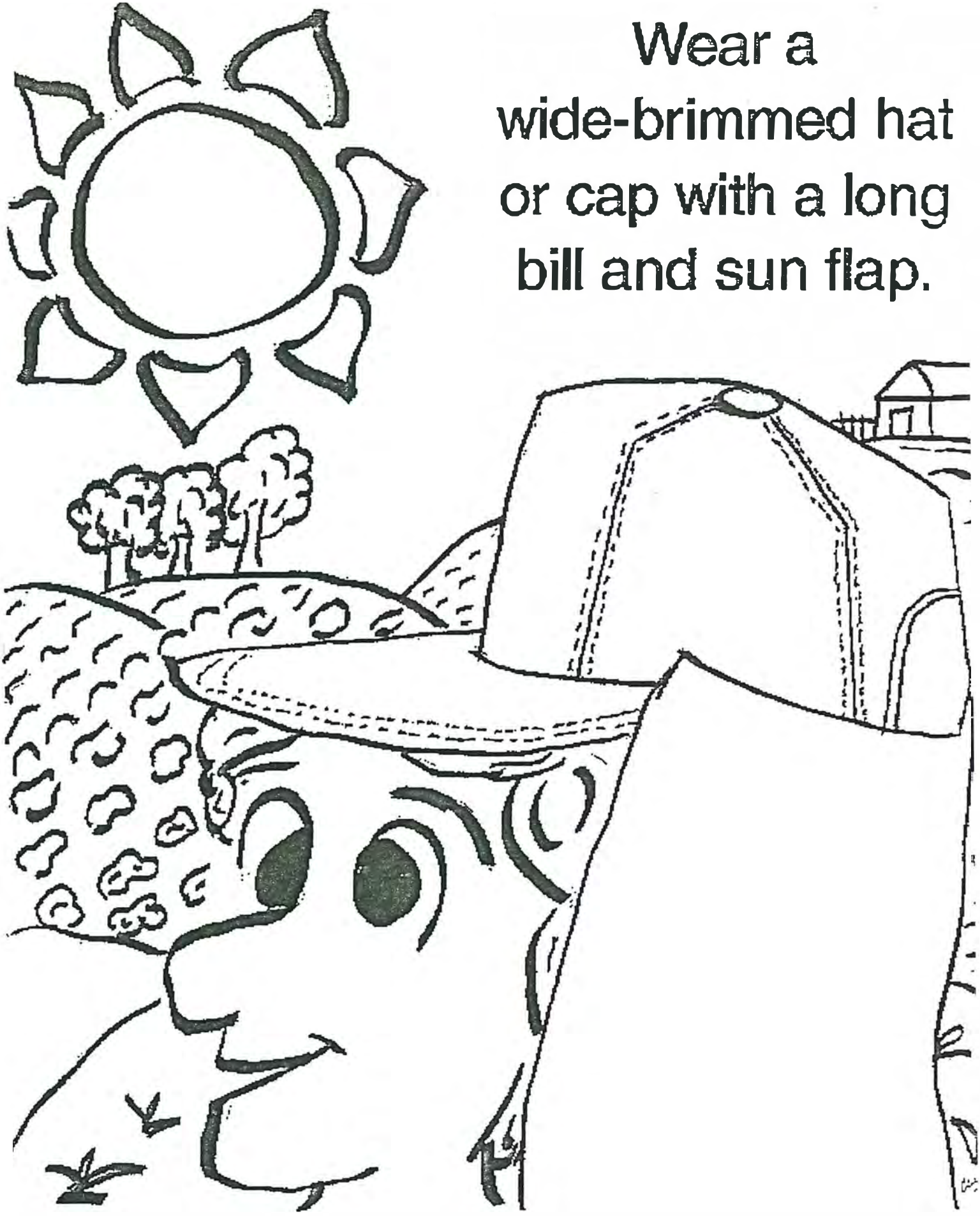
Funded by the National Institute For Occupational Safety and Health

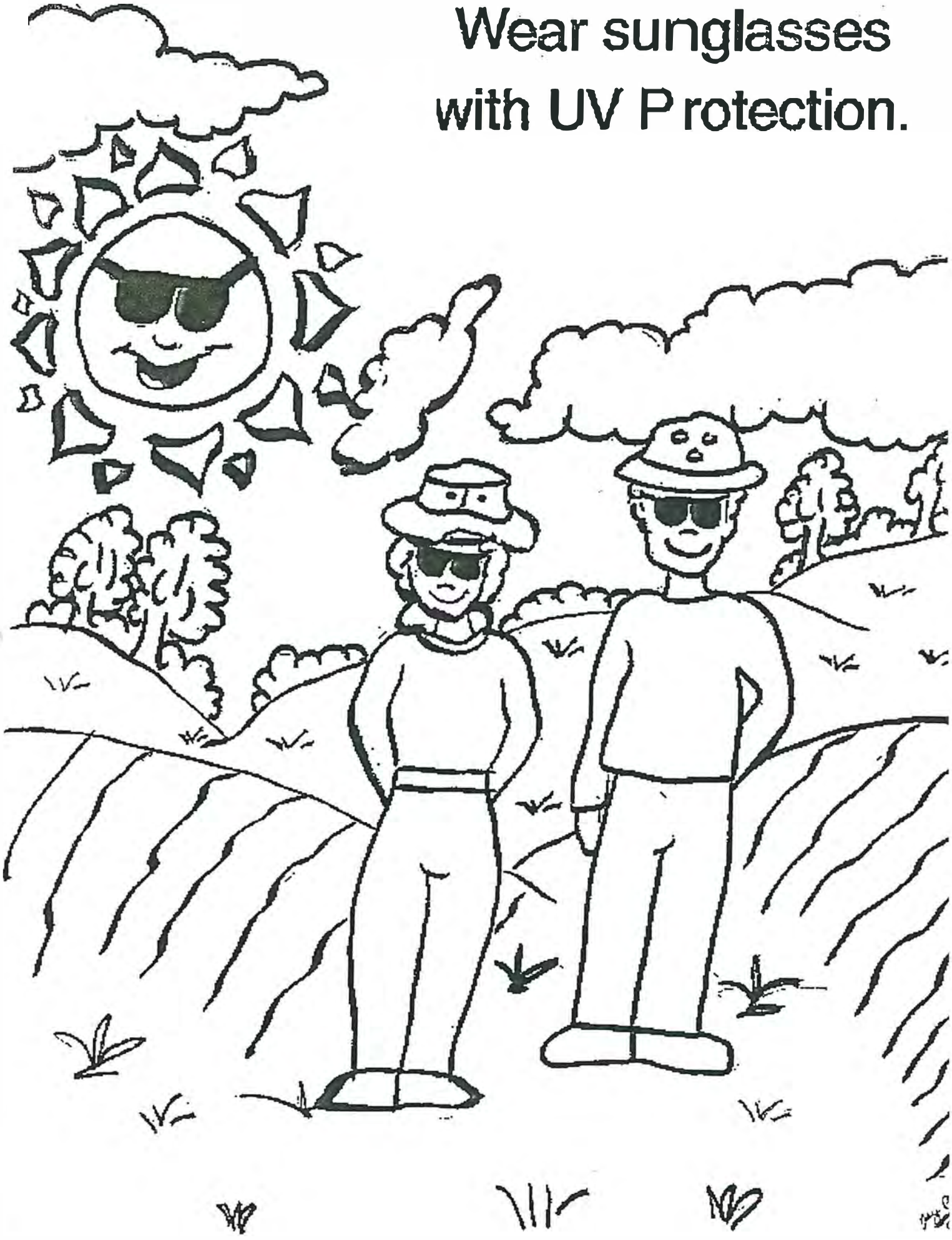

The sun can be
harmful so protec
your skin.
SUN
BLOCK
SPF
30

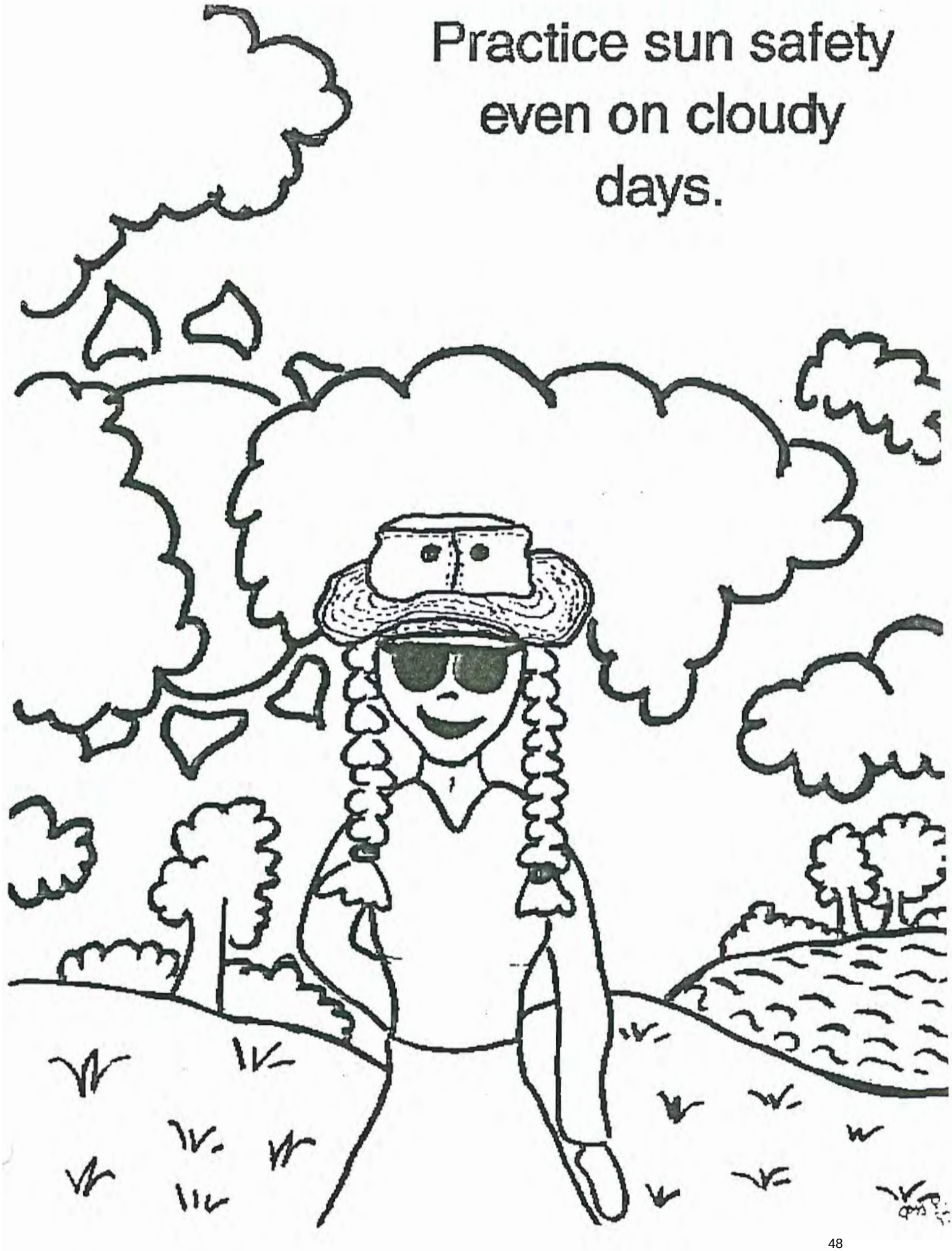

Wear a
long-sleeved shir
when working in
the field.

Always apply sunscreen before going outside.

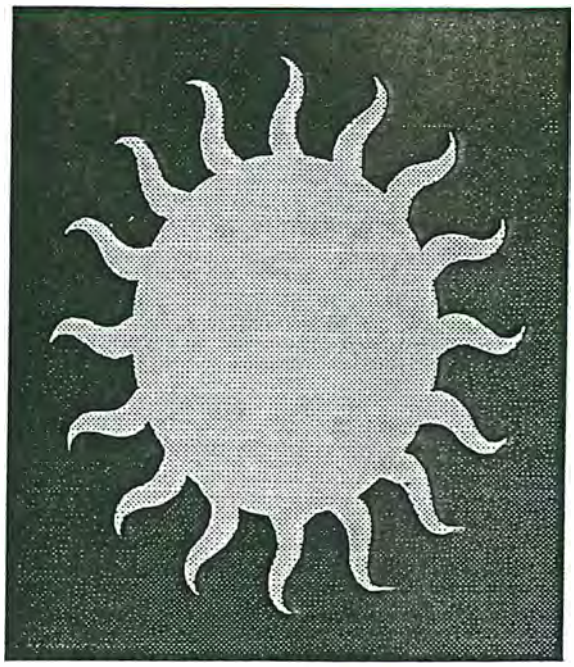
Wear a wide-brimmed hat or cap with a long bill and sun flap.




Wear sunglasses
with UV Protection.


Practice sun safety even on cloudy days.

SUN SAFETY TIPS



Wear a wide brimmed hat or a hat with a sun protection flap.

Long-sleeved shirts which are tightly woven provide good sun protection.

Protect yourself from the sun, even on cloudy days. The sun does penetrate clouds.

Use a sunscreen with SPF (sun protection factor) of 15 or greater.

Don't forget to protect your lips. Wear a lip balm with SPF 15+.

Learn to perform monthly skin exams. Check your skin for:

* Changes in size, shape, or color of moles.

* A sore that doesn't heal.

* Any new growth on the skin.

If you spot any changes consult your doctor immediately!

Don't forget the sunglasses, wearing sunglasses with UV protection can prevent cataracts in later life.

TEACH children how to protect themselves from the sun early in life. Set a good example by wearing the sunscreen products yourself.

If your child is in daycare, take sunscreen to the center and instruct the staff to apply the sunscreen 30 minutes before going outdoors. Your daycare may require a prescription your doctor.

Most physicians are happy to comply with the request.

Save Your Own Skin

A Message for Parents and Teachers....

The sun is essential for our crops and lives; however, too much of it can be harmful. Overexposure to the sun is the leading cause of skin cancer. Most skin cancers are not life-threatening if found in the early stages. However, melanoma, one form of skin cancer, is very dangerous. It spreads quickly and involves other organs in the body. Over 700,000 cases of skin cancer are diagnosed each year- approximately 32,000 will be diagnosed as melanoma. There are an estimated 9,000 deaths each year from skin cancer. Children are especially at risk. A child who has had one or more serious sunburns can double the chances of getting skin cancer.

SAVE YOUR OWN SKIN is a coloring book designed to help children learn about skin cancer prevention. You can maximize its usefulness in the following ways:

* Practice the procedures mentioned in the book.

* Review the pages with your child/student.

* Let this be a fun activity. Give your child/student a special reward for finishing the book. Example: a pair of children's sunglasses or spend quality time with your child.

* Talk about the importance of following the procedures mentioned in the book.

* Remind your child to use sunscreen before going out. Be a role model and put your sunscreen on before going out also.

SUN SENSE IS GOOD SENSE!

Remember to SAVE YOUR OWN SKIN!

For more copies of the coloring book, or further information about preventing cancer, contact the Harvesting Healthy Habits
Campaign office at the address listed below.

Harvesting Healthy Habits
707 East Ward Street
Douglas, Georgia 31533
(912) 383-7709

The Harvesting Healthy Habits Campaign is a project conducted by the Georgia Department of Human Resources, Public Health Division and the University of Georgia, in conjunction with the National Institute for Occupational Health and Safety (Cooperative Agreement Number U03/CCU410103-02-1). The campaign focuses on cancer prevention in Farm and Migrant Families.

LIBRO PARA COLOREAR

UN PROGRAMA DEL DEPARTAMENTO DE RECURSOS HUMANOS DEL ESTADO DE GEORGIA Y LA UNIVERSIDAD DE GEORGIA. DIRIGIDO POR EL INSTITUTO NACIONAL DE SALUD Y SEGURIDAD PROFESIONAL

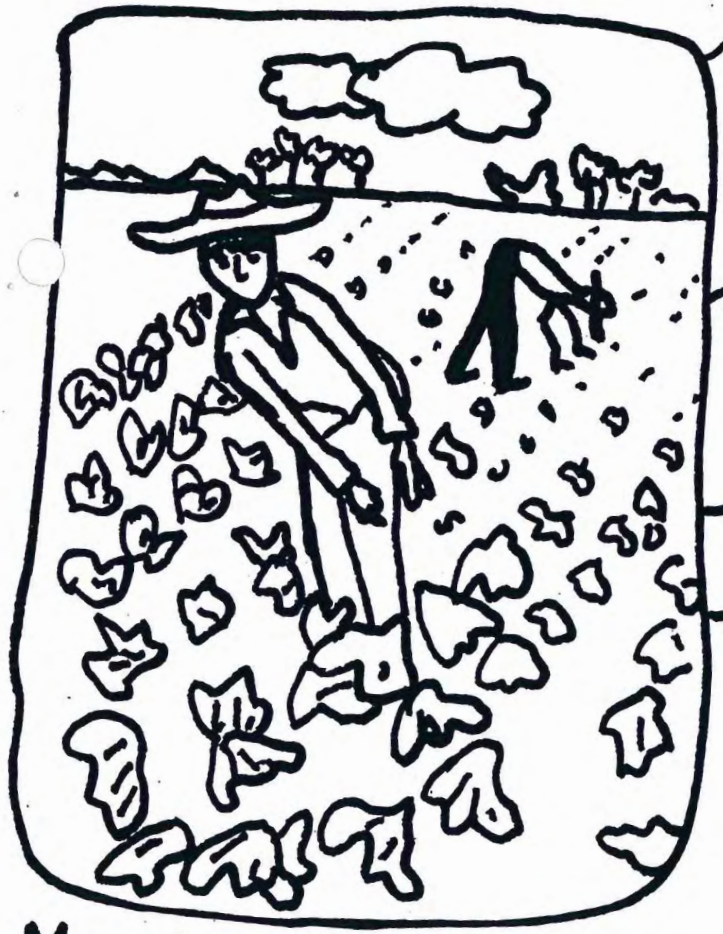
¡Hola Amigos!
Me llamo Juan.

Trabajo en las
cosechas.

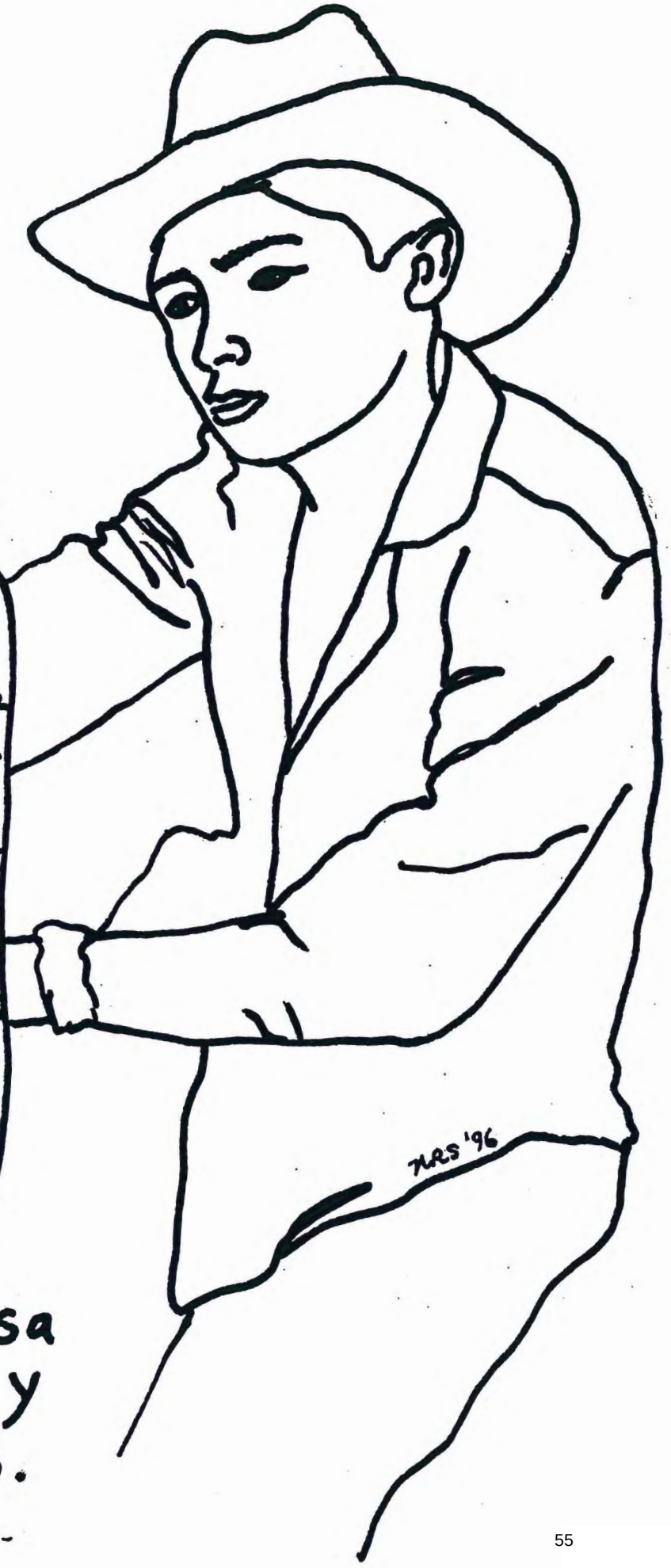
Quiero presentarte a mi hermana, Rosa.

Durante el día mi hermana Rosa cuida nuestro hermanito Luís. Hace mucho sol afuera, entonces ellos también llevan sombreros. Mientras trabajamos mis padres y yo, Rosa y Luís juegan con los otros jóvenes.

El Sol es
muy fuerte
aún cuando
está nublado.



Me visto con camisa
de mangas largas y
llevo un sombrero.

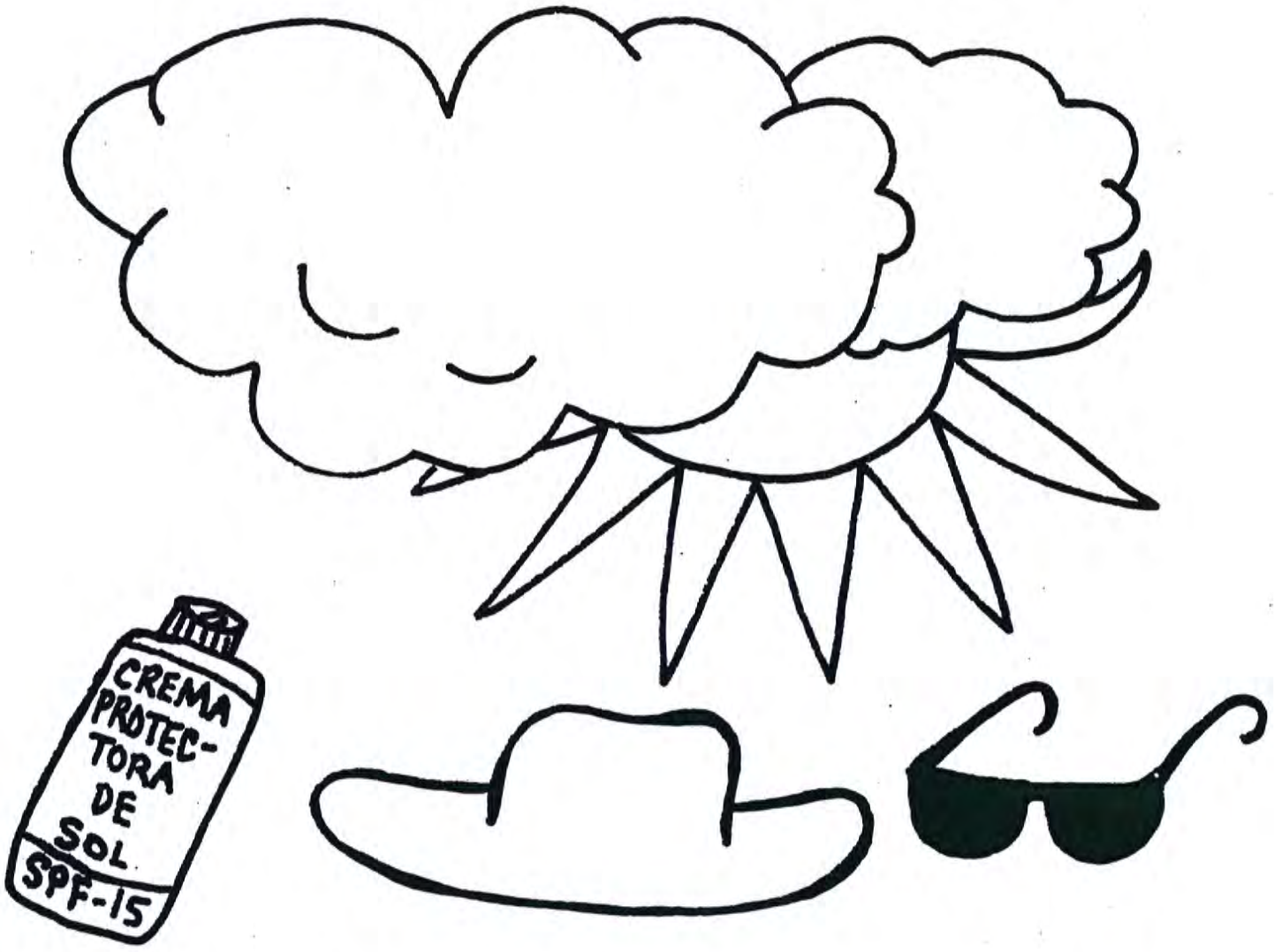


Compré mis gafas de sol
en el supermercado. Protegen
los ojos de los rayos dañinos
del sol.

Lo aplicamos cada mañana
antes de irnos a trabajar o salir
de la casa.

Si **el sol** fuera un ser humano como tú, el sería asi:

Ahora decimos adiós.
¡Que te vayas bien!



¡Y duermes con los Angelitos!


NRS '96





Por más información o obtenir más copias del «LIBRO PARA COLOREAR» póngase en contacto con:


La oficina de Georgia Cultivando Buenos Hábitos
707 East Ward Street
Douglas, Georgia 31533
teléfono: (912) 383-7709



El programa GEORGIA CULTIVANDO BUENOS HÁBITOS se lleva a cabo por el Departamento de Recursos Humanos del Estado de Georgia y La Universidad de Georgia. Dirigido por el Instituto Nacional de Salud y Seguridad Profesional (NIOSH). (Acuerdo Cooperativo Número U03/CCU410103-02-1). Con la meta de la prevención de cáncer en los trabajadores migrantes y sus familias.

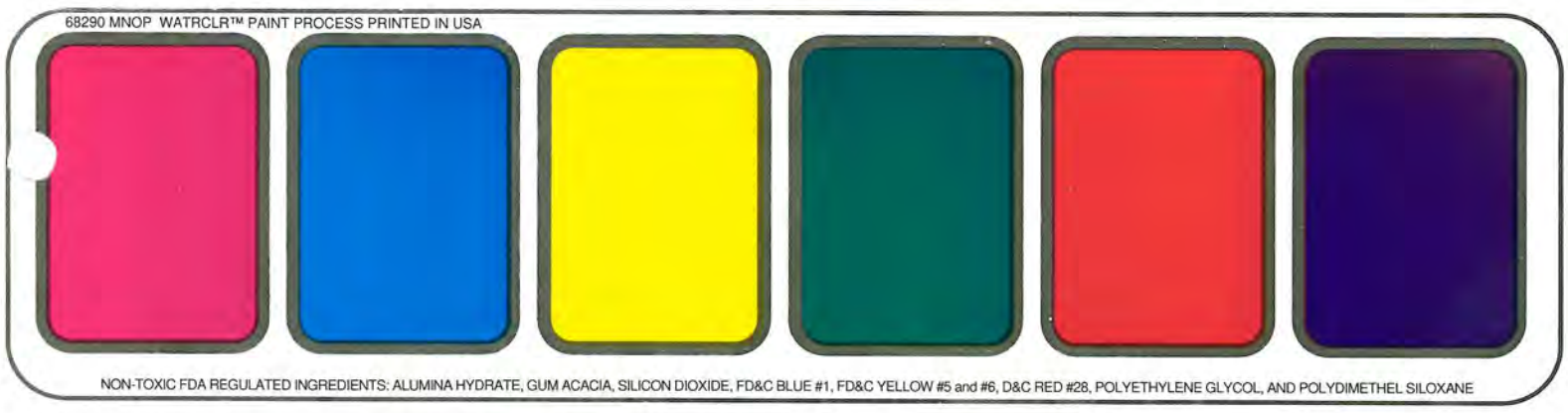


For more copies of this Coloring Book or to obtain more information on cancer prevention among migrant workers, contact GEORGIA HARVESTING HEALTHY HABITS At the above address.

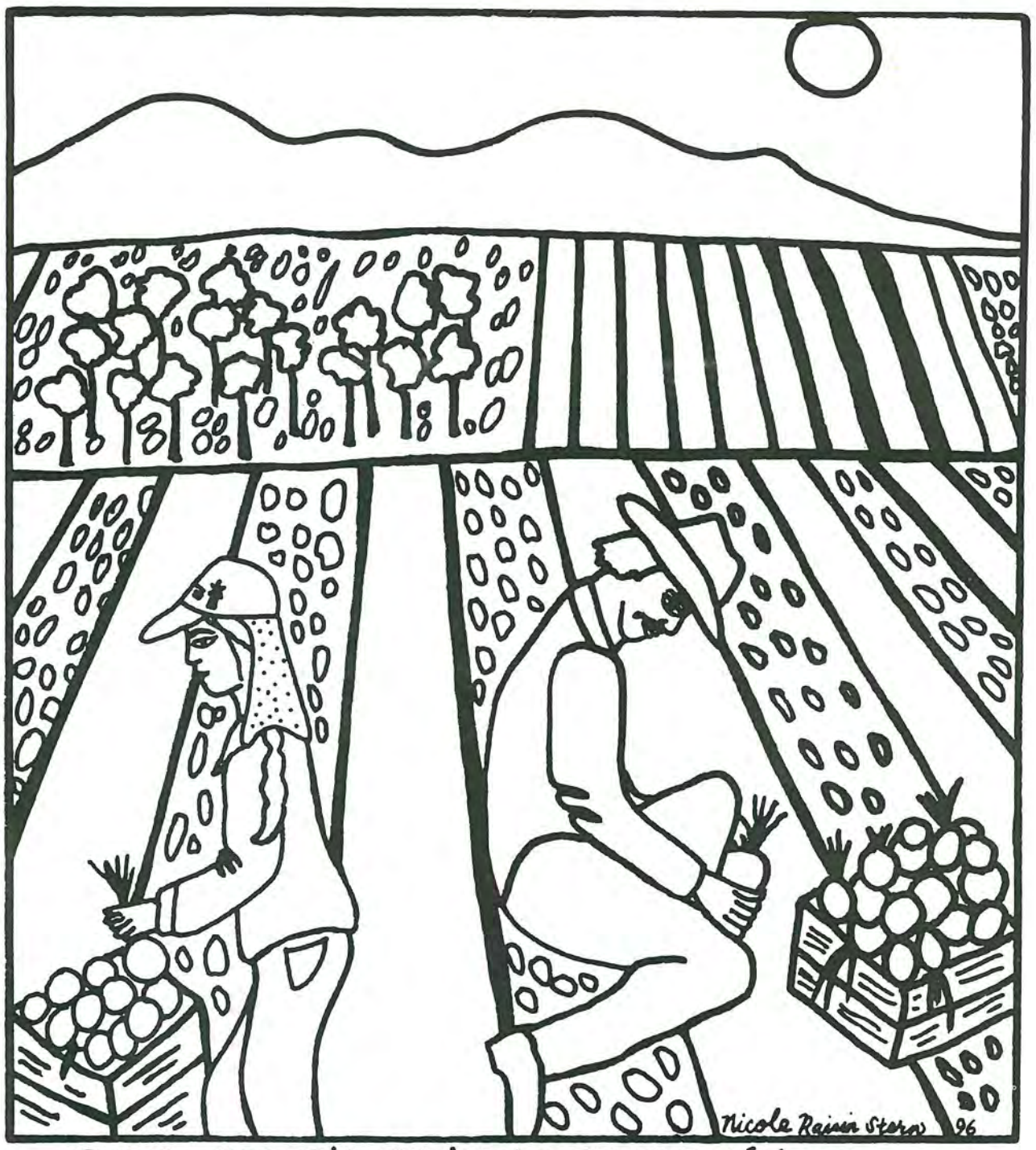
The Harvesting Healthy Habits Campaign is conducted by the Georgia Dept. of Human Resources and the University of Georgia in conjuction with The National Institute of Occupational Health and Safety (NIOSH). (Cooperative Agreement No. U03/CCU410103-02-1). The Campaign focuses on cancer prevention in Migrant and Farm families.




Protéjase la Piel de los rayos Dañinos del Sol



Para utilizar estos colores: humedezca ligeramente su dedo, un pincel o un cotonete de algodón.



Hat Distribution

Georgia Harvesting Healthy Habits Campaign
Dawn Lewis
707 East Ward Street
Douglas, Georgia 31533

Phone: (912) 383-7709
FAX: (912) 383-0394

Agreement for Distribution of
Sun Protection Hats

The **Georgia Harvesting Healthy Habits Campaign** is a three-year effort to produce an awareness of the danger of skin cancer in the farming community. It is a research project conducted by the University of Georgia and The Georgia Department of Human Resources. This project is funded by the National Institute of Occupational Safety and Health. We hope by the end of this campaign that an awareness and changed behavior in sun protection have been created.

As a Farm Supply Center, you can greatly increase the awareness and make a big difference in behaviors. All we ask is that you help with the distribution of the hats and refer the farmers who have questions to us. Beginning July 11, we will have a toll free number that you may call for more information or requests. We would also like to set up a display board in your store around the middle of July. The display board will have cancer prevention messages and free material the farmer may pick up.

The way the program works is farmers are being contacted at this time by phone. They are completing a phone survey and in return for the survey they receive a coupon in the mail. The coupon is good for one sun protection hat which they may pick up at your store. We have selected only a few stores in each area. The farmer will receive a list of the stores who are participating in the project. This may bring new customers into your store. It will also show the customer your commitment to better health and well being of your customers.

We appreciate your commitment to this project and the Georgia Farmers.

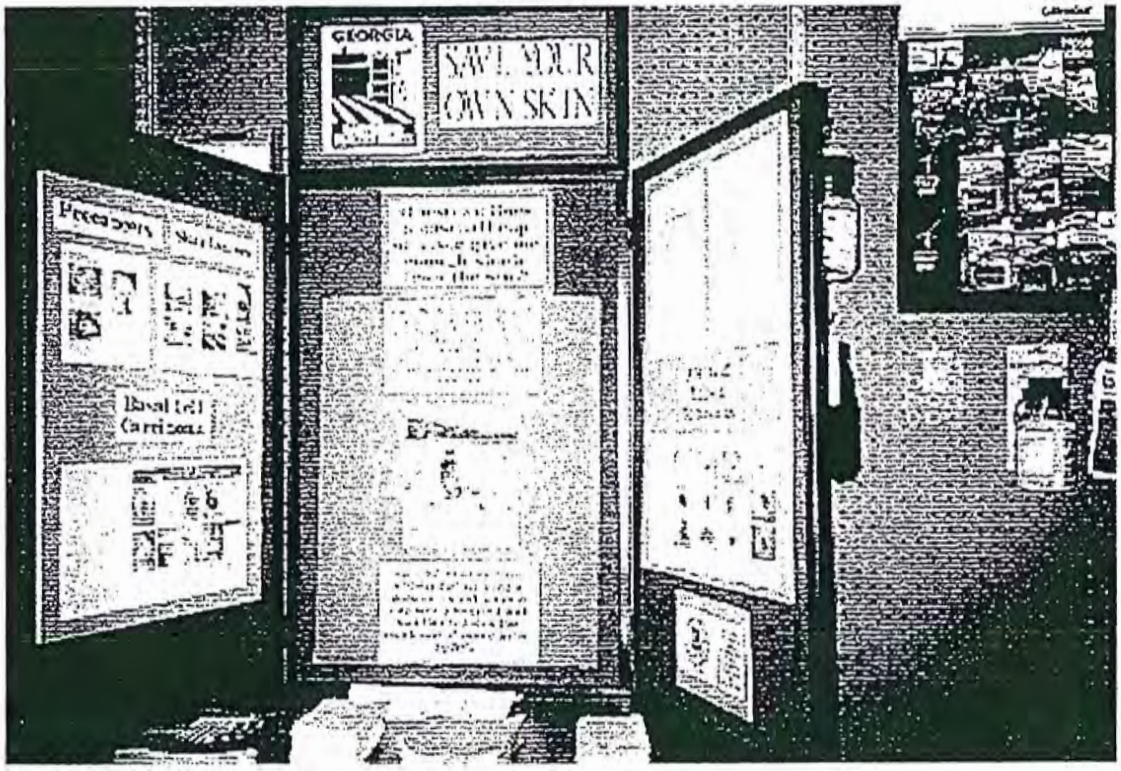
Again may we say Thank You!

Feed & Seed Stores - Sample Message Boards

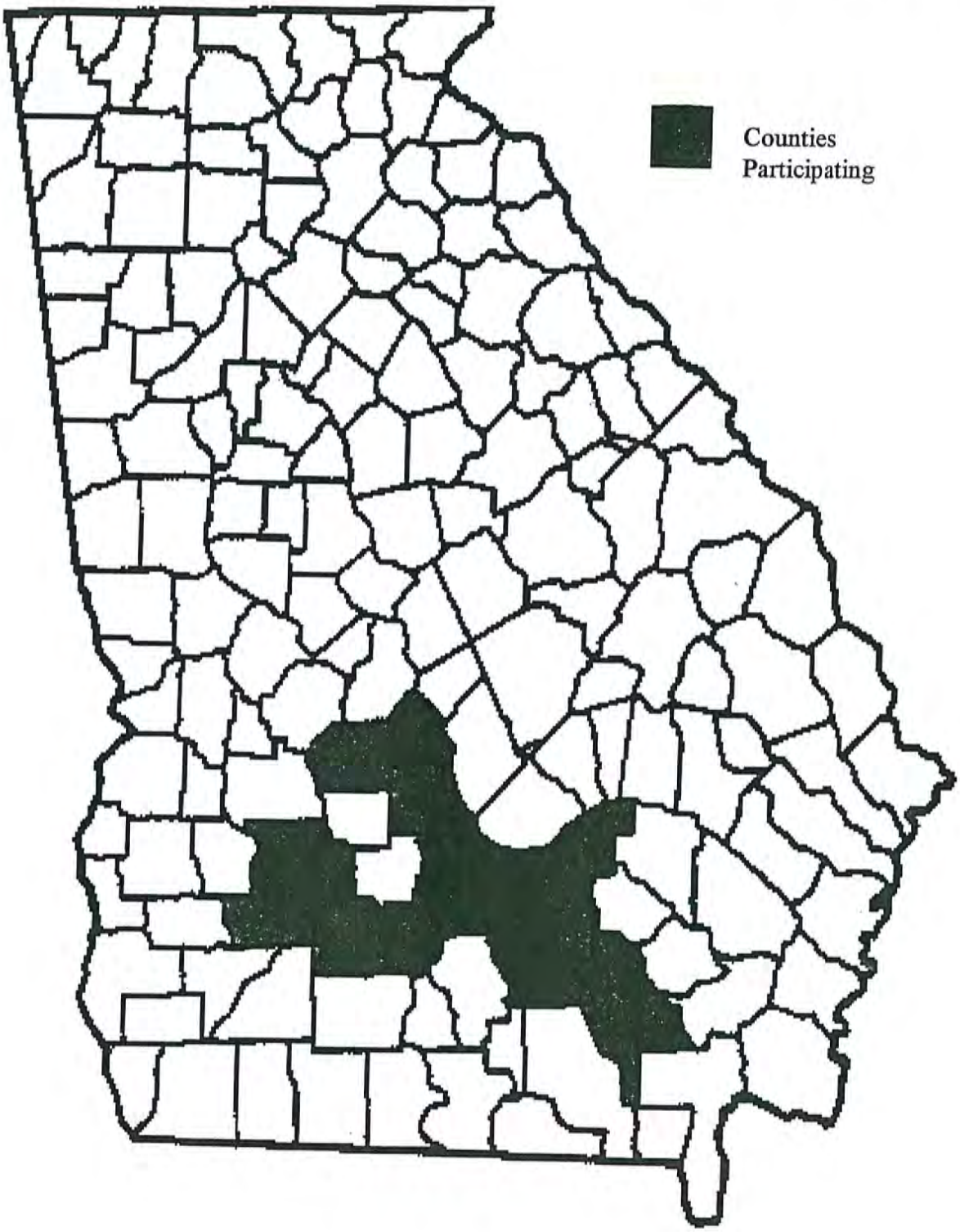
Concrete message board (Treatment One)

Feed & Seed Stores - Sample Message Boards

Abstract message board (Treatment Two)



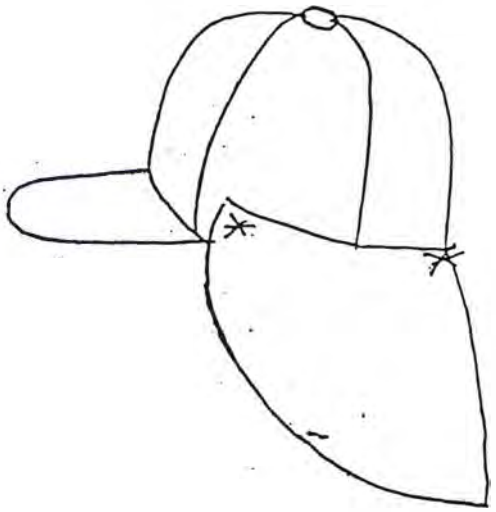
Cotton Scout - Sun Protection Hat Research



Hat Pattern

MAKE A BETTER SUN SHIELD

Farmers need to be aware of their risk for developing skin cancer. Protection is needed. Farmers are advised to wear a hat or cap with a brim and flap which shields the tip of the nose, the temples, ears and neck. Use of sunscreens with a SPF of at least 15, eye protection, and wearing long-sleeved shirts will help give protection.



Farmers can add a flap to the caps they are wearing to protect ears, temples and neck and to decrease their skin cancer risk.

Prepare a pattern from plain paper. Size may be adjusted to fit your cap. Fold a piece of paper (20 inches by 13 inches) in half. (See figure 1 - draw lines as indicated.)

Use muslin or matching cotton fabric (need approximately 15 inches of 45 inch wide fabric).

Cut two flaps. With right side together, stitch around outside leaving small opening at center top. Turn right side out and press. (Use 1/4 inch seams.) (Figure 2)

Prepare a tab. Cut a piece of fabric 2 inches by 6 inches. Fold in half right sides together) and stitch along both long edges. Turn and press. Insert tab at center top of flap and baste in place.

Figure 1

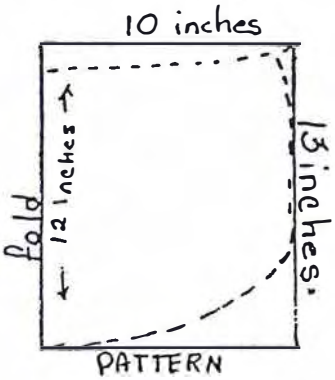


Figure 2

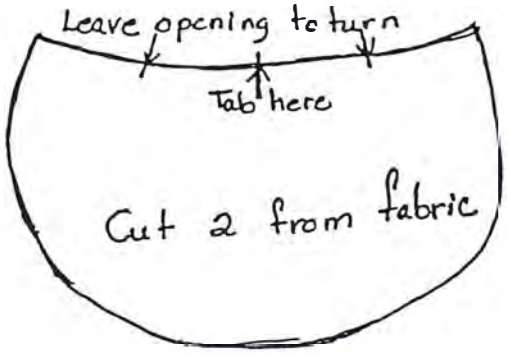


Figure 3

Top stitch along outside of flaps. Stitch again 3/4 inch below stitching at top. (Figure 3)

Attach flap to cap by sewing one inch strips of 3/4 inch velcro to the cap and to the flap. Place one at top of the adjustment band and on the upper tab; one at each side of cap above edge of brim and each side of flap. (*) - placement of fasteners - figure 3

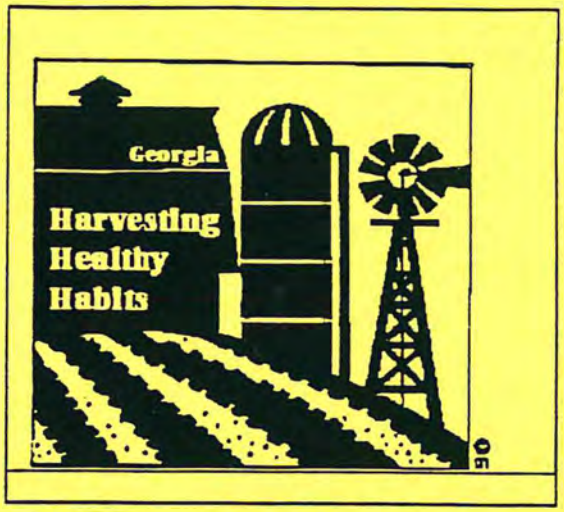
Instead of velcro, you may sew buttons on cap and make buttonholes on flaps.

North Dakota Agricultural Occupational Health Program -- Ramona Eisenbarth.

GEORGIA'S HARVESTING HEALTHY HABITS CAMPAIGN

Dawn Lewis, Project Coordinator
Carol Steiner, R.N., M.N.
Cancer Control Program
Department of Human Resources
Atlanta, GA 30303
Roxanne Parrott, Ph.D.

Health Communication Center * University of Georgia Department of Speech Communication
127 Terrell Hall * Athens, GA 30602-1725 *
Office (706) 542-3269 * FAX (706) 542-3245



What is It?

The Georgia Harvesting Healthy Habits Campaign is a three year effort (October 1, 1993 to October 1, 1996) designed to improve access to cancer prevention and detection information, education, and screening for agricultural workers and their families.

What are the Goals of the Campaign?

* To demonstrate through systematic process and summative evaluation that **innovative cancer prevention and detection programs** and **communication about existing cancer prevention and detection programs** can be implemented.

Who is Sponsoring the Campaign?

The campaign is a collaborative effort sponsored by Georgia's Department of Human Resources Cancer Control Program and the University of Georgia's Health Communication Center with funding from the National Institute of Occupational Safety and Health.

Why is the Campaign Needed?

*Essentially every study of nonmelanoma skin cancer (NMSC) death in farmers has found farmers to have an elevated relative risk [for every 100 persons who die from skin cancer in the general population, 130 to 180 agricultural workers die from skin cancer].

* Although this increased evidence of death among agricultural workers has been demonstrated, and the increased risk for exposure to known causes of skin cancer is obvious, far less is understood or known about farmers' specific prevention and detection behaviors, or precursors to action such as their confidence about performing recommended practices.

* Farming families have also been found to have less health insurance, less coverage for preventive care, and so less often seek such preventive services as mammograms and pap tests.

*****For more information, call or write to the above.**

Farm Wives' Survey

Thank you for participating in this very important research. Your answers will be kept strictly confidential, but if you don't feel comfortable answering any questions, please feel free to refuse. P lease circle your responses and drop the questionnaire off at our booth. Remember, this research is being conducted to help you and other farm wives in your area. Thank you again for your cooperation.

The first section deals with questions about you health. Please indicate whether you Never (N), Seldom (Se), Sometimes (So), Frequently (F), or Always (A) do the listed behaviors.

How often do you...:

...perform monthly self-exams of your skin?	N	Se	So	F	A
...wear sunscreen while working in the sun?	N	Se	So	F	A
...wear a wide-brimmed hat while working in the sun?	N	Se	So	F	A
...get a health care professional to perform a clinical exam of your skin?	N	Se	So	F	A
...wear a long-sleeved shirt while working in the sun?	N	Se	So	F	A
...show someone how you conduct an exam of your skin to help detect skin cancer?	N	Se	So	F	A
...ask someone to conduct an exam of your skin to help detect skin cancer?	N	Se	So	F	A
...show someone how you conduct a breast self-examination to help detect breast cancer?	N	Se	So	F	A
...perform monthly breast self-examinations?	N	Se	So	F	A
...receive yearly clinical breast examinations from a physician or nurse?	N	Se	So	F	A

(How often do you...?, cont'd)

Never (N), Seldom (Se), Sometimes (So), Frequently (F), or Always (A)

... receive clinical exams for a pap-test?	**N**	**SE**	**So**	**F**	**A**
...receive a yearly mammogram?	**N**	**SE**	**So**	**F**	**A**

Please answer the following questions by circling one response:

How often should you conduct an exam of your own skin to help detect signs of skin cancer?

a. whenever you shower
b. once a month
c. once a year
d. only if you notice changes in your skin

After you apply sunscreen, how long should you wait before going into the sun in order for the sunscreen to be most effective?

a. wait 20 to 30 minutes before going into the sun
b. put on just before going into sun
c. wait 5 to 10 minutes before going into the sun
d. it is as effective to put it on while in the sun as it is to put it on before going outside

Which of the following types of hats provides the best sun protection?

a. wide-brimmed straw hat
b. baseball cap
c. tightly woven wide-brimmed hat or cap with flap
d a sun visor

AGAIN, THANK YOU VERY MUCH FROM GEORGIA'S HARVESTING HEALTHY HABITS CAMPAIGN..

Sun Protection Factor!

Calculate the right SPF for you.

1. How many minutes can your unprotected skin be in the noonday sun before it begins to redden?

2. How many minutes will you be working in the sun?

Then, calculate the right SPF for you:

$$\text{SPF} = \frac{\text{Minutes to be spent in the sun}}{\text{minutes before skin reddens}}$$

WORKING on a KILLER TAN?

Did you know that. . .

- *This year, over 9,300 Americans will die of skin cancer?*

- *Early detection of skin cancer is critical.*

For more information call or write:

GEORGIA

HARVESTING HEALTHY HABITS

707 East Ward Street
Douglas, GA 31533
Phone: (912) 389-4009

Laundering procedures for pesticide removal

- Remove all clothing outside.
- Store in container separate from other laundry.
- Pre-rinse. It is best to use a waterhose outside. You need to pre-soak the garments in a suitable container. Discard any pre-soak water where the chemical is being used. **DO NOT DISCARD NEAR A WATER SOURCE.**
- Wear waterproof gloves when handling the clothes.
- Use hot water wash, full water cycle, and normal/ heavy duty wash cycle.
- Use heavy duty detergent. Increase the amount recommended by 1/4 cup.
- Wash a few garments at a time - **do not overload washer.**
- **DO NOT USE BLEACH OR AMMONIA.**
- Re-wash two or three times without drying between washing.
- Wash soiled items immediately. Items left lying around can contaminate other articles, people, or pets.
- Line Dry to prevent contaminating the dryer. Air and sunshine help breakdown the pesticide residue.
- **Run empty washer through a complete cycle with hot water and detergent.** This removes residue.
- **If pregnant, use extreme caution in handling contaminated clothing.**
- For disposal of contaminated garments, cut in half lengthwise and dispose of with pesticide containers. Follow the rules for cleaning pesticide contaminated containers.
- For clothing that has been saturated with spills of highly toxic or concentrated chemicals, dispose of as pesticide wastes.

Georgia Poison Control Center 1-800-282-5846

Skin Cancer Prevention Classes
Atco High School (Pilot Project)
March 24, 1997
8:00 AM - 3:00 PM

Name _____ Male____ Female ____ Age ____

Do you work on a farm? Yes ____ No ____

Pre-Test (Circle the answer of your choice)

1. What is the major cause of skin cancer?
A. The ozone layer B. Ultraviolet radiation C. The relative humidity

2. What is a safe alternative to a suntan?
A. Tanning bed B. Tanning gradually C. Self-Tanning products

3. How long before going out in the sun should you apply sunscreen for it to work best?
A. 20-30 minutes B. 5-10 minutes C. Just before going into the sun

4. What does the SPF number on sunscreens really mean?
A. How many minutes before going into the sun you must apply it
B. How long you are protected from the sun
C. Don't know/ Not sure

5. How often should you conduct an exam of your own skin to look for skin cancer?
A. Whenever you take a shower B. Once a year C. Once a month

6. How often should you get an exam of your skin to look for skin cancer from a doctor?
A. Once every five years
B. Once a year
C. Only if you detect a change in your skin

7. What type of material should you look for when selecting a shirt to protect you while working in the sun?
A. Loosely fitting and tightly woven
B. Tightly fitting and tightly woven
C. Loosely fitting and loosely woven

8. Which of the following types of hats provides the best protection from the sun?
A. Wide-brimmed straw hat B. Tightly woven wide-brimmed cloth hat C. Baseball cap

9. What is the greatest danger of tanning beds?
A. There is no danger B. Not getting a tan C. The ultraviolet radiation is more concentrated in a tanning bed

10. What is the most important option to consider when buying sunglasses?
A. UVB protection B. Price C. Style

Skin Cancer Prevention Classes
Atco High School (Pilot Project)
March 24, 1997
8:00 AM - 3:00 PM

Name _____

Post-Test (Circle the answer of your choice)

1. What is the major cause of skin cancer?
   A. The ozone layer B. Ultraviolet radiation C. The relative humidity

2. What is a safe alternative to a suntan?
   A. Tanning bed B. Tanning gradually C. Self-Tanning products

3. How long before going out in the sun should you apply sunscreen for it to work best?
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   C. Only if you detect a change in your skin

7. What type of material should you look for when selecting a shirt to protect you while working in the sun?
   A. Loosely fitting and tightly woven
   B. Tightly fitting and tightly woven
   C. Loosely fitting and loosely woven

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10. What is the most important option to consider when buying sunglasses?
    A. UVB protection B. Price C. Style

In Atkinson County 159 high school students received a skin cancer awareness course as part of their health education class curriculum. The students were 65% female and 34% male. 17% of the students worked on farms. These students were given identical, ten question, multiple choice surveys before and after their completion of the skin cancer awareness program. Each question offered three options with only one correct answer per question. Below are the results of their pre and post-test surveys.

In response to the question, "**What is the major cause of skin cancer**?":

PRETEST
2.5% chose "the ozone layer".
94.3% chose "ultraviolet radiation".
3.2% chose "the relative humidity".

POSTTEST
10.9% chose "the ozone layer".
87.8% chose "ultraviolet radiation".
.6% chose "the relative humidity".
.6% did not answer the question.

In response to the question, "**What is a safe alternative to a suntan**?":

PRETEST
9.5% chose "a tanning bed".
36.7% chose "tanning gradually".
53.8% chose "self-tanning products".

POSTTEST
1.3% chose "a tanning bed".
3.8% chose "tanning gradually".
94.9% chose "self-tanning products".

In response to the question, "**How long before going into the sun should you apply sunscreen for it to work best**?":

PRETEST
17.7% chose "20-30 minutes".
46.2% chose "5-10 minutes".
36.1% chose "just before going into the sun".

POSTTEST
85.9% chose "20-30 minutes".
9.6% chose "5-10 minutes".
4.5% "just before going into the sun".

In response to the question, "**What does the SPF number on sunscreens really mean**?":

PRETEST
7% chose "how many minutes before going into the sun you must apply it".
57.6% chose "how long you are protected from the sun".
35.4% chose "don't know/ not sure".

POSTTEST
20.5% chose "how many minutes before going into the sun you must apply it".
75% chose "how long you are protected from the sun".
4.5% chose "don't know/ not sure".

In response to the question, **"How often should you conduct an exam of your own skin to look for skin cancer**?":

PRETEST
34.2% chose "whenever you take a shower".
15.2% chose "once a year".
50.6% chose "once a month".

POSTTEST
34.6% chose "whenever you take a shower".
3.2% chose "once a year".
61.5% chose "once a month".
.6% gave more than one answer.

In response to the question, "**How often should you get an exam of your skin to look for signs of skin cancer from a doctor**?":

PRETEST
5.7% chose "once every five years".
64.6% chose "once a year".
29.1% chose "only if you detect a change in your skin".
.6% did not answer the question.

POSTTEST
.6% chose "once every five years".
46.2% chose "once a year".
53.2% chose "only if you detect a change in your skin".

In response to the question, "**What type of material should you look for when selecting a shirt to protect you while working in the sun**?:

PRETEST
55.1% chose "loosely fitting and tightly woven".
7.6% chose "tightly fitting and tightly woven".
37.3% chose "loosely fitting and loosely woven".

POSTTEST
80.8% chose "loosely fitting and tightly woven".
9% chose "tightly fitting and tightly woven".
10.3% "loosely fitting and loosely woven".

In response to the question, "**Which of the following types of hats provides the best protection from the sun**?":

PRETEST
53.8% chose "wide-brimmed straw hat".
41.8% chose "tightly woven wide-brimmed cloth hat".
3.2% chose "baseball cap".
1.3% did not answer the question.

POSTTEST
7.7% chose "wide-brimmed straw hat".
89.7% chose "tightly woven wide-brimmed cloth hat".
1.9% chose "baseball cap".
.6% did not answer the question.

In response to the question, "**What is the greatest danger of tanning beds**?":

PRETEST
4.4% chose "there is no danger".
1.9% chose "not getting a tan".
93.7% chose "the ultraviolet radiation is more concentrated in a tanning bed".

POSTTEST
1.3% chose "there is no danger".
1.3% chose "not getting a tan".
97.4% chose "the ultraviolet radiation is more concentrated in a tanning bed".

In response to the question, "**What is the <u>most important option</u> to consider when buying sunglasses**?:

PRETEST
95.6% chose "UVB protection".
1.9% chose "price".
2.5% chose "style".

POSTTEST
99.4% chose "UVB protection".
.6% chose "price".


Logo


GEORGIA
HARVESTING
HEALTHY HABITS

Extension Trg.

1996
TRAINING AND RELATED OPPORTUNITIES

SEPTEMBER 1995

Putting Knowledge to Work

ROCK EAGLE WINTER SCHOOL

Most subject matter or disciplinary trainings (as opposed to Process trainings) will be offered and scheduled at Rock Eagle Winter School January 29-31, 1996. This approach is being tried to maximize organizational resources and simplify the many ways trainings have been offered. The preliminary master schedule for the Rock Eagle Winter School follows:

January 29, 1996	
10:00-10:30	Registration
10:30-12:00	General Session - All participants
12:00-1:00	Noon Meal
1:00-2:45	INSTRUCTION PERIOD 1
2:45-3:15	Break
3:15-5:00	INSTRUCTION PERIOD 2
[illegible]	Reception
[illegible]	Evening Meal
8:30-9:00	Agent Association Meeting
January 30, 1996	
8:00-9:45	INSTRUCTION PERIOD 3
9:45-10:15	Break
10:15-12:00	INSTRUCTION PERIOD 4
12:00-1:00	Noon Meal
1:00-2:45	INSTRUCTION PERIOD 5
2:45-3:15	Break
3:15-5:00	INSTRUCTION PERIOD 6
6:00-6:30	Reception
6:30-7:30	Evening Meal
7:30	Movies - Fellowship
January 31, 1996	
8:00-9:45	INSTRUCTION PERIOD 7
9:45-10:15	Break
10:15-12:00	INSTRUCTION PERIOD 8
12:00-1:00	Noon Meal
1:00-2:45	INSTRUCTION PERIOD 9 (For Consumer and Family Sciences or GENERAL SESSION (For Agriculture and Natural Resources)

The schedule allows eight(8) instructional periods for ANR agents and nine(9) instructional periods for Consumer and Family Sciences agents. You will notice that some training options are "1 period"; some are "2 periods" and some "4 periods." Each agent will be asked to select (✓) and rank titles to equal 12 instructional periods. ANR agents will be assigned to 8 instructional periods and Family and Consumer Sciences agents will be assigned to 9 instructional periods.

Specialists Involved: Lois Reynolds, Elizabeth Andress, Judy Harrison
Contact Hours: 1 Period
Content Description: Agents will obtain knowledge of the principles, laws and regulatory agencies important to operating various types of small food production businesses in Georgia. Resources available through the Ga. CES to use in consulting with clientele and helping them get started will be provided as an office reference package and discussed.

Title: **2010-Nutrition Activities for Youth**
Audience: FCS Agents, excluding EFNEP Agents (they have already had)
Specialist(s): Holly Alley
Contact Hours: 1 Period
Content Description: Ideas for teaching nutrition to children (cloverleaf age). Part of the content would be taken from the new EFNEP youth curriculum "4-H Food Fundamentals." The other part would be nutrition and fitness activities from a program called "Witness Fitness".

Title: **2020-What's New: Minor Fresh Fruits and Vegetables**
Audience: FCS or ANR Agents interested in selection, use and nutrition of the foods.
Specialist(s): Elizabeth Andress and Ruthann Swanson
Contact Hours: 2 Periods
Content Description: Demonstrations and hands-on activities for identifying, learning quality characteristics for selection, and using selected minor (ethnic, tropical) fruits and vegetables. Information on nutritional value and use in home-planned and prepared meals.

Title: **2030-New Meal Planning Approaches for Diabetes**
Audience: Agents who have had diabetes training at CORE III or at the two day training with the Medical College of Georgia staff
Specialists Involved: Connie Crawley
Contact Hours: 2 Periods
Content Description: Introduction of new nutrition education tools for use with diabetic clients. These tools include the revised diabetic exchange lists, the new lifestyle change manual, individual diabetes self-management sheets and carbohydrate counting materials. Agents will have hands on activities with the tools and will be instructed on their appropriate use.

Title: **2040-Preventing Cancer: The Role of Nutrition and Skin Protection**
Audience: County Extension Agents
Specialists Involved: Gail M. Hanula
Contact Hours: 1 Period
Content Description: Agents will obtain knowledge of the relationship of nutrition to cancer according to the latest research, including the role of phytoestogens in foods. The second half of the program will cover skin cancer prevention, including hands-on experience with sunscreens, determining your SPF (Sun Protection Factor), and how to conduct a skin self exam. Curriculum materials for youth and adults will be provided.

Title: **2050-Lead Poisoning and Title X Regulations**
Audience: Prefer at least one CEA from every county. Generally best suited to FCS agents, but relevant for all.
Specialist Involved: Dale Dorman
Contact Hours: 1 Period

The University of Georgia
Cooperative Extension Service
College of Agricultural and Environmental Sciences / Athens, Georgia 30602-4356
Hoke Smith Annex
The University of Georgia
Athens, GA 30602-4356
706-542-8860
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Internet:ghanula@uga.cc.uga.edu

February 21, 1997

Dawn Lewis
Project Coordinator
Georgia's Harvesting Healthy Habits
770 East Ward St.
Douglas, GA 31533

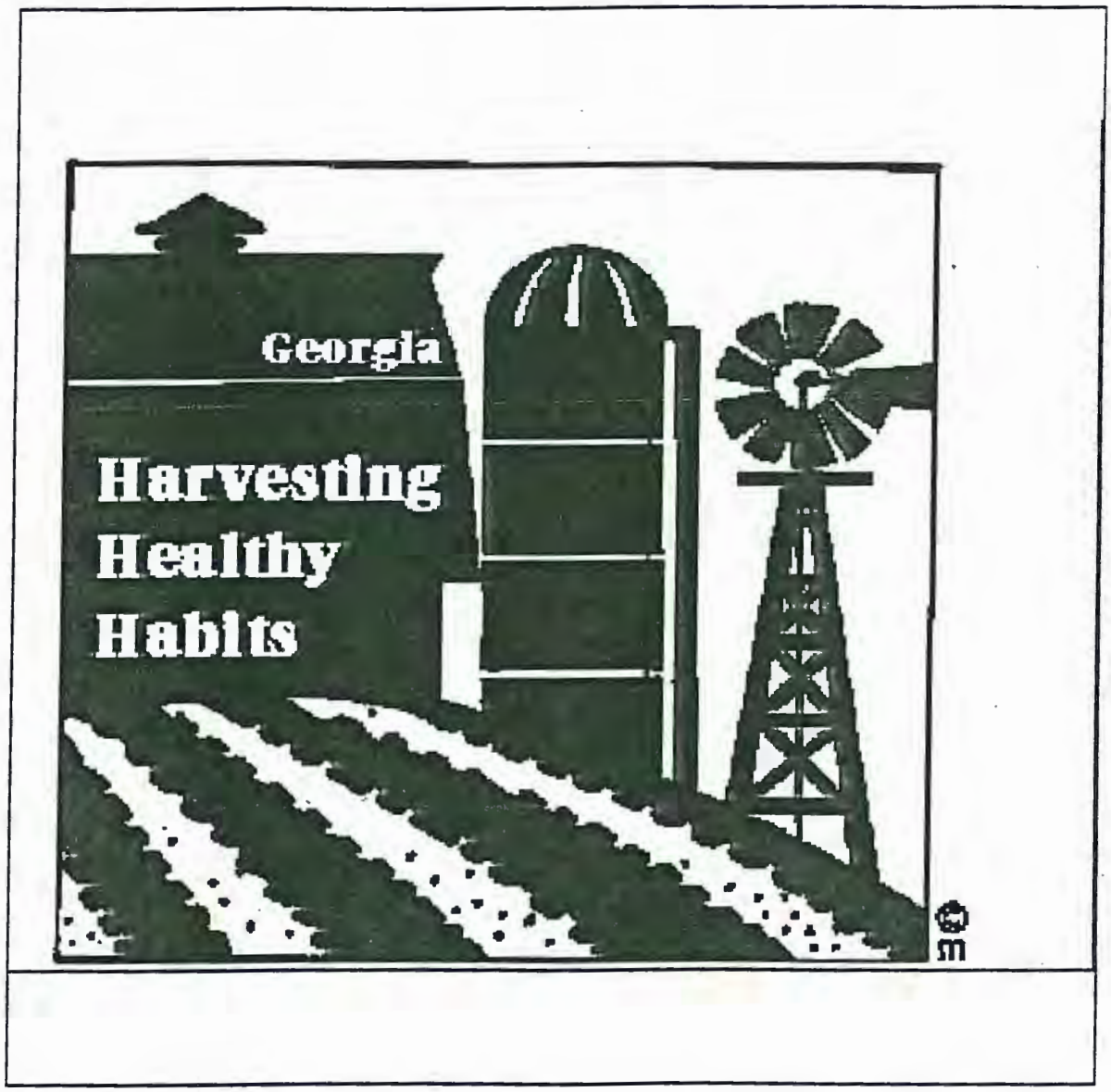
Dear Dawn,

Thanks so much for the press releases on skin cancer which you provided for use by County Extension Agents in Georgia. These have been distributed, and as the warmer weather approaches, I am sure they will be used a great deal. I am also enclosing a copy of the lesson plan which you reviewed. Your input on sunscreens was quite helpful and definitely enhanced the lesson plan. Thanks so much.

Sincerely,

Gail M. Hanula, Ed.S., R.D.
Extension Nutrition and Health
Specialist

c: Dr. Alva Youngner
Dr. Roxanne Parrott
Mrs. Carol Steiner, R.N.



EXTENSION AGENT SKIN CANCER PREVENTION AND DETECTION STUDY COURSE

TABLE OF CONTENTS

INTRODUCTION

I.

INTRODUCTION

There are 700,000 new cases of skin cancer diagnosed each year with an estimated 300,000 cases that go undiagnosed. 90% of all skin cancers can be attributed to the sun and as the sun's UVA and UVB rays increase in intensity, so will the number of skin cancer cases. UVA and UVB rays are the two types of radiation that reach the earth's surface and damage the skin. As the ozone layer thins, these types of radiation will grow stronger in strength. Some skin complexions are at more risk. However, everyone is at risk. What is important to know is that SKIN CANCER IS LARGELY PREVENTABLE, AND, WITH PROMPT DIAGNOSIS, ALMOST ALWAYS TREATABLE.

This study course is designed to increase your, county extension agents, knowledge of skin cancer prevention and detection. In turn, as agents, you can return to your counties and present this material to others. This packet is an extension of the Georgia Harvesting Healthy Habits project which targets Georgia farmers. Our program is detailed in the "PROJECT FACT SHEET AND OVERVIEW" section of the notebook. While some county agents deal with residents in urban areas, many farmers rely on the extension service for various needs. We, therefore, felt inclined to provide you with information to which your clients may be exposed.

There are six related topics in the course: Three types of skin cancer; The ABCD's of moles and melanomas; Conducting a skin self examination; Skin cancer prevention; Sunscreens; and Skin cancer and farmers. Each area is outlined so that you may use this material in other presentations. A supplemental packet of articles relating to skin cancer, migrants, and farmers is available through the University of Georgia Cooperative Extension Service. Please feel free to contact them if you are interested in obtaining these materials.

In order to provide you with the most informative materials, we will ask that you complete the questionnaires in the front pocket of this notebook before and after the seminar today. Your involvement will allow us to judge the effectiveness of our program. Your seminar leader will provide you with more details. We hope that you enjoy the enclosed materials. If you have any questions about Georgia Harvesting Healthy Habits, please feel free to contact our project coordinator, Dawn Lewis at (912) 389-4009.

THANK YOU FOR YOUR PARTICIPATION.

GEORGIA HARVESTING HEALTHY HABITS PROJECT STAFF

PROJECT

FACT SHEET

AND

OVERVIEW

II.

GEORGIA'S

HARVESTING HEALTHY HABITS

CAMPAIGN

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Georgia's Harvesting Healthy Habits Campaign

What is It?

The Georgia Harvesting Healthy Habits Campaign is a three year effort (October 1, 1993 to October 1, 1996) designed to improve access to cancer prevention and detection information, education, and screening for agricultural workers and their families.

Why is the Campaign Needed?

* Research has previously established the higher incidence of some types of cancer among agricultural populations as compared to other occupational groups.

* Essentially every study of nonmelanoma skin cancer (NMSC) death in farmers has found farmers to have an elevated relative risk [for every 100 persons who die from skin cancer in the general population, 130 to 180 agricultural workers die from skin cancer].

* Scientific evidence has also shown that beyond the exposure of agricultural workers to sun, a number of chemicals, some of which comprise pesticides, increase the risk for skin cancer in agricultural workers. The primary route of worker exposure to the majority of pesticides is the skin, and not, as commonly believed, the respiratory system.

* Although this increased evidence of death among agricultural workers has been demonstrated, and the increased risk for exposure to known causes of skin cancer is obvious, far less is understood or known about farmers' specific prevention and detection behaviors, or precursors to action such as their confidence about performing recommended practices.

* Farming families have also been found to have less health insurance, less coverage for preventive care, and so less often seek such preventive services as mammograms and pap tests.

What are the Goals of the Campaign?

* To demonstrate through systematic process and summative evaluation that **innovative cancer prevention and detection programs** and **communication about existing cancer prevention and detection programs** can be implemented.

* To demonstrate that such implementation will increase:

  [1] knowledge about cancer prevention and detection;

  [2] positive outcome expectancies associated with the efficacy of recommended responses/practices associated with cancer prevention and detection;

  [3] perceptions of self-efficacy about their ability to perform recommended practices associated with cancer prevention and detection; and

  [4] actual performance of recommended practices among agricultural groups in Georgia.

* To evaluate the following programs on the above outcomes:

  [1] Migrant Farmworker Outreach Workers' Cancer Prevention and Detection for Agricultural Workers' Program;

  [2] *Extension Agents' Cancer Prevention and Detection Program;*

  [3] 4-H Directors'/Farm Kids' Camp/FAA Skin Cancer Prevention and Detection Program;

  [4] Public Health Nurses' and Rural Health Care Providers' Cancer Prevention and Detection for Agricultural Workers' Program;

  [5] Feed and Seed Supply Store Owners' Skin Cancer Prevention and Detection for Agricultural Workers' Program;

  [6] Farm Bureau's Cancer Prevention and Detection for Agricultural Workers' Program;

  [7] Agri-Business Cancer Prevention and Detection for Agricultural Workers' Program;

[8] Sunscreen Manufacturers' Skin Cancer Prevention and Detection for Agricultural Workers' Program.

Who is Sponsoring the Campaign?

The campaign is a collaborative effort sponsored by Georgia's Department of Human Resources Cancer Control Program and the University of Georgia's Health Communication Center with funding from the National Institute of Occupational Safety and Health.

Who Will Participate in the Campaign?

The Demonstration Sites are:

* Atkinson
* Ben Hill
* Candler [control site]
* Coffee
* Colquitt
* Tattnall [control site]
* Tift
* Toombs [control site].

These counties will be used in all phases of Years 2 & 3 of the GHHH intervention. Survey data will be collected from these counties to serve as baseline data for the intervention phases of the GHHH campaign.

What was the Selection Criteria?

The counties selected met the following criteria:

* Rural with a primary agricultural base and similar crops;

* Have agricultural extension agents willing to cooperate;

* Have feed and seed store owners willing to cooperate;

* Have Public Health District Directors and staff willing to cooperate and assist with project;

* Have active 4-H organization;

* Have school systems, county health departments, physicians, and hospitals who agree to participate in and support the project;

* Have ongoing Georgia Healthy Farmers program, have had such a program, or are adjacent to a county with such a program;

* Have migrant health program in place or adjacent to county with well-established program;

* The total number of farm operators in each cluster of counties is similar.

Summary of Formative Research Approach

During the first year of the GHHH project, formative research was undertaken, primarily in Lowndes, Echols, and Brooks counties.

* Closed and open-ended questions were posed to Georgia farmers during the months of January and February of 1994. A total of 155 farmers participated in answering these questions and talking with the researchers. One version of the questions asked farmers about their reasons for either performing or failing to perform skin protective behaviors, and a second version asked them about their opinions and observations of others in relation to skin protective behaviors. Both versions contained the same questions for the final two pages of the interview. Those questions dealt with general farming experience issues and general health behaviors, in addition to asking about past experience with skin cancer. The results of formative research conducted during the first year of this project demonstrated that:

    (1) less than five percent of the 155 Georgia farmers interviewed had every had a clinical exam of their skin;

    (2) only six percent had ever had a physician recommend such an exam;

    (3) approximately 25 percent indicated they knew how to conduct a self exam of their own skin;

    (4) nearly three-fourths selected the wide-brimmed straw hat over a wide-brimmed tightly woven cloth hat as the best protection from the sun;

(5) approximately 40 percent had reservations about their ability to wear sunscreen while working in the sun with pesticides [a question borne of an early interview in which one farmer directly stated that he did not wear sunscreen because "pesticides stick to it"]; and

(6) other frequently stated reasons for not wearing sunscreen, long sleeved shirts, or wide-brimmed hats included: it takes too long, they put it off, and they forget.

* At the beginning and end of the summer 1994 (early June and late August), trained teams of field researchers visited work sites in our formative research area and observed 144 outdoor workers. Observations of the workers' clothing, including headgear, face wear, upper body clothing, lower body clothing, and foot wear were made, demonstrating that:

(1) 45% were wearing baseball caps;

(2) 25% were wearing nothing on their heads;

(3) 75% wore short-sleeved shirts;

(4) 80% wore no kind of eye protection (e.g., sunglasses); and

(5) 88% wore long pants.

* At the beginning and end of the summer 1994 (early June and late August), trained field researchers observed 10 farms where migrant workers [numbers in each field ranging from about 12 to approximately 50] were picking crops in the fields. Observations of the workers' clothing, including headgear, face wear, upper body clothing, lower body clothing, and foot wear were made, revealing that:

(1) most wear short-sleeved shirts;

(2) most wear nothing on their heads, a bandana, or a baseball cap;

(3) very few wear eye protection;

(4) very few wear hand protection; and

(5) most wear long pants, but some wear shorts.

* During the Spring of 1994, project personnel attended the Georgia Healthy Farmers' Farm Tour and visited a farm where migrant workers were harvesting zucchini.. One occupational health resident on the tour, himself Hispanic and fluent in Spanish, spoke with workers who told him that they did not eat the zucchini from the fields unless it had been washed because of the chemicals on the vegetables. However, when the crew leader announced a break, the workers removed their gloves, ran to the fence at the side of the field just mere yards from the picking, and ate ripe wild plums growing there, seemingly unaware that the same chemicals sprayed on the zucchini fields would have also been sprayed on these wild fruits. Observations of other fields in which migrant farm laborers were at work produced similar findings, with workers in vineyards, peach orchards, and peanut fields all relaying similar beliefs about pesticide exposure to Spanish-speaking field researchers, while revealing inconsistencies between beliefs and behavior. In one instance, a cropduster was spraying a peanut field less than 50 yards from workers who stood watching and waiting to return to work.

* At the beginning of the summer 1994 (June), to assess the availability of pesticides, pesticide protection equipment and devices, and messages relating to both, a field observation checklist was developed for use in feed and farm supply stores, a location that farmers frequent and, therefore, an important point of safety and product information dissemination. The field observation form assessed the availability of information about pesticides, including store newsletters, warning labels on products, store posters, flyers, brochures, and/or videos; and products to promote safe pesticide use, including safety soap and protective clothing [gloves, goggles, masks, boots, aprons], and it was found that:

(1) from the five feed and farm supply sites, 27 different pieces of literature about pesticides were collected. These varied from one-sided bulletins to one, 50-page booklet. Eight of the 27 pieces included some reference to use and pesticide exposure and risk for humans. These references varied from general statements, including "with any crop protection chemical, always read and follow label instructions," to more specific instructions, such as "wear long-sleeved clothing and protective gloves when handling," "wash hands and face before eating or smoking and after applying," and "harmful if swallowed or absorbed through skin." Only <u>one</u> of these collected pieces of written information contained any content in Spanish--the primary language for most migrant farm workers in Georgia. Specifically, DowElano provided a booklet [6.5 pages, 8 1/2 by 11 inches in size, with 10-12 pitch type] about the herbicide "Broadstrike+Treflan with the following words in Spanish: PELIGRO: Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. The English translation of this message is DANGER: If you do not understand the label, find someone to explain it to you in detail;

(2) all feed stores had a community bulletin board that provided a central location for posting notices of meetings or alert notices. Owners/workers reported that these boards are updated monthly; later visits found this to be true;

(3) with respect to personal protective devices and clothing, the field researchers found that three stores carried some variety of gloves labeled chemically resistant. Two stores had safety goggles, with one type being clearly marked for use with chemicals; the worker in the other store indicated in response to a question about what the goggles in stock were designed to be used for that he "had no idea what they were for." Two stores had some type of protective device relating to face shields displayed for sale. One of the feed and farm supply stores was a representative of a major regional chain. The employees indicated that they had personal protective equipment if someone asked for it, but they did not have it out on the store floor because use was not yet required by law, and the suits were too hot to be safe or comfortable for agricultural workers to use when working in the fields during hot and humid Georgia summers. One store's was the kind designed for use when working around sawdust. The other store had replacement cartridges for masks to be worn when using chemicals, although there were no actual masks displayed; a mask cartridge label noted that it had been approved by NIOSH. One store had a product clearly promoted as being safety soap for use after mixing or applying chemicals. Three stores had boots labeled chemically resistant.

* At the beginning of the summer 1994 (June), trained teams of field researchers visited 14 clinics in our formative research area and observed the availability of skin protective and other health messages, finding that:

(1) only four of the clinics had cancer prevention and detection education materials available for patients;

(2) of the four, three were directly accessible to the patient, while one was available only through the decision of the health care providers;

(3) one clinic had Spanish brochures on cholesterol and heart disease; and

(4) all were interested and willing to provide materials, recommending that they be easy to understand.

* At the beginning of the summer 1994 (June), trained teams of field researchers visited 4 libraries in our formative research area and observed availability of skin protective and other health messages and found that:

(1) these are central locations for posting information about support group meetings and other health-related organization meetings;

(2) a number of outreach programs. particularly to older adults and children, are offered;

(3) one library had 4 books about skin, with the most recent copyright being 1992 and the earliest being 1955; of 6 books about pesticides, most recent was published in 1978 and oldest in 1952; and

(4) one library had current information available through use of accessing CD ROM.

* At the beginning of the summer 1994 (June), trained teams of field researchers visited 5 book stores and 8 video stores in our formative research area and observed the availability of skin protective books and videos--including make-up references, and so on; additionally, the availability of general health books and videos were noted. Summaries of these observations reveal:

(1) most video stores have fitness and weight loss related videos, while only one had a video relating to skin--it was for skin care; and

(2) only one book store had any books relating to cancer--and it was a title about cancer generally, but all stores could special order such books.

* 10 in-depth interviews were conducted with public health nurses in the formative research area, and among the findings:

(1) migrant farmworkers generally speak Spanish but frequently are not literate in Spanish and so require educational materials that primarily rely on pictures;

(2) a skin cancer check list for use when conducting a skin exam of patients would be useful; and

(3) a skin cancer education and detection seminar would be valuable, and should be offered more than once to accommodate various schedules; and

* 10 in-depth interviews were conducted with farmers in the formative research area, with the following findings included:

(1) farmers do not wear sunscreen because it is not convenient;

(2) they do not wear long-sleeved shirts because they are too hot; and

(3) they do not wear wide-brimmed hats because they are too hot, blow off their head, and get in the way of doing work;

* 10 in-depth interviews were conducted with migrant workers in the formative research area, revealing that:

(1) only one reported taking any precautions to protect himself from pesticide exposure, saying he wears a long-sleeved shirt when a field "has just been sprayed";

(2) the only female migrant worker interviewed noted that she did not have to worry about pesticide exposure when working in the fields she currently worked in, because pesticides were weaker than the ones where she had worked before;

(3) none of the workers expressed understanding or concern about skin cancer.

* 10 in-depth interviews were conducted with legislators from the formative research area and other legislators who work with/for farmers and/or migrant farmworkers, revealing that legislators feel that need/desire to educate fellow legislators about the significant contribution that farming makes to the State and the special needs of farmers in relation to health care, including safety, injury, and cancer risk.

* pilot testing of messages demonstrated a significant preference for brochures with pictures of various types of skin cancers and an aversion to the brochure, "Fry Now. Pay later."

* in cooperation with the Georgia Healthy Farmers' Project, a skin protection class was offered to farm kids attending a Farm Safety Camp held at Abraham Baldwin Agricultural College. The class based its principles on theory and research that demonstrates the superiority of learning for those efforts which provide kids with opportunities to observe others performing appropriate behaviors, model and practice appropriate behaviors themselves, and to evoke social cognitive activities--thoughts and conversations--about the desired behaviors. In particular, attendees were given an opportunity to learn to conduct a skin self exam and then to conduct such an exam, to try five different types of sunscreen and then to evaluate those sunscreens, and any of a dozen hats and then to evaluate those as well. Many of the participants reported that this class was their favorite camp activity.

GEORGIA'S HARVESTING HEALTHY HABITS CAMPAIGN

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* Although this increased evidence of death among agricultural workers has been demonstrated, and the increased risk for exposure to known causes of skin cancer is obvious, far less is understood or known about farmers' specific prevention and detection behaviors, or precursors to action such as their confidence about performing recommended practices.

* Farming families have also been found to have less health insurance, less coverage for preventive care, and so less often seek such preventive services as mammograms and pap tests.

***For more information, call or write to the above.

THE THREE TYPES OF SKIN CANCER

III.

THREE TYPES OF SKIN CANCER

1. BASAL CELL CARCINOMA is the most common type of skin cancer and is primarily found on the sun exposed parts of the body. There are two types:

1. nodular basal cell: elevated lesions with an ulcerated center, raised and waxy border; moderately firm to the touch.

2. superficial basal cell: plaque, usually with a crusted center and raised pearly border; often multiple.

Warning signs of basal cell carcinoma:

* A shiny bump or that is pearly translucent. Often it may be pink, red, or white. Individuals with darker complexions may have shiny tan, black, or brown bumps.

* An open sore that bleeds, oozes, or crusts and remains open for three or more weeks, or, heals and recurs.

* A reddish patch or irritated area, frequently occurring on the chest, shoulders, arms, or legs. The patch may be crusty. This condition may often persist with little or no discomfort.

* A smooth growth with a slight elevation, rolled border, and indentation in the center.

* A thready, scar-like area with poorly defined borders and an indentation in the center. This condition may be the sign of a more aggressive tumor.

This type of skin cancer does not spread and with early detection and treatment it is over 99% curable. Surgery removing the cancer is usually performed in a doctor's office with local anesthesia.

2. SQUAMOUS CELL CARCINOMA is less common than basal cell carcinoma but still accounts for 20% of all skin cancers. It is primarily found on sun exposed areas of the body including the face, head, and neck: 75% on the head, 15% on the hands, and 10% elsewhere. However, it can also grow rapidly on unexposed parts of the body and spread to vital organs. Squamous cell has the potential to spread, to regional lymph nodes and possibly the lungs. Results can be life threatening. Fortunately, squamous cell carcinoma is easy to diagnose and cure if treated early.

Warning signs of squamous cell carcinoma:

* A patch or raised pink/red nodule that becomes thicker and rougher as the tumor develops.

* Ulceration with a raised border, crusted surface, and pebbly base.

Appearance varies from elevated nodular masses to punched out ulcerated lesions. Unlike basal cell carcinoma, squamous cell tumors are opaque.

3. MALIGNANT MELANOMA is the least common, yet the most dangerous type of skin cancer. Early stages are successfully treated; however, if left untreated, it spreads quickly and the disease can be fatal. Malignant melanoma is rising as the fastest form of cancer in the United States. Life time risk has grown from 1/600 in 1960 to 1/120 in 1990 and it is projected 1/90 people living in the year 2000 will develop a malignant melanoma. Presently, 20% of individuals diagnosed with this condition die. However, if detected and treated early, nearly 100% of cases are curable. <u>NO ONE NEED DIE OF MALIGNANT MELANOMA</u>.

Warning signs of malignant melanoma:

* One word signals what to look for, CHANGE! Malignant melanoma may arise out of pre-existing moles, but do not necessarily have to. Any change in the condition of the skin, anywhere, may be the first and only warning signal you may get.

* Malignant melanoma is usually pigmented (black, gray, blue, brown, red); often it i less then 2.5 centimeters in diameter. The lesion may be flat or elevated, eroded or ulcerated. Often located in areas not typically exposed to sun.

THE ABCD'S OF MOLES & MELANOMAS

IV.

THE ABCD's OF MOLES AND MELANOMAS

A quick guide for recognizing problem areas on the skin is the "ABCD's of moles and melanomas." Problems may be present or arise if:

A = Asymmetry. A line drawn through the middle of the lesion will not create matching halves.

B = Border. The border is uneven or mis-shaped.

C = Color. Varying shades of brown or black or red in a single melanoma

D = Diameter. Normal moles are about the size of a pencil eraser or smaller. Any growth or change in size needs to be noted.

Only a physician should diagnose and treat skin lesions. SEE YOUR HEALTH CARE PROVIDER IMMEDIATELY if you notice any of the above descriptions or if you have any concerns about your skin.

CONDUCTING

A

SKIN

SELF-EXAMINATION

V.

CONDUCTING A SKIN SELF EXAMINATION

Now that you understand the causes and problems related to skin cancer, let's take a look at conducting A SKIN-SELF EXAM. Following is a brief list of steps designed to locate any problem areas on the skin. Remember the ABCD's of moles and melanomas as well as the specific types of warning signals as discussed earlier.

1. Inspect the surface of the head and neck. Pay particular attention to the nose, eyelids, cheeks, ears, and lips. Part the hair at several places checking the scalp.

* are there any color variations in the skin?
* are there any lesions?
* are there any suspicious looking nevi or moles?

IF YOU ANSWER YES TO ANY OF THESE QUESTIONS, SEE A HEALTH CARE PROVIDER IMMEDIATELY.

2. Proceed to inspect surface of the back, chest, extremities, and abdomen. Pay particular attention to the back of the legs and the soles of the feet.

3. Have you detected any noticeable changes in skin or moles. Have you been experiencing any discomfort?

4. Use your fingers to apply pressure to your moles.

* is there any oozing or discomfort?
* what is the texture?
* is it mobile or firm?

IF YOU ANSWER YES TO ANY OF THESE QUESTIONS, CONSULT YOUR HEALTH CARE PROVIDER AS SOON AS POSSIBLE.

Assessing your risk factors. Before beginning a skin exam, there are several risk factors that should be noted.

1. Skin type: Although the chances of developing skin cancer vary depending on skin type, ALL SKIN TYPES AND ETHNIC GROUPS ARE AT RISK without taking the necessary preventative measures. There are six skin types you should be aware of.

a. someone who always burns and never tans. This person is very fair complected, with red or blond hair and freckles. This skin type is the most susceptible to the sun's damaging rays.

b. someone who burns easily and tans minimally. This person is also fair skinned. Again, more susceptible to the sun's rays.

c. sometimes burns and gradually tans.

d. minimal burning, always tans.

e. seldom burns. Medium to dark pigmentation.

f. never burns and tans darkly. Heavy pigmentation.

2. History of blistering as a child. Just blistering once greatly increases the chances of this person developing skin cancer.

3. Unusual moles or spots on the skin. Remember the ABCD's.

4. Family history of skin cancer.

5. Prior skin cancers

6. Working outdoors. Farmers, construction, etc.

7. Working with pesticides.

8. Outdoor activities (sports and recreation) Weekend tanning is dangerous and been linked to developing malignant melanoma.

9. Living in a sunny climate.

SKIN EXAMINATION HOME ASSESSMENT FORM

	yes	no	findings/comments
Did I inspect the skin surface of the head and neck, especially the nose, eyelids, cheeks, ears, and lips?			
Did I inspect the skin surface of the back?			
Did I inspect the skin surface of the chest?			
Did I inspect the skin surface of the extremities, especially the back of the legs and the soles of the feet?			

Findings observed: _____

_____

_____

Did I have difficulty performing the examination?

_____

Questions to bring for discussion with health care provider_____

_____

_____

SKIN CANCER

PREVENTION

VI.

SKIN CANCER PREVENTION

There are simple ways to protect yourself from the sun and skin cancer. We like to call it sensible sun protection.

1. Avoid peak hours of sun exposure which include the hours between 10:30 A.M. and 3:00 P.M.

2. Wear protective clothing. Tightly woven hats with a 3 inch brim all the way around are recommended for the head. Long sleeve shirts and pants along with sunglasses further protect the skin from the sun's damaging rays. We know it is hot outside, but a white, 100% cotton long sleeve shirt reflects the suns rays. In addition, the shirt should allow ventilation which will actually keep the individual cooler. If you must go into the sun without protective clothing, WEAR SUNSCREEN.

3. If you must be in the sun for an extended period of time, wear a sunscreen with an SPF (sun protection factor) of 15 or higher.

   a. SPF represents how much longer you are able to stay in the sun without burning. For example, with an SPF of 15 you would be able to stay in the sun 15 times longer without burning.

   b. Make sure the bottle indicates the product protects you from both UVA and UVB rays.

   c. Sunscreens need to be applied 20 to 30 minutes before going into the sun, paying attention to the ears, nose, and lips. This allows time for the product to absorb and be most beneficial.

   d. If spending an extended amount of time in the sun, sunscreens need to be applied regularly throughout the day as perspiration, humidity, wind, and water may dissipate the sunscreen quickly.

e. Remember, cloudy days and winter months still let ultra violet radiation through to the earth's surface so protect yourself year round!

4. Don't "work" on a tan. Short bursts of sun exposure or burning is linked to the development of malignant melanomas.

5. Avoid tanning parlors. These are just as unsafe, if not more dangerous, as direct sunlight.

6. Examine your own skin regularly. Stress the importance of completing a skin self exam. Think about the ABCD's of moles and melanomas and notice any CHANGE in skin condition.

7. Whenever dealing with pesticides or dangerous chemicals, wear protective equipment and clothing.

8. Finally, if you notice something different or peculiar, contact a physician or specialist immediately.

SUNSCREENS

VII.

SUNSCREENS

Many people have questions about sunscreens these days, like when to wear them, what SPF to use, and how to use the various kinds of sunscreens. This seminar aims to not only increase extension agents' personal knowledge of sunscreen but to also provide information that could be disseminated throughout agents' own communities.

WHY IS SUNSCREEN IMPORTANT?

The main cause of most skin cancers in Georgia is overexposure to the sun. **Skin protection is an important defense against skin cancer.** The body's usual defense against the sun's damaging ultraviolet rays is a pigment in the skin called **melanin. Melanin** acts as a sun shield by scattering and absorbing UV radiation.

Some people have more melanin than others. The melanin in light brown or tanned skin provides only as much defense as a sunscreen with an SPF of 4. The melanin in dark black skin provides only as much defense as a sunscreen with an SPF of 10.

There are never enough granules of melanin to prevent sunburn and damaging UV exposure, even in the darkest skin. **So, to protect your skin from the sun's harmful rays, wear a sunscreen with an SPF of 15 or greater on skin exposed to the sun.** Although anyone can get skin cancer, the risk is less if you use sunscreen whenever you are in the sun, work or play.

HOW TO SELECT A SUNSCREEN

While it is recommended that everyone should wear a sunscreen with an SPF of at least 15, it is important to know if an SPF of 15 is enough protection for you. In order to insure you are selecting a sunscreen that will protect you adequately, you should be sure you are protected from the sun's UVA and UVB rays.

1. To Protect From UVB Rays:

Pick the right SPF for you. **SPF stands for SUN PROTECTION FACTOR.** To pick the right SPF for you, answer two questions:

a. How many minutes can your unprotected skin be in the noonday sun before it begins to redden?

b. How many minutes will you be in the sun?

Then, calculate the right SPF for you by dividing the minutes to be spent in the sun by the number of minutes your unprotected skin can be in the sun before it reddens.

$$SPF = \frac{\text{minutes to be spent in the sun}}{\text{minutes before skin reddens}}$$

***If your SPF value is lower than 15, use SPF 15 sunscreen.

Example:

$$SPF = 8 \text{ hour day is } \frac{480 \text{ minutes}}{30 \text{ minutes}} = \textbf{SPF 16}$$

2. To Protect From UVA Rays:

Look for the ingredients **benzophenone, oxybenzone, methooxybenzone of sulfisobenzone, or Parsol 1789** (chemicals that block UVA rays).

WHAT TO LOOK FOR IN A SUNSCREEN

Sports Sunscreen - designed to take the sting out of sweating and wearing sunscreen.

Waterproof Sunscreen - provides 80 minutes of protection while sweating or swimming before you need to reapply.

Water Resistant Sunscreen - Provides 40 minutes of protection while sweating or swimming before you need to reapply.

HOW TO USE SUNSCREEN

*Apply 20-30 minutes before going outside to give your sunscreen time to penetrate your skin and protect your cells.

*Use one ounce of sunscreen per application.

*Lips contain no melanin, so use extra protection for them.

*Choose the SPF number you need because SPF numbers DO NOT add up. If you put an SPF 8 sunscreen on top of an SPF 8 sunscreen, you still only have an SPF of 8.

*Due to the intensity of the sun in Georgia, sunscreen should be worn all year round.

SKIN CANCER AND FARMERS

VIII.

SKIN CANCER AND FARMERS

Recent research indicates that farmers are up to 1.8 times more likely to contract skin cancer than non farmers. Considering that farmers spend the vast majority of their time in the sun, this is understandable. Our own research indicates that 1) the vast majority of farmers do not take preventive measures against sun exposure, 2) farmers are concerned about skin cancer, 3) farmers rarely encounter information which tells how to prevent and detect skin cancer, and 4) farmers indicate an interest in receiving such information. As an extension agent, you are a vital link to the farming community. Furthermore, you have the potential to influence a farmer's behavior. The purpose of this study course was to educate you about skin cancer detection and prevention practices. However, all of what you learned is applicable to the greater farming community. Thus, your ability to determine your own risk factor and take preventive measures can also be applied to farmers. It is our hope that you will disseminate what you have learned. Whether individually or in seminars, the information you present will play a great part in reducing farmers' skin cancer risk. Additionally, they would welcome it. Thank you.

Skin Safety Seminar Outline
for Skin Cancer Prevention

I. Introduction
   A. tell them about your self
      1. say hello and tell who you are
      2. what you do
      3. why you are here giving this seminar

EXAMPLE: "Hello, my name is (Dr. Roxanne Parrott) from the University of Georgia and I teach what's called health communication classes and work on health campaigns with the Center for Disease Control and it's come to our attention recently that farmers have much more skin cancer than other people. Now that shouldn't surprise any of us because we know that the big cause of skin cancer is SUN."

   B. Establish need and relevancy of seminar for audience (discuss skin cancer in relation to agricultural workers specifically)
      1. major cause of skin cancer from sun
      2. for every 100 cases of skin cancer in the general population, farmers have 130-180 just depending on what part of the country they are farming

   C. Give overview of seminar
      1. what exactly they are going to do and in what order

EXAMPLE: "What we have today are some sheets which explain a little bit about skin, cancer, and skin cancer. And, after we do that, we are going to go back into some centers, and learn how to conduct a skin self-exam, which is a way to detect skin cancer. You will also try on some hats and different kinds of sunscreens; both are different ways we can prevent skin cancer."

II. Begin covering skin, cancer, and skin cancer information sheets
   A. Skin sheet
      1. Who knows what the largest organ of the body is?
         (allow for kids to try and answer, attempt to interact with children)

EXAMPLE: (someone answers skin or you provide answer) "How many of you had heard that before in school? You've probably heard that in your science class or you will in the next year or two."

2. What does the skin do? Why should we worry about protecting it?
(allow for kids to try and answer, again, attempt to interact with children, provide answer as necessary)

EXAMPLE: (someone answers skin or you provide answer) "It's the organ that's holding in all the other organs, and protecting the organs that are inside of your body, and so for that reason, YOU have to protect it. And so, for the same reason that its there to protect everything else in your body from all kinds of exposure to sun, chemicals, and to everything else, YOU have to protect it."

3. Go over skin briefly as shown on information sheet.

EXAMPLE: "Now who knows what makes up the skin? Well, the skin is made up if 2 different layers and 3 kinds of cells and each kind of skin cancer goes with each kind of cell."

B. Cancer sheet- Cover in similar fashion
1. Establish relevancy for your audience.

EXAMPLE: "How many of you know somebody who has cancer?"
(allow kids opportunity to answer)

2. Explain what cancer is in very simple terms according to information sheet.

EXAMPLE: "Lung cancer, melanoma, what else? Bone cancer? OK., well there are all kinds of cancers and for people, there can be a cell and it just starts to grow funny and it grows fast quite often and when you identify that you go to the doctor, let the doctor see what is going on and hopefully, get it cured."

[Transition: "Going on to the third sheet...]

C. Skin Cancer sheet
1. Main emphasis for seminar -Key is Prevention

EXAMPLE: "With many types of cancer, we are not sure of what causes them, and we don't know how to prevent them, but when it comes to skin cancer, it <u>is largely preventable</u>."

2. Emphasize that it is the most common form of cancer in the United States, provide statistics.

EXAMPLE: "Did you know that there were 700,000 new cases of skin cancer diagnosed last year (1993)? And actually, they think there are 1 million people, but that there are probably 300,000 people with skin cancer who just haven't been diagnosed yet. So, it is a BIG problem, and that is the reason we want to talk about how we can prevent it."

4. Next, go over three types of cancer and tell which is most common (basal cell carcinoma) as on skin cancer fact sheet.

EXAMPLE: Now there are three types of skin cancer. Who can tell me which one is the most common? (Kids answer, provide answer as necessary). That's right, Basal cell carcinoma is the most common form of skin cancer. Now this kind of cancer grows real slowly and doesn't spread to other parts of your body. (Let them know if you or anyone you know has experienced this, had it removed, and had no problems since).

5. Move to second most common form, squamous cell carcinoma. Note that it grows faster and ask why it could be worse because it grows faster. (allow kids opportunity to answer and reinforce that there is less time to get diagnosed before it gets worse).

6. Next, talk about malignant melanoma being worst kind but least common.

7. Reinforce message that too much sun exposure can lead to all three types of skin cancer.

EXAMPLE: Ask, "What is major cause of skin cancer? That's right, the sun. And, how do we get exposed to the sun? That's right, working and playing in the sun."

8. Mention/reinforce once again that Outdoor workers are more likely than indoor workers to get skin cancer.

9. Try and again create more immediacy/realism for the children.

EXAMPLE: Ask, "how many of you have had a sun burn?" How many of you have ever had a blistering sun burn?

a. make sure they can identify a sunburn that has blistered (ask them to describe and provide information if necessary, i.e., the skin swells up and looks like it has water inside.)
b. emphasize that they need to watch out for sunburn but especially a blistering sunburn

EXAMPLE: "Did you know that one blistering sunburn DOUBLES your chance of getting skin cancer? That is just another reason why we need to protect our skin."

c. make sure they understand what to do as soon as they see themselves start to burn.

EXAMPLE: "What would you do if you noticed that you were starting to sunburn? (Allow children opportunity to answer and provide answers if necessary) You could get out of the sun, apply more sunscreen, or put on more protective clothing."

III. Closing
A. Explain and emphasize 3 main points
1. Who is more at risk for getting skin cancer
a. note that some people's jobs place them at higher risk for skin cancer

EXAMPLE: "Some people are more likely to get skin cancer than others because of their job. Who could be more likely to get skin cancer? (allow time for them to answer, make sure answer includes outdoor workers, such as farmers). People who work outside a lot like farmers, are more at risk."

b. Discuss hair color

EXAMPLE: "What color hair would a person have, who would be more likely to get skin cancer? (allow time for answers) People with light hair, blond and red hair are more likely to get skin cancer."

c. Discuss complexion.

EXAMPLE: "What kind of skin color puts a person at higher risk? The lighter the skin, the more risk."

d. Mention genetic link.

EXAMPLE: "Also, skin cancer can be considered somewhat genetic. If someone in your family like your brother or sister has had skin cancer, you could also be at increased risk."

2. Summarize what they can do to prevent skin cancer.
   a. Reinforce wearing sunblock
      1. proper use of sunblock
         1. put on atleast 20 minutes before going outside
         2. reapply often
      2. what is SPF
         1. SPF=sun protection factor
         2. want atleast SPF 15 or greater

EXAMPLE: "The key to skin cancer is prevention. There are several things you can do to prevent skin cancer, such as what? We can all wear sunblock. Is there a right way or a wrong way to wearing sunblock? The key to wearing sunblock is that you must put it on 20 minutes before going out in the sun and reapply it often. Now what is SPF? What does SPF stand for? (Make sure they understand.) SPF stands for Sun Protection Factor. What SPF number do you need to look for? You at least need an SPF of 15 or greater. Say you have a sunblock with SPF15. What this 15 means really, is that by wearing that SPF15 sunblock, you can stay out 15 times as long in the sun as it would usually take you to burn. So you have to know a little bit about your self and your skin to know how long it would be before you would burn."

   b. Reinforce wearing protective clothing
      1. at least a 3 inch wide-brimmed hat and long sleeve shirt. Emphasize wide-brimmed hat -ask where farmers get the most skin cancer. (ears and the back of the neck).

3. Main thrust of seminar-Developing skin cancer prevention as HABITS, HEALTHY HABITS.

EXAMPLE: "We need to try and develop these things like wearing sunblock or a wide-brimmed hat or doing a skin self-exam as HABITS. These are healthy habits. [transition] In order to help us develop these habits, we have several stations for you to try on some different hats, sunscreens and learn how to do a skin self exam. (Divide into different groups for the stations and provide helpers at each station-BEGIN).

SUN SAFETY KIDS' PROTOCOL -- For use in farm safety camps; 4-H classes; and other settings in which farm kids have opportunities to participate in such activities. Use of the entire program takes approximately one hour as proposed. Individual activities may be selected for presentation and range in time they take from 5 minutes to 20 minutes.

PROGRAM GOALS: To give students an opportunity to personally experience/rehearse/practice behaviors to prevent skin cancer; to expose students to skin cancer prevention information and practices.

Materials needed:

Activity packets [# of expected participants]

5 different types of sunscreen [plan 1 ounce per child per type of sunscreen; vary the SPF number, the product type and purpose - e.g., sports vs sensitive skin];
Paper towels for use in wiping excess sunscreen off;

5 different hats to be worn outdoors [vary the width of brim and how tightly woven the fabric is];

4 full length mirrors [use two in the hat center and two in the skin self exam center];
6 hand held mirrors
Skin self exam brochures

I. Overview

A skin cancer and safety class for kids has been developed and twice piloted at the Georgia Healthy Farmers' Kids Camp. The program utilizes two principles of social cognitive theory within a framework of adolescent development. First, the program is designed to provide cognitive and behavioral rehearsal of the behaviors being promoted to protect one's skin when in the sun (e.g., use of sunscreen; wearing a hat...). Second, the program is designed to invoke social comparison, as the adolescents try on different hats and model them for their peers, while at the same time, observing their peers and forming opinions about their appearance and practice of particular recommended behaviors.

At this stage of development [10-13 years of age], the most consistent evaluations that youth make are judgments of positivity and/or negativity. Thus, when asking youth to evaluate activities, messages, or situations, this predisposition to respond should guide the instrument design.

The program has been designed to teach youth about skin care and skin cancer prevention. Materials for the class consist of:

√ three messages which should be copied onto colorful paper to briefly overview, skin, cancer, and skin cancer;.

√ an activity/survey packet for each child with directions for participating in the evaluation of different hats, sunscreens, and messages;

√ full length and hand held mirrors together with brochures describing the procedure of conducting a skin self exam.

An outline of how to conduct the sun safety seminar for farm kids follows. In general, the following steps occur:

1. the class teacher and assistants should introduce themselves.
2. the knowledge instrument will be administered as a pretest of knowledge.
3. participants read the three skin messages -- skin, cancer, and skin cancer; then they evaluate these messages.

4. A discussion about the messages and skin cancer ensues; see attached outline. During discussion, students may receive sunscreen samples or other rewards for correctly answering questions posed by the class instructor.

5. Participants move into activity centers.

The activity packet includes directions and measures used to evaluate the three activities around which the course is focused. The order of these activities has been randomly assigned within individual activity packets. Thus, one student may begin with sunscreen A, while another student begins at a center by evaluating hat B; then students move through the activities in

the order ordained by the sheets in their project packet.

At the end of the activities, students receive incentives, such as a free sun protective hat or long-sleeved shirt.

The following describes the three activity centers used:

SUNSCREEN ACTIVITY

This activity consists of sampling different kinds of sunscreens to find out which kind of sunscreen is preferred and is most likely to be worn. In the activity sections of the students' packets, the participants are asked to judge the sunscreens in terms of smell, texture, color, and so on [see attached instruments]. The students rate both what they like and do not like about the experience they have with an activity, including whether or not they would use the sunscreen.

SUN PROTECTIVE HAT ACTIVITY

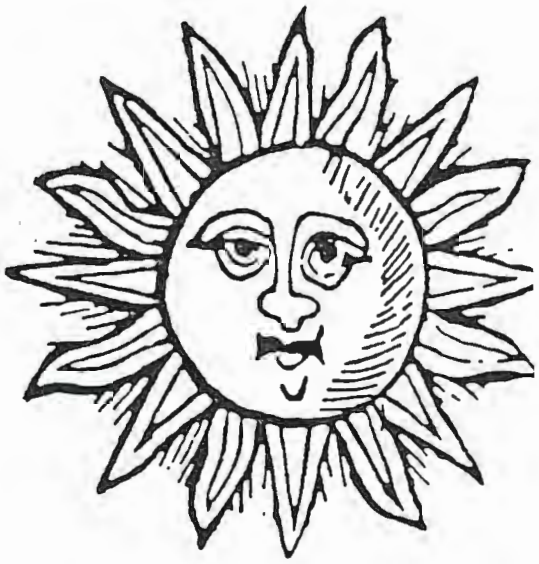
This activity may include as many as 12 hats [used in the first pilot] or as few as 5 hats [used in the second pilot to reduce the length of time it took students to complete the activity]. Each hat is different in its sun protective value. Hats should include a baseball cap, a wide-brimmed straw hat, a tightly woven wide-brimmed cloth hat, and others as the program planners deem to be appropriate [geographic, fashion, regional preferences may dictate these choices]. Students rate the style, color, and likelihood of wearing each hat.

SKIN SELF EXAM ACTIVITY

This activity includes one hand held mirror for each expected participant in the center at a given time. Two full length mirrors are positioned in a way to allow students to closely examine their exposed skin and to more accurately complete their skin charts. The participants peer at their skin in search of moles and other distinctive characteristics that they should be keeping track of. They evaluate this activity in terms of its ability to be understood and likelihood of performing it in the future.

EACH ACTIVITY CENTER INCLUDES ADULT SUPERVISOR TO ASSIST YOUTH.

Please circle the answers to the following questions about what you know about skin cancer.



How often should you conduct an exam of your own skin to look for skin cancer?

A. Whenever you take a shower
B. Once a month
C. Once a year
D. Don't know/Not sure

How often should you get an exam of your skin to look for skin cancer from the doctor?

A. Only if you detect a change in your skin
B. Once every five years
C. Once a year
D. Don't know/Not sure

How long before going out in the sun should you apply sunscreen for it to work the best?

A. 20-30 minutes
B. Just before going in the sun
C. 5-10 minutes
D. Don't know/Not sure

What type of material should you look for when selecting a shirt to protect you while working in the sun?

A. Loosely fitting and tightly woven
B. Tightly fitting and tightly woven
C. Loosely fitting and loosely woven
D. Don't know/Not sure

Which of the following types of hats provides the best protection from the sun?

A. Wide-brimmed straw hat
B. Baseball cap
C. Tightly woven wide-brimmed cloth hat
D. Don't know/Not sure

What tool do you need to conduct an exam of yourskin?

A. Hand mirror
B. Full length mirror
C. Blow dryer
D. All of the above
E. Don't know/Not sure

What does the SPF number on sunscreen mean?

A. How long you are protected from the sun
B. How many minutes before going into the sun you must apply it
C. Don't know/Not sure

Did you come to this camp last summer and learn about skin cancer?

A. Yes
B. No

SURVEY FOR HAT E

(please circle your answers)

1. Would you wear this hat when you are in the sun?

yes no

2. What are the things that you DO like about this hat?

- the color
- the material
- I like how it looks
- It is comfortable
- It's affordable
- I just like it
- I like to wear hats
- it makes me feel protected from the sun
- other (please specify) _____

3. What are the things that you DON'T like about this hat?

- the color
- the material
- It's embarrassing
- It's uncomfortable
- It would cost too much
- it's too big or too small
- I just don't like it
- I don't like to wear hats
- other (please specify) _____

4. Are you a BOY or GIRL

5. What is your age?

SURVEY FOR SUNBLOCK E
(please circle your answers)

1. Would you wear this sunblock when you are in the sun?

yes no

2. What are the things that you DO like about this sunblock?

- not too thick
- not too thin
- easy to spread
- smells good
- not sticky
- not greasy
- Doctors recommend it
- I want to protect my skin
- I just like it
- other (please specify)

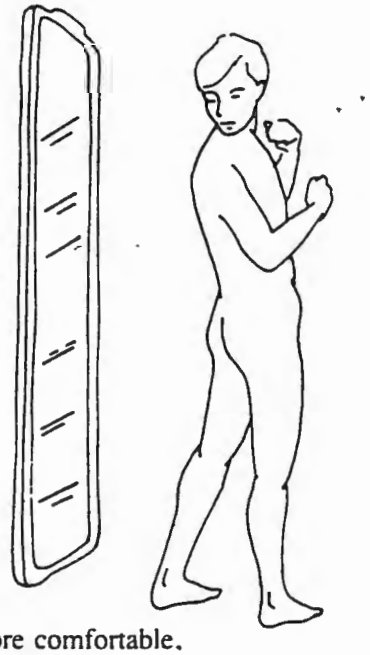
3. What DON'T you like about this sunblock?

- too thick
- too thin/runny
- hard to spread
- smells bad
- I want to tan
- I'm allergic to it
- too sticky
- too greasy
- irritates my skin
- I just don't like sunblock
- other (please specify)

4. Are you BOY or GIRL? 5. What is your age?_____

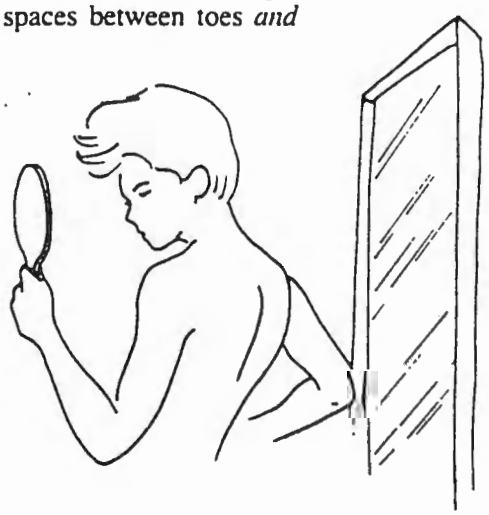
YOUR SKIN SELF-EXAM

The best time to do this simple monthly exam is after a bath or shower. Use a full-length and a hand mirror so you can check any moles, blemishes or birthmarks from the top of your head to your toes, noting anything new—a change in size, shape or color, or a sore that does not heal.



1. Examine your body front and back in the mirror, then right and left sides, arms raised.
2. Bend elbows and look carefully at forearms and upper underarms *and* palms.

3. Sit, if that is more comfortable, to look at backs of the legs, feet — spaces between toes *and* soles.



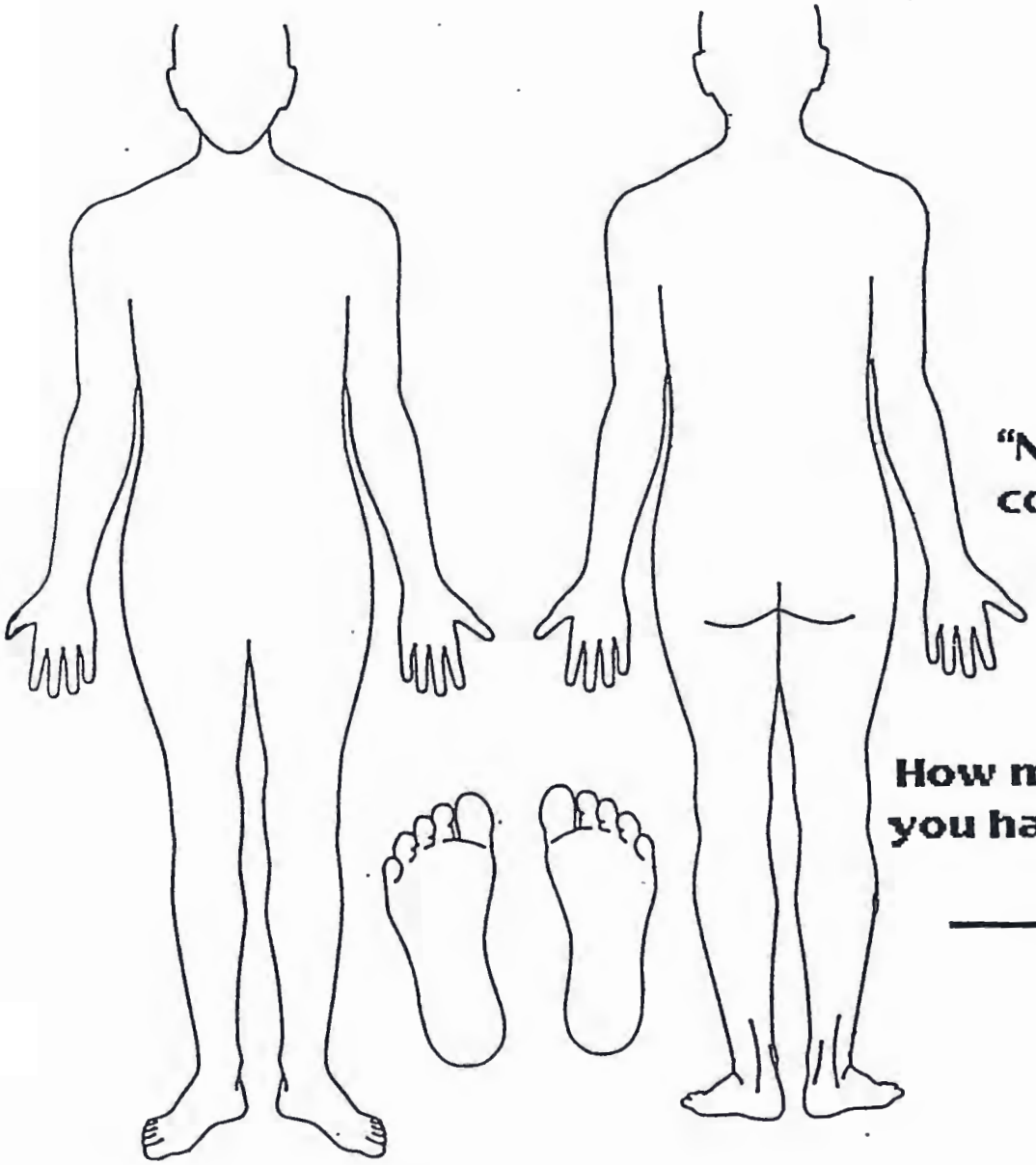
4. Examine back of neck and scalp with the help of a hand mirror, part hair (or use blow dryer) to lift it and give you a close look.

If you do the exam regularly, you will know what is normal for you and can feel confident. Remember the **ABCDs** and check with your physician or clinic if you find something.

"Draw Yourself!"

"Draw":

1. Your Hair
2. Your Face
3. Your Smile
4. Your Belly Button
5. Your finger nails
6. Your toe nails



"Now draw and count your moles!"

How many moles do you have?

_____

UNDERSTANDING SKIN CANCER: A SELF TEST

1. List the three types of skin cancer.

2. Which is most common?

3. Which is the most dangerous?

4. What does ABCD stand for?

5. List four important measures which could be taken for skin cancer prevention.

6. What type of skin is most at risk for skin cancer?.

7. How often should a skin self examination be performed?

Protect yourself today to ensure a prosperous tommorrow.

FARM SAFETY AN
SUN SAFETY

SKIN SELF-EXAM

Protect yourself today to ensure a prosperous tommorrow.

FARM SAFETY AND SUN SAFETY

SUN-PROTECTIVE CLOTHING

FARM SAFETY AND SUN SAFETY

SUNSCREENS

Important information pertaining to sunscreens and farmers. How to use sunscreens to reduce the occupational hazards of sun exposure.

Contact: Dawn Lewis
Project Coordinator
Georgia's Harvesting Healthy Habits
912-383-7709

Release Date:

FOR IMMEDIATE RELEASE: FIRST IN A SERIES OF 3

SAVE YOUR OWN SKIN -- WEAR "SPF 15"

Did you know that suffering painful or blistering sunburns, especially during childhood, greatly increases your chances of getting skin cancer? Or that simply living in the south, where the sun is more intense, also increases your risk?

While we can't change where we live very easily (even if we wanted to), we CAN keep from getting sunburned very easily by following three simple steps: SUNSCREEN, PROTECTIVE CLOTHING and SKIN SELF-EXAMS.

This article, the first in the "Save Your Own Skin" series, explains how you can begin to reduce your risk for getting skin cancer now by protecting your skin with SUNSCREEN.

Sunscreen is especially important for people with lighter skin, because lighter-skinned people have less melanin, the chemical in skin that reacts to sun exposure. And, even if you have very dark black skin, you still need to wear sunscreen. Darker-skinned people can and do get skin cancer from overexposure to the sun. There are over one million new cases of skin cancer in the U.S. each year. By wearing sunscreen regularly, you can take the first step in preventing yourself from becoming one of those million.

The key to using sunscreen (sometimes called "sunblock") is to remember to always wear one with a Sun Protection Factor (SPF) of at least 15 whenever you go out in the sun, to work or

-more-

to play. Sunscreens with SPFs of 15 and higher come in a wide variety of formulas, and can be found at most drug, discount and grocery stores. Since it is usually very hot in Georgia, look for a sunscreen that is WATERPROOF or SWEATPROOF. When you use sunscreen, make sure you reapply it every two hours, or as directed on the bottle.

Another important thing to remember about sunscreen is that it is NOT just for summer months, or when you go to the beach or pool. You can get sunburned year-round, especially in the south, so make wearing sunscreen a daily morning habit, like brushing your teeth. Preventing yourself from getting sunburned will also keep your body temperature cooler, which is important for those of us who work in the sun all day.

Finally, different sunscreens contain different active ingredients and come in a wide variety of formulas. If you find one that irritates your skin, that does NOT mean all sunscreens will. Keep trying different brands and formulas until you find one that your family likes.

If you have any questions about using sunscreen and other ways to SAVE YOUR OWN SKIN, call your local cooperative extension service or Dawn Lewis, Project Coordinator for Georgia's Harvesting Healthy Habits Campaign, at 912-383-7709.

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Contact: Dawn Lewis
Project Coordinator
Georgia's Harvesting Healthy Habits
912-383-7709

Release Date:

FOR IMMEDIATE RELEASE: SECOND IN A SERIES OF 3

SAVE YOUR OWN SKIN: WEAR PROTECTIVE CLOTHING

Did you know that you can get sunburned right through your clothes? Or that areas such as your ears, nose and back of neck are common locations for skin cancer?

You can protect these areas, and the rest of your body, from sunburn and the risk of skin cancer by following three simple steps: SUNSCREEN, PROTECTIVE CLOTHING and SKIN SELF-EXAMS.

You have already learned about preventing skin cancer with sunscreen in a previous article. This article, the second in the "Save Your Own Skin" series, explains how you can shield your skin from the damaging sun with PROTECTIVE CLOTHING.

There are some basic things to look for when buying clothing to protect your skin. First, look for tightly woven cloth when buying hats, shirts and pants. Also, look for color: the darker the garment, the more it will block the sun's rays. For example, the denim in a pair of blue jeans has an SPF (Sun Protection Factor) of 1,700! This is many times greater that a white cotton t-shirt, which only has an SPF of 7 (the recommended SPF rating for sunscreen and clothing is 15 or higher).

You may now be saying, "but it's too hot in the summer to wear long pants and shirts!" Since heat is almost always a factor in Georgia, buy shirts and pants that fit loosely. This will

-more-

allow more air to flow between your skin and the fabric, keeping you cooler. If you must wear short sleeves and pants, make sure you use sunscreen with an SPF of 15 or higher on all exposed areas, and reapply frequently.

To protect your head, back of neck, ears and face, always wear a tightly woven cloth hat with at least a 4-inch brim all around, or with a broad bill and flaps to cover your ears and neck. Wearing a wide-brimmed hat will also keep you much cooler, since it keeps the sun's rays off your head and neck, where much of your body's blood flow occurs. If you don't want to part with your old favorite caps, you can turn them into Sun Protective Hats by using a simple pattern, available at your local cooperative extension office. Make protective hats part of your family's everyday wardrobe -- keep extras in the car, and send hats to school with your children.

Now you have learned how to PREVENT skin cancer with sunscreen and protective clothing. Next time, you will learn how to DETECT skin cancer early with a skin self-exam.

If you would like to request a Sun Protective Hat pattern, or want more information on these and other ways to Save Your Own Skin, call your local cooperative extension office, or Dawn Lewis, Project Coordinator of Georgia's Harvesting Healthy Habits Campaign, at 912-383-7709.

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Contact: Dawn Lewis
Project Coordinator
Georgia Harvesting Healthy Habits
912-383-7709

Release Date:

FOR IMMEDIATE RELEASE: THIRD IN A SERIES OF 3

SAVE YOUR OWN SKIN -- PRACTICE SKIN SELF-EXAMS

The Georgia sun can be dangerous, or even deadly.

We are more vulnerable than many other areas of the country when it comes to fighting skin cancer, simply because of our location. If we work or play outside during the sun's hottest hours, we are even more at risk.

About 90% of all skin cancers are caused by sun exposure. Although many of us can't limit our time in the sun, the good news is we can take three steps to reduce our risk. These three steps are SUNSCREEN, PROTECTIVE CLOTHING and SKIN SELF-EXAMS.

You have already learned about preventing skin cancer with suscreen and clothing in previous articles. This article, the third in the "Save Your Own Skin" series, explains what to look for in a SKIN SELF-EXAM -- the first step in early detection of skin cancer.

Skin cancer is highly curable, if found and treated in its' early stages. That is why examining your skin on a regular basis is so important. You should examine your own skin, and your children's skin, at least once a month.

You are probably thinking, "I don't know what skin cancer looks like, so I can't examine my skin for it." So, here are the general signs to look for that may indicate cancer on your skin.

-more-

1) A pearly, translucent (clear), tan, brown, black or multicolored bump that increases in size over time.

2) A mole, birthmark or "beauty mark" that changes in color or texture, increases in size or thickness, has ragged edges or shape.

3) A spot or growth that continues to itch, hurt, crust, scab, erode or bleed.

The main word to remember when you are looking at your skin is CHANGE. Once you begin examining your skin regularly, if you notice any changes in the shape, size or texture of a mole, birthmark or "beauty mark," or any new marks or moles, you should see your health care provider as soon as possible. Chances are, it might not be skin cancer at all. If it is skin cancer, it can most likely be removed with surgery, and no additional treatment will be needed. The sooner you have a problem treated, the sooner you will have peace of mind.

Now that you know what to look for, here are a few tips to remember when you examine your skin.

The first step in conducting a skin self-exam is to make sure you have the right "tools": a full-length mirror, a hand-held mirror, and a private, well-lit room (a bathroom is a good place). Once you have these, you can start your monthly skin self-exam, looking for any CHANGE and the signs listed above.

Use the mirrors to examine every part of your body, from your scalp to the soles of your feet. Look everywhere -- including behind your ears, under your nails, the insides of your arms,

-more-

between your toes. While skin cancer is most often found on sun-exposed areas, some cancers can grow in these "hidden" areas, too. When examining your scalp, you may want to use a hair dryer (a comb also works well) to part your hair in different places so you can see better. Pay special attention to areas like the back of your neck, shoulders, back, arms and legs.

Once you have completed your skin self-exam, if you do find something that has changed or looks suspicious, see your health care provider right away. You should get a doctor's permission before applying any ointment, salves or creams to the area. Finally, take care not to irritate the spot by wearing tight or restrictive clothing over the area or by poking or scratching it.

If you have any questions about these ways to SAVE YOUR OWN SKIN, call your local cooperative extension service or Dawn Lewis, Project Coordinator for Georgia's Harvesting Healthy Habits Campaign, at 912-383-7709.

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A Message for Older Adults:

Hot Weather spells DANGER

Heat Stress

Heat is a killer. Most of the victims are elderly. Heat stress is the burden that hot weather places on your body, especially your heart. If the burden is too great, heat can make you very sick or even kill you.

Facts About The Heat

- Temperatures above 90°F can be very dangerous, especially when the humidity is also high. Crowded living conditions increase this danger.
- Your body needs time to adjust to hot weather. A sudden increase in temperature, especially in the early summer, is particularly dangerous because your body is unprepared for the strain.
- It doesn't take a "Killer Heat Wave" to kill you. If you are feeling hot and uncomfortable, take steps to avoid heat stress.
- Heat stress can cause many medical problems including heat exhaustion, heat stroke, heart failure and stroke. Proper precautions can make you more comfortable, prevent illness and even save your life.

Watch Your Step

Your chances of getting sick in hot weather are increased by:

A Weak or Damaged Heart
Hypertension
Problems with Circulation
Diabetes
A Previous Stroke
Overweight
Infection or Fever
Diarrhea
Drinking Alcoholic Beverages
Skin Diseases or Sunburn Which May Reduce Sweating

Medications

Many medications can make you much more vulnerable to the heat. If you take medicine for high blood pressure, nervousness, depression, poor circulation or sleeplessness, check with your doctor or pharmacist for advice.

Early Warning Signs

- MILD SIGNS: Hot weather makes most people feel uncomfortable, and can cause a lack of energy or slight loss of appetite. These are MILD SIGNS of heat stress, and unless they last a long time, there is no need to be alarmed.
- SERIOUS SIGNS: Heat stress can also cause more serious physical and mental changes. These changes are important signals that your body is in danger.

If you experience any of the following SERIOUS SIGNS during hot weather, call your doctor or seek other medical help.

Serious Signs

Dizziness
Rapid Heartbeat
Diarrhea
Nausea
Throbbing Headache
Dry Skin (No Sweating)
Chest Pain
Great Weakness
Mental Changes
Breathing Problems
Vomiting
Cramps

Pay attention to the Early Warning Signs of heat illness. Heat stress can be fatal, and the Serious Signs mean that you are losing the battle.

Keeping Your Cool In The Heat

KEEP COOL. Spend as much time as you can in cooler surroundings, such as a cooler room in your home, an air conditioned shopping mall, senior center, public library or movie.

AIR CONDITIONING can provide lifesaving relief from heat stress, especially if you have a medical condition like heart disease.

COOLING WITH FANS. Fans can draw cool air into your home at night or help to provide good indoor air circulation during the day. Air movement reduces heat stress by helping to remove extra body heat. (When it is extremely hot, a fan may cause you to gain body heat by blowing very hot air over your body.)

BATHS AND SHOWERS. Cool baths or showers (with water temperature around 75°F) provide amazing relief from the heat. Cool water removes extra body heat 25 times faster than cool air.

CLOTHING. Wear as little as possible when you are at home. Lightweight, light colored, loose fitting clothing is more comfortable in hot weather. Cotton is very comfortable. Wear a hat or use a parasol or umbrella to protect your head and neck when you are outdoors.

DRINK OFTEN.
- In hot weather, your body needs more water. Don't wait until you are thirsty, because your body needs more fluid than thirst will indicate. By the time you feel thirsty you may already be dangerously low on water.
- Drink often and in reasonable amounts. Don't try to drink a lot of coffee or tea. They are alright in moderation, but water is your best bet.
- If you have a disease, a medical condition, or a problem with body water balance, check with your doctor for advice on how much water you should drink in hot weather.

SLOW DOWN. Take it easy, especially at the start of hot weather when your body is less prepared for the heat. Physical activity produces body heat.

WATCH WHAT YOU EAT. Avoid hot foods and heavy meals. They add heat to your body. Try using your range less. Cook your meals during the cooler part of the day.

WATCH SALT INTAKE. Check with your doctor before you increase the amount of salt or potassium in your diet. Do not take "salt tablets" without your doctor's permission.

AVOID ALCOHOL. Alcohol interferes with your body's fight against heat stress. It can put a strain on your heart.

Sponsored By

Administration on Aging
American Gas Association
Center for Environmental Physiology

This information was developed by the Center for Environmental Physiology, 1511 K Street, NW, Suite 1100, Washington, DC 20005, 202/737-3795, with funding support from the Administration on Aging and the American Gas Association. Revised 5/84

Getting Enough Fluids During the Hot Weather

1. If you drink just to quench your thirst, you will not drink enough! Thirst is a poor sign of how much water your body needs.

2. Instead, look at your urine. If it is less than usual and looks the color of apple juice, you need more fluids. Your urine should be a clear, light yellow.

3. Drink 2-3 large glasses of water before you go out into the heat.

4. Then drink at least 4-6 ounces of fluid every half hour while you are out in the heat.

5. Cool water is the best fluid to drink. Other options are juice diluted in half with water and sports drinks. Remember water is calorie-free. Too much juice and sports drinks can add a lot of calories.

6. After going inside, keep drinking fluids. Drink at least 16-24 ounces within one hour. If your urine supply is still low and dark, drink even more.

7. Alcohol and drinks with caffeine like tea, coffee and colas dehydrate you. If you have to have drink them, drink 2-3 glasses of water first.

8. Other good sources of fluid are fruits especially citrus fruits and melons and milk or yogurt.

9. Weigh yourself before and after work. For each pound you lose in a day, you have lost 2 cups of fluid. Water weight loss is never healthy so replace that weight loss with the equivalent amount of fluid.

10. Remember drinking enough fluid makes you handle the heat better, work longer and think better.

Adapted from a handout from Nancy Clark, MS, RD; Sports Medicine Brookline, Brookline MA
by Connie Crawley, MS, RD, LD, The University of Georgia Cooperative Extension Service, 1996

NATIONAL CANCER INSTITUTE

CancerWEB

Prevention of skin cancer

208/04733

CancerNet from the National Cancer Institute

This information is intended for use by doctors and other health care professionals. If you are a cancer patient, a health professional can explain how it applies to you, or you can call the Cancer Information Service at 1-800-422-6237 and talk to an information specialist.

PDQ Supportive Care/Screening/Prevention Information

SUMMARY OF EVIDENCE

Nonmelanoma skin cancer

Evidence suggests that reduction of exposure to ultraviolet (UV) radiation will reduce the incidence of nonmelanoma skin cancer. Sun exposure can be reduced by changing patterns of outdoor activities to reduce time of exposure to high-intensity UV radiation, and by using sunscreens or wearing protective clothing when exposed to sunlight.

Levels of Evidence for preceding statement: 1c, 3b, 6

Evidence obtained from at least one randomized controlled trial with a generally accepted intermediate endpoint

Evidence obtained from cohort or case-control analytic studies, preferably from more than one center or research group with a cancer incidence endpoint

Opinions of respected authorities based upon clinical experience or reports of expert committees

Cutaneous melanoma

Evidence suggests that avoidance of sunburns, especially in childhood and adolescence, may reduce the incidence of cutaneous melanoma. Sunburn can be avoided by changing patterns of outdoor activities to reduce time of exposure to high-intensity UV radiation and by wearing protective clothing when exposed to sunlight. The extent of protection from cutaneous melanoma offered by sunscreens is not established.

Levels of Evidence for preceding statement: 3b, 5b, 6

Evidence obtained from cohort or case-control analytic studies, preferably from more than one center or research group with a cancer incidence endpoint

Ecologic studies (descriptive) (e.g., international patterns studies, migration studies) with a cancer incidence endpoint

Opinions of respected authorities based upon clinical experience or reports of expert committees

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SIGNIFICANCE

Skin cancer is the most commonly occurring cancer in the United States. It accounts for 1% of all cancer deaths in the U.S.[1] There are three main types of skin cancer: basal cell carcinoma, squamous cell carcinoma (together referred to as nonmelanoma skin cancer), and melanoma. The incidence of melanoma and nonmelanoma skin cancer appears to be increasing.[2,3] Epidemiologic evidence suggests that exposure to ultraviolet (UV) radiation and the sensitivity of an individual's skin to UV radiation are risk factors for skin cancer, although the type of exposure that is important (high-intensity intermittent exposure versus chronic exposure) may differ among the main three types of skin cancer.[2,3]

The visible evidence of susceptibility to skin cancer (skin type, precancerous lesions) and of sun-induced skin damage (sunburn, solar keratoses), and the ability of an individual to modify sun exposure provide the basis for implementation of programs for the primary prevention of skin cancer.

References:

1. American Cancer Society: Cancer Facts and Figures-1992. Georgia, ACS Publication, 1992.
2. Koh HK: Cutaneous melanoma. New England Journal of Medicine 325(3): 171-182, 1991.
3. Preston DS, Stern RS: Nonmelanoma cancers of the skin. New England Journal of Medicine 327(23): 1649-1662, 1992.

EVIDENCE OF BENEFIT

Most evidence about UV radiation exposure and the prevention of skin cancer comes from observational and analytic epidemiologic studies, not from experimental studies in humans. Such studies have

consistently shown that increased cumulative sun exposure is a risk factor for nonmelanoma skin cancer.[1] Individuals whose skin tans poorly or burns easily after sun exposure are particularly susceptible.[1] One may conclude that if exposure to the sun is reduced, the result will be a reduced incidence of nonmelanoma skin cancer.

However, it is not known if reduction of exposure to UV radiation through use of sunscreens and/or protective clothing or through limitation of exposure time can reduce the incidence of nonmelanoma skin cancer in humans. Thompson and colleagues [2] have shown that regular sunscreen use can reduce the incidence of solar keratoses (precursors of squamous cell carcinoma) and increase remissions of existing lesions. In Australia, 588 persons 40 years and older who attended a free skin cancer screening clinic and had 1 to 30 solar keratoses were enrolled in a randomized, controlled trial assessing the effect that the regular use of sunscreen (Sun Protection Factor 17) could have on solar keratoses; 431 persons completed the study. Persons in the sunscreen group developed significantly fewer new lesions and had significantly more remissions of existing lesions than persons in the base-cream group. Amount of sunscreen used was related to development of new lesions and remission of existing lesions in the sunscreen group; no such effect was observed in the base-cream group. These results suggest that regular use of sunscreens will reduce the incidence of nonmelanoma skin cancer.

The relationship between UV radiation exposure and cutaneous melanoma is less clear. Rather than cumulative sun exposure, it is intermittent acute sun exposure that seems to be more damaging; such exposures in childhood or adolescence may be particularly important.[3] However, results from one animal study suggest that sunscreens that protect against sunburn may not protect against UV radiation-associated cutaneous melanoma.[4] Non-modifiable host factors, such as propensity to burn, a large number of benign melanocytic nevi, and atypical nevi may also increase the risk of developing cutaneous melanoma.[3]

Several groups have conducted studies to learn more about possible intervention strategies for reduction of exposure to UV radiation. The best weapon seems to be education about the risks associated with sun exposure and sunburn and education about sun protection strategies.[5,6] Robinson [5] found that although long-term "reminders" regarding recommendations for sun protection may have had some impact on reducing sun exposure in individuals who had been treated for nonmelanoma skin cancer, it was the educational intervention at the time of treatment that seemed to have had the greatest impact - a time when an individual may have recognized his or her susceptibility to skin cancer. Even in this high-risk group, it was difficult for many individuals to maintain sun protective behaviors. In a community skin cancer screening, Berwick and colleagues [6] found that although regular use of sunscreens was not related to personal or family history of skin cancer, it was more common among persons who perceived themselves to be at moderate or high risk of developing melanoma.

Therefore, it may be important in the process of educational interventions to help individuals accurately assess their risk of developing skin cancer. Gruber and colleagues [7] suggested that self-examination for skin pigmentary characteristics associated with melanoma (e.g., freckling status) may be a useful way to identify individuals at increased risk of developing melanoma. Skin type (propensity to burn after sun exposure, tanning ability), alone or with other physical characteristics such as hair color, has been used as a measure of sun sensitivity in epidemiologic studies.[8]

The efficacy of chemopreventive agents (isotretinoin, beta carotene) has been assessed in individuals at increased risk of developing nonmelanoma skin cancer. High-dose isotretinoin was found to prevent new skin cancers in individuals with xeroderma pigmentosum.[9] However, a randomized clinical trial of long-term treatment with isotretinoin in individuals previously treated for basal cell carcinoma showed

that such treatment did not prevent the occurrence of new basal cell carcinomas but did produce side effects characteristic of isotretinoin treatment.[10,11] A randomized clinical trial of long-term treatment with beta carotene in individuals previously treated for nonmelanoma skin cancer showed no benefit for the occurrence of new nonmelanoma skin cancers.[12] For both of these two trials, it is not known if treatment would benefit individuals at high-risk (sun-damaged skin) who have not yet developed skin cancer or if longer follow-up would show a long-term effect in the prevention of subsequent skin cancers.

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1. Preston DS, Stern RS: Nonmelanoma cancers of the skin. New England Journal of Medicine 327(23): 1649-1662, 1992.
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11. The Isotretinoin-Basal Cell Carcinoma Study Group, Tangrea JA, Adrianza E, et al.: Clinical and laboratory adverse effects associated with long-term, low-dose isotretinoin: incidence and risk factors. Cancer Epidemiology, Biomarkers and Prevention 2(4): 375-380, 1993.
12. The Skin Cancer Prevention Study Group, Greenberg ER, Baron JA, et al.: A clinical trial of beta carotene to prevent basal-cell and squamous-cell cancers of the skin. New England Journal of Medicine 323(12): 789-795, 1990.

Date Last Modified: 05/95

The PDQ database also contains listings of clinical trial protocols and directories of organizations and physicians who treat cancer patients, but this information is not available through CancerNet. For more information on accessing PDQ, consult the PDQ CancerNet Contents List for the documents about database availability.

CancerWEB

cancerweb@www.graylab.ac.uk

Sun Protection For Children

A Parents' Guide

AAD Dermi*nfo* Net

A public service of the **American Academy of Dermatology.**

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Contents

Introduction

Parents' Guide to Sun Protection For Children

The ABC's for FUN in the SUN

WHY protect against the sun?

Sun exposure has long been thought to be a healthy benefit of outdoor activity. Recent information, however, has shown some unhealthy effects of sun exposure, including early aging of the skin and skin cancer.

WHAT kinds of damage does sun exposure cause?

Part of the sun's energy which reaches us on earth is composed of rays of invisible ultraviolet (UV) light. When ultraviolet light rays enter the skin they damage the skin cells, causing visible and invisible types of injury.

Sunburn, a visible type of damage, appears just a few hours after sun exposure. In some people this type of damage also causes tanning.

Ultraviolet light rays also cause invisible damage to skin cells. Some of the injury is repaired by the cells,

but some of the cell damage adds up year after year. In 20 or 30 years or more the built-up damage appears as wrinkles, age spots, and skin cancer.

WHICH types of sun damage lead to skin cancer?

Severe sunburns, the early visible type of damage, may be related to the development many years later of the most dangerous kind of skin cancer called melanoma, which is potentially fatal. Melanomas can develop in all age groups, including teenagers and young adults. Melanomas can spread to other parts of the body.

The built-up invisible type of sun damage can lead to skin cancers on the face, ears and neck. Basal cell cancers usually develop in middle life and later life, but can appear in one's 20s. These cancers rarely spread to other parts of the body. Their continuous growth makes, however, their removal a necessity. Squamous cell cancers can spread to other parts of the body if they are not treated early.

WHEN should sun protection begin?

Sun protection should begin in infancy and continue throughout life. It is estimated that we get about 80 percent of our total lifetime sun exposure in the first 18 years of life. Therefore sun prevention in childhood is very important to prevent skin cancer later in life.

HOW can I protect my children from the sun?

Begin NOW to teach your children to follow the "ABC'S for Fun in the Sun."

A = AWAY. Stay away from the sun in the middle of the day.
B = BLOCK. Use SPF 15 or higher sunblock.
C = COVER UP. Wear a T-shirt and a hat.
S = SPEAK OUT. Talk to your family and friends about sun protection.

WHAT should be avoided?

Stay away from midday sun and its intense rays. Schedule play times and outdoor activities before 11:00 A.M. and after 3:00 P.M. daylight savings time (10:00 A.M. to 2:00 P.M. standard time). The sun's energy is greatest when it travels through less atmosphere at midday. It is also more intense closer to the equator, in the mountains, and in the summer. The sun's damaging effects are increased by reflection from water, white sand, and snow.

Avoid long periods of direct sun exposure. Sit or play in the shade.

Avoid sunburn. Be aware of the length of time you are in the sun. It may take only 15 minutes of midday summer sun to burn a fairskinned person.

HOW can sun damage be blocked?

BLOCK sun damage by applying a sunblock lotion or sunstick of at least SPF 15. The protective ability of sunblock is rated by Sun Protection Factor (SPF) - the higher the SPF the stronger the protection. SPF numbers indicate the length of time one can spend in the sun without risk of burning. When using a 15 SPF sunblock, a fair-skinned person who normally sunburns after 20 minutes of midday sun exposure

may tolerate 15 times 20 minutes (= 300 minutes) without sunburning. Choose a sunblock with a 15 SPF or higher. Apply as much sunscreen as you would a lotion for dry skin. Spread it evenly over all uncovered skin, including ears and lips, but avoiding eyelids, about 30 minutes before sun exposure. Reapply after swimming or excessive sweating.

Invisible sunblocks work by trapping the ultraviolet energy and preventing that energy from damaging the skin.

Visible opaque white or colored sunblock creams prevent all light from entering the skin. They usually contain zinc oxide or titanium dioxide. They are useful for high risk areas such as the nose, lips, and shoulders and may also be used on babies.

Infants under 6 months of age are best kept out of direct sun and covered by protective clothing.

HOW can clothing be used for sun protection?

COVER UP with a hat and light clothing when outdoors. Don't play or work outdoors without a shirt. Put on your shirt and hat after swimming or wear a T-shirt while swimming. In addition to filtering out the sun, tightly woven clothing reflects heat and helps to keep you feeling cool. Sunglasses that block ultraviolet rays protect the eyes and eyelids.

WHAT else can be done?

SPEAK OUT for sun protection now. Do your part to protect others from sun damage. Show your family how to apply a sunblock by spreading it evenly and invisibly over your skin. Remember to keep babies out of the sun and use an umbrella over the stroller. Talk to the coach, camp counselor, Scout leader, gym teacher and other leaders about the "ABC'S for FUN in the SUN." Ask them to help you with the simple changes that can prevent sun damage. Start preventing sun damage in childhood now.

Revised Feb. 1993

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Hard-copy versions of this information may be purchased. Each is formatted in an attractive, quadruple-folded, four color pamphlet with full-color clinical photographs. Inquiries should be made to:

- American Academy of Dermatology
  930 N. Meacham Road
  P.O. Box 4014
  Schaumburg, IL 60168-4014
  Tel. 708-330-0230

United States Environmental Protection Agency | Office of Air and Radiation Stratospheric Protection Division (6205-J) | EPA 430-F-94-016 April 1995

UV INDEX: WHAT YOU NEED TO KNOW

Download a text version of this flyer

Do you know that a few simple precautions can help protect you and your children from skin cancer and serious eye injury?

While some exposure to sunlight is necessary, too much can be dangerous, causing immediate effects like blistering sunburns and longer-term problems like skin cancer and cataracts. Overexposure also causes wrinkling and aging of the skin, and scientists are concerned that UV may even impair the human immune system.

The new Ultraviolet (UV) Index provides important information to help you plan your outdoor activities in ways that prevent overexposure to the sun's rays. Developed by the National Weather Service (NWS) and the Environmental Protection Agency (EPA), the UV Index is issued daily as part of a national project.

What is the UV Index?

The UV Index describes the next day's likely levels of exposure to UV rays. The Index predicts UV levels on a 0-10+ scale in the following way:

Index Number	Exposure Level
0-2	Minimal
3-4	Low
5-6	Moderate
7-9	High
10+	Very High

While you should always take precautions against overexposure, you should take special care to adopt the safeguards recommended below when the UV Index predicts exposure levels of moderate or above.

This UV Index is **NOT** intended for use by seriously sun-sensitive individuals (some medications cause serious sun-sensitivity, as do some diseases, such as Lupus Erythematosus). Consult your doctor about additional precautions you may need to take.

How Much UV Am I Being Exposed To?

UV exposure depends on many things. It varies with the time of day or season of year you are outdoors, latitude and with altitude. Although clouds do not eliminate exposure, they partially screen UV rays. By contrast, water, sand and snow all reflect UV rays, increasing exposure. Finally, people who work or play outdoors for long periods are at greater risk.

What are Proper Precautions?

Preventing Skin Cancer

Skin cancer is rising in incidence faster than any other form of cancer. Over 1 million new cases of skin cancer are likely to be diagnosed in the U.S. this year. Protecting children is especially important, since early exposures will influence risks of later skin cancers. Doctors* recommend the following to reduce the risk of skin cancer:

- Minimize sun exposure at midday (10:00 a.m. to 4:00 p.m.).
- Apply a sunscreen with SPF-15 or higher to all exposed areas sufficiently for protection, especially after swimming, perspiring or sunbathing, even on cloudy days.
- Reapply your sunscreen every 2 hours.
- Wear clothing that covers your body and shades your face and neck.
- Avoid unnecessary exposure to radiation from sunlamps or tanning parlors.
- Protect children by keeping them from excessive sun during the hours of strongest sunlight and by applying sunscreen liberally and frequently to children older than 6 months of age.

*** The American Academy of Dermatology and the Skin Cancer Foundation**

Preventing Eye Damage

Because UV rays can cause cataracts and other serious eye conditions, doctors* recommend that you wear sunglasses that absorb 99-100 percent of the full UV spectrum when outdoors in bright sun. Because there is now no uniform labeling of sunglasses, read labels carefully. Be careful of buying sunglasses that "block harmful UV" without saying how much. Wear a hat with a wide brim to protect against UV exposure, and if you wear sunglasses, too, you provide even more protection for your eyes. Parents whose children will not wear sunglasses can still help protect their children's eyes by making sure they wear a hat with a wide brim.

*** Prevent Blindness America, the American Optometric Association, and the American Academy of Ophthalmology**

What Role Does Ozone Layer Depletion Play?

The stratospheric ozone layer shields the earth from the sun's harmful ultraviolet rays. It is well-established that decreases in the stratospheric ozone far above us can lead to increases in UV at the surface. Ozone levels change from day to day and place to place. Long-term decreases in the average amount of ozone have been measured over the past decade. A better monitoring network is necessary to demonstrate whether there has been a corresponding change in UV radiation in the U.S. Future levels of ozone and UV will depend upon a combination of natural and manmade factors, including CFCs. Experts

agree that increased exposure to harmful rays can contribute to long-term increases in skin cancer and cataracts, and harm animals and plants. Current rising rates of skin cancers are likely related to the increasing emphasis on outdoor leisure and work in our society. Whatever the sources of risk, it is important to protect yourself and your family from overexposure to harmful UV rays.

Be Sun Wise!

Listen to the UV Index reports. Take common sense precautions to avoid overexposure to the sun's ultraviolet rays. Take special care with children, since they spend more time outdoors than adults and can burn more quickly. The simple actions listed above can reduce your risks of developing UV-related skin cancers and cataracts. Take the hurt out of fun in the sun!

The Following Organizations Collaborated to Bring This Message To You

National Association of Physicians for the Environment
American Medical Association
Wilderness Medical Society
American Skin Association
American Academy of Dermatology
American Academy of Otolaryngology - Head and Neck Surgery Inc.
American Academy of Ophthalmology
American Academy of Optometry
American Society for Head and Neck Surgery
American Optometric Association
American Society of Plastic and Reconstructive Surgeons
Coalition of Patient Advocates for Skin Disease Research
Society for Investigative Dermatology
Skin Cancer Foundation
Friends of the Earth
National Medical Association
Lupus Foundation of America, Inc.
Ozone Action, Inc.
Alliance for Environmental Education
Association of University Environmental Health Sciences Centers
Prevent Blindness America
Save Our Sky
North American Association for Environmental Education
NAPE National Office for the Protection of Biodiversity (Galveston, TX)
National Association 0f County & City Health Officials (NACCHO)
Environmental Alliance for Senior Involvement (EASI)
Association of State & Territorial Health Organizations (ASTHO)

Need More Information?

For more information on the UV index, please call:

EPA Stratospheric Ozone Hotline:

(800) 296-1996

The National Weather Service:

(301) 713-0622

Medical and health organizations interested in this project, please contact the National Association of Physicians for the Environment, FAX (301) 530-8910.

UV Index Overview | Ozone Home Page | EPA Home Page | Comments | Disclaimer

Written by EPA's Stratospheric Protection Division

Last updated on June 20, 1995 | Visits since December 12, 1995: 554

DON'T PUT YOUR SKIN IN JEOPARDY!

I. INTRODUCTIONS

A. Introduce yourself and the Cooperative Extension Service.

B. Introduce topic: Skin cancer--one of the few cancers which can largely be prevented because about 90% of the cases are caused by exposure to the sun.

C. Ice-Breaker: What are some activities you enjoy doing in the sun? Take a minute to share this with the people beside you...

D. Transition: Tonight we're going to discuss how you can decrease your risk of skin cancer without giving up the activities you enjoy doing in the sun.

II. OBJECTIVES

(Transparency 1 - Objectives)

A. Our objectives in this workshop are to discuss:

1. The three types of skin cancer,
2. Warning signs of skin cancer, and
3. What you can do to prevent skin cancer.

B. Learning is more meaningful and fun if the audience is involved!

(Transparency 2 - Title)

1. The title of this program is, "Don't Put Your Skin in Jeopardy." It's a very modified version of that popular game show. We only have one category - "Skin Cancer," and we'll play it in two teams, divide room in half, and ask the groups to pick a spokesperson for their team.

2. Have spokespeople flip a coin to see which team goes first. You'll have one minute to decide your answer - remember to phrase it as a question. If you get it wrong or pass, the question goes to the other team. Each question is worth one point. There are 10 total questions.

#1 - THE MOST COMMON TYPE OF CANCER. (WHAT IS SKIN CANCER?)

III. WHAT IS SKIN CANCER?

(Transparency 3 - Skin Cancer)

* Skin cancer is the most common type of cancer in the United States
* Over 600,000 cases were diagnosed in 1993 - scientists believe there are about 1 million new cases a year
* 40-50% of Americans who live to age 65 will have skin cancer at least once

#2 - 90% OF SKIN CANCER CASES ARE CAUSED BY THIS. (WHAT IS THE SUN?)

(Transparency 4 - Skin cancer is almost totally preventable!)

* Skin cancer is almost totally preventable - 90% is due to sun exposure.

(Transparency 5 - Farmers have increased risk)

* Farmers have an increased risk - for every 100 persons who die from skin cancer in the general population, 130-180 agricultural workers die from skin cancer.
* Good news is that skin cancer is almost 100% curable if found early and treated promptly.

IV. THE SKIN

A. General Information

(Transparency 6 - The Body's Largest Organ)

* Skin is the body's largest organ

#3 - NUMBER OF POUNDS OF SKIN ON THE AVERAGE ADULT. (WHAT IS 6 POUNDS? *MAY WANT TO GIVE THE POINT WITHIN 1 POUND!)*

* The total weight of the skin is about 6 lbs.
* Our skin protects us against heat and light, injury and infection
* The skin is made up of 2 layers, epidermis on top, and dermis below that.

(Transparency 7 - Diagram of the skin)

* Epidermis is where skin cancer starts
* There are three main types of skin cancer

B. Types of Skin Cancer

1. Squamous Cell Skin Cancer
   * Top layer of the epidermis is made up of flat cells called squamous cells
   * Squamous cell cancer begins in these squamous cells
   * This type of cancer rarely spreads, but it can be serious if it does
   * Found mainly on areas of the body that are exposed to the sun

#4 - PART OF THE BODY WHERE APPROXIMATELY HALF OF ALL CASES OF SQUAMOUS CELL SKIN CANCER ARE FOUND. (WHAT ARE THE EARS?)

2. Basal Cell Skin Cancer
   * Under squamous cells - round basal cells
   * Basal cell cancer makes up over 90% of all skin cancers in the U.S.
   * Slow growing and seldom spreads, but important that it be found and treated early because it can invade and destroy nearby tissue.

#5 - MOST COMMON TYPE OF SKIN CANCER. (WHAT IS BASAL CELL?)

#6 - MOST SERIOUS TYPE OF SKIN CANCER. (WHAT IS MELANOMA?)

3. Melanoma
   * Melanoma is the most serious but least common type of skin cancer--about 32,000 of the 600,000 cases of skin cancer in 1991 were melanoma.
   * The incidence of melanoma is increasing at a rate greater than that of any other type of cancer, except for lung cancer among women.
   * Although the least common type of skin cancer, melanoma is the most serious type because it spreads rapidly--identifying it early and getting prompt treatment are important.
   * Deep in epidermis - melanocytes - cells which contain melanin, which is the pigment that gives skin its color (albinos - no melanin)

(Transparency 8 - Melanoma 5-Year Survival Rates)

   * If found at the earliest stage melanoma has a 91% 5 year survival rate. If it has spread to other sites in region of the original cancer - 50% 5- year survival rate; Spread to distant sites -14% 5 year survival.

* KEY IS EARLY DETECTION AND TREATMENT!

(Transparency 9 - ABCD's of Melanoma)

* What are the warning signs of melanoma?
  - A Asymetrical - Mole or pigmented area that isn't the same on both sides - look at it closely
  - B Border of the mole is irregular or jagged, not smooth
  - C Color of the mole - if an existing mole has changed color or is not the same color throughout - unusual colors such as blue and red have also been reported
  - D Diameter is larger than a pencil eraser *(Show pencil)*

* Any change in the size, shape or color of a mole is a warning sign and should be checked by a doctor. Bleeding or oozing from a mole, a mole that feels itchy, hard, lumpy, swollen or tender--all should be checked by a physician. Do not attempt to "mash" or lance the suspicious area.
* Men are most likely to get melanoma on their trunk
* Women are most likely to get melanoma on their arms and legs

C. CAUSES OF SKIN CANCER

1. Ultraviolet radiation
   * Earlier we said that 90% of skin cancers are caused by exposure to the sun. This is because of damage from the ultraviolet radiation from the sun which reaches the earth
   * UV radiation is invisible -- only small amounts of UV radiation from the sun reach the earth's surface - most is absorbed by the atmosphere's ozone layer.

(Transparency 10 - Ultraviolet Radiation)

* Two types of UV rays:
  * UVB - For years many health risks have been attributed primarily to these rays - burn skin easily - lab studies support their cancer causing potential
  * UVA - Recent studies suggest UVA may also contribute to the development of melanomas and other conditions - these rays penetrate the skin more deeply but take longer to produce a burn
  * Amount of UV radiation reaching Earth increases at

higher altitudes and decreases with distance from the Equator.

* Snow, sand and water can increase exposure because they reflect ultraviolet rays.

(Transparency 11 - Increasing Incidence of Melanoma)

* Incidence of melanoma in U.S. has risen steadily over the past 50 years:
  * Population shift to warm, sunny climates
  * More outdoor recreational activities
  * More emphasis on tanning

#7 - SOURCE OF UV RADIATION OTHER THAN THE SUN. (WHAT ARE TANNING BOOTHS OR SUNLAMPS?)

2. Who is most at risk for skin cancer?

#8 - PHYSICAL CHARACTERISTIC WHICH IS A RISK FACTOR FOR SKIN CANCER. (WHAT ARE RED HAIR, BLOND HAIR, FAIR SKIN, TENDENCY TO BURN EASILY, BLUE OR LIGHT EYES, OR FRECKLES?)

(Transparency 12 - Melanoma Rates)

* People with light skin - Studies have shown that people who are protected from UV radiation by naturally dark skin have the lowest rates of melanoma
  Whites 10 per 100,000 individuals
  Blacks 1 per 100,000 individuals
* Red or blond hair, fair skin, freckles, blue eyes and tendency to sunburn easily and rarely tan - lead to greater risk
* Highest risk - fair-skinned people living close to the Equator where UV radiation exposure is greatest--Texas has higher rates of melanoma than Minnesota
* Genetics/Family history - pay particular attention to checking your skin yourself and having a physician examine your skin regularly if a family member has had melanoma

D. SKIN CANCER PREVENTION TIPS

(Transparency 13 - Take Steps to Save Your Skin!)

* EVEN IF YOU DON'T HAVE A FAMILY HISTORY OR ONE OF THE OTHER RISK FACTORS FOR MELANOMA, IT STILL PAYS TO TAKE STEPS TO SAVE YOUR SKIN!

#9 - HOURS BETWEEN WHICH YOU SHOULD AVOID THE SUN OR TAKE EXTRA PRECAUTIONS TO PROTECT YOUR SKIN. (WHAT IS 11-3 DAYLIGHT SAVINGS TIME? OR 10-2 EASTERN STANDARD TIME?)

* In the summer, daily UVB radiation exposure can be decreased by at least 60% by avoiding the sun between 11-3 daylight savings time (10-2 Eastern Standard Time)
* Avoid the sun when your shadow is shorter than you are - shadow method works for any location and any time of the year - principle - closer the sun comes to being directly overhead, stronger are its UV rays.
* Harmful effects of UV radiation exposure add up over time - most skin cancers occur after age 50 but the sun's damaging effects begin at an early age.
* Skin protection should ideally begin in childhood, but it's never too late to take steps to protect your skin.

(Transparency 14 - Slip, Slap, Slop)

* When you are going to be in the sun, plan ahead to SLIP, SLAP, and SLOP!
  * SLIP on a tightly woven loose-fitting long-sleeved shirt. ***(Model shirt)***
  * SLAP on a wide-brimmed hat. (***Show hats - regular baseball hat and modified version with longer bill and shield in the back to protect the neck and ears. Wide brimmed white hat compared to one with narrower brim. Tightly woven straw hat compared to loosely woven hat which lets more light through.)***
  * SLOP on some sunscreen.

#10 - MINIMUM SPF TO CHOOSE IN A SUNSCREEN. (WHAT IS 15?)

* There are many sunscreens on the market. ***(Pass out sunscreens and suggest that people try several of them on the back of their hands.)***
* Choose a sunscreen with an SPF of 15 or higher. To help you determine the SPF number right for you and how often to apply it, follow this example:

(Transparency 15, Determining SPF Factor)

* Determine how much time you can spend in the sun without the risk of burning. In this example, let's assume your skin turns slightly

pink after 20 minutes of midday sun exposure.

* If you choose a sun protection product with an SPF 15, that means you can stay out in the sun 15 times longer than you can with no protection. If your skin normally turns slightly pink after 20 minutes of exposure and you're using an SPF 15 , multiply SPF 15 x 20 minutes of unprotected sunning before burning to equal 300 total minutes (5 hours) that you can safely spend in the sun without risk of sunburning.

* Concrete, sand, ice and snow reflect 10-80% of damaging ultraviolet rays--take this into consideration when choosing an SPF number and determining how often to apply sunscreen. (For example, your skin will burn more quickly at the beach!)
* Sunscreens cannot be combined to get a higher SPF number--for example, SPF 30 + SPF 15 does not equal SPF 45. It equals SPF 30, the higher SPF number of the two sunscreens applied..
* Apply sunscreen 20-30 minutes before going out in the sun and reapply after swimming or perspiring heavily.
* Use approximately 1 ounce to cover your body.
* Protect your skin even on overcast days. On overcast days you get about 80% as much UV exposure as on clear days.

V. SUMMARY

* It is never too late to take steps to save your skin!

(Transparency 16 - Take 3 easy steps...)

* Three easy steps to keep your skin out of jeopardy:
  * Protect your skin and your children's skin with clothing, hats and sunscreen
  * Examine your skin regularly.
  * See your physician about any changes in your moles or birthmarks, or anything unusual about your skin.

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Georgia's Harvesting Healthy Habits

Primary Prevention of Skin Cancer in the Community:

Reaching Children and Teens

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December 2, 1996

PRIMARY PREVENTION OF SKIN CANCER IN THE COMMUNITY: REACHING CHILDREN AND TEENS

Introduction

The purpose of this review is to identify components of a health promotion program for primary prevention of skin cancer which could be implemented by the University of Georgia Cooperative Extension Service, Family and Consumer Sciences unit. The rationale for conducting primary prevention programs for skin cancer in the community among children and teens will be established, and predisposing, reinforcing, and enabling factors which affect sun protection behaviors will be identified. Skin cancer prevention interventions targetted towards children and teens will be discussed.

Epidemiology of Skin Cancer

Skin cancer is the most common type of cancer in the United States, and in the South, the incidence of skin cancer exceeds that of all other cancers combined (Scotto, Fears, & Fraumeni, 1983). According to current estimates, 40 to 50 percent of Americans who live to age 65 will have skin cancer at least once (National Cancer Institute, 1996).

Nonmelanoma skin cancers, including basal cell and squamous cell, are the most common types of skin cancer. Over 600,000 new cases of nonmelanoma skin cancer are estimated to occur in the United States each year, and this number is rising (Glass & Hoover, 1989). Melanoma is a much rarer form of skin cancer, but it is far more lethal. Melanoma represents only about 5% of all skin cancers in the United States, but it accounts for approximately 75% of all skin cancer deaths (Boring, Squires, & Tong, 1994). In Georgia, 209 people died of melanoma skin cancer in 1991, and the mortality rates for white males and females are higher than the national average (Georgia Department of Human Resources, 1994).

Over the last decade the incidence of melanoma has increased dramatically in the United States and several other countries, posing a major threat to public health (Glass & Hoover, 1989).

Approximately 32,000 new cases of melanoma were projected for 1994 in the United States (Boring et al., 1994). The average rate per 100,000 people was 6.3 in 1973-74 and 12.7 in 1990-91. Over this 19-year period, the incidence of malignant melanoma in whites doubled. The increase for white males of 124% was the highest rate of increase for all cancers in this population. The increase has been most pronounced in older white males and females (National Cancer Institute, 1996). Melanoma is fifteen times more common among whites than among blacks (Brownson, Remington, & Davis, 1993). Although there was a 223% change over the 19-year interval for melanoma in black males, the average rate per 100,000 went from .4 in 1973-74 to 1.2 in 1990-91 (National Cancer Institute, 1996). Survival rates for melanoma have been increasing because more cases are being diagnosed at an early stage. Despite a better survival percentage, however, the total mortality rate continues to increase because of the dramatic increase in incidence (National Cancer Institute, 1996).

Exposure to Ultraviolet Light as a Risk Factor

The lower the latitude, the higher the incidence of skin cancer (National Cancer Institute, 1996). Nonmelanoma skin cancer is related to annual, cumulative ultraviolet (UV)-B exposure, while melanoma may be related to brief exposure to high-intensity UV rays (Fears, Scotto, & Schneiderman, 1977). A 1% increase in solar UV-B exposure may result in a 2% increase in the incidence rate of basal cell cancer, a 4% increase in squamous cell cancer, and a 1% increase in melanoma, according to some scientists (Scotto, Fears, & Gori, 1976).

Exposure to UV radiation from the sun and other sources is also a risk factor for melanoma. The risk of melanoma is higher than average for people who were severely sunburned as children (National Cancer Institute, 1992). There is growing concern that the depletion of the earth's ozone layer and the subsequent increase in the amount of UV radiation reaching the earth may lead to an increase in melanoma incidence in the next several decades. The risk of melanoma is highest among fair-skinned people who sunburn easily (National Cancer Institute, 1992).

Rationale for Intervention

Skin cancer is related to lifetime exposure to ultraviolet radiation. Although most cases of skin cancer appear after age 50, the sun's damaging effects begin at an early age. Therefore, protection should begin in childhood to prevent skin cancer later in life (National Cancer Institute, 1993). Stern, Weinstein, and Baker (1986) estimated with mathematical models that regular use of sunscreen with a sun protection factor (SPF) of 15 during the first 18 years of life would reduce the lifetime incidence of nonmelanoma skin cancer by 78% and possibly reduce the risk of melanoma. Other preventive measures, such as wearing protective clothing, and avoiding sunlight exposure during the middle of the day, may also help decrease the risk of skin cancer (National Cancer Institute, 1996; Brownson et al., 1993).

According to Georgia's Cancer Control Plan, dissemination of public information about the prevention, early detection, and treatment of skin cancer is needed to decrease the incidence of and mortality from skin cancer (Georgia Department of Human Resources, 1994). County extension agents with The University of Georgia Cooperative Extension Service conduct educational programs in their communities. Family and Consumer Science agents provide educational programs for parents, child-care providers, and teachers. In addition, they work directly with youth through the 4-H program (K-12). A staff development program was presented to county extension agents in January, 1996 to focus attention on the problem of skin cancer. Agents have expressed interest in conducting prevention programs in communities across the state. In order to make the best use of limited resources, it is important to conduct skin cancer prevention interventions which will have the most impact on the problem.

Interventions - Primary Prevention

Preschool Children

Preschool children are an important age group to target for teaching health behaviors (Parcel, Bruhn, & Murray, 1984). Preschoolers are capable of learning and understanding basic

health instruction. Learning about one's body and the relationship one has to his/her surroundings is a natural consequence of childhood learning. In addition, establishing healthy habits in childhood may lead to healthy habits in adulthood (Elliott & Wiley, 1996; Parcel et al., 1984). According to Parcel et al. (1984), health education curriculum should be structured around age-appropriate types of behaviors that enable children to assume more responsibility for their own health.

Loescher et al. (1995) examined the feasibility of a developmentally based, age-appropriate sun safety curriculum for preschoolers. Their study was based on Piaget's theory of cognitive development, and was done with 4 and 5 year-olds who are in the preoperational stage (Piaget & Inhelder, 1969). In this stage, children are developing beginning forms of reasoning and classification and showing early signs of complex thought. The curriculum, "Be Sun Safe," was used with the intervention groups. It consisted of three units, each addressing a simple sun safety concept identified from the literature - Cover Up, Find Shade, and Ask for Sun Safe Things. The relationship between sun safety and overall health was emphasized in this curriculum, which included interactive activities, such as a puppet show, art activities, sun safety songs, and stories. Key characters, "Sunny the Bear," and, "Shadow the Frog," conveyed and reinforced the sun-safe messages. Testing of the children's cognitive level of domain was divided into three levels based on Bloom's Taxonomy of Educational Objectives (Bloom, 1956). These included knowledge, comprehension, and application. The authors found that knowledge and comprehension of sun safety differed significantly between the intervention and control groups. No significant differences were found in the ability of the intervention and control groups to apply their sun safety knowledge, and direct observation of behaviors was not part of this study. The authors stated that, consistent with Piagetian theory, knowledge and comprehension may have been enhanced by the interactive format of the curriculum, which incorporated individual and group activities to stimulate preschoolers' thinking about sun safety. These results were similar to those of Parcel et al. (1984), who field-tested the Preschool Health Education Program with 5

year-olds and found that it contributed to learning and potentially influenced health-related behavior.

Health education with older preschoolers may have the most impact. In a study with preschool children in a HeadStart center, Elliott and Wiley (1996) found that 5 year-olds scored significantly higher than 3 and 4 year-olds in recognizing healthy behaviors (3 picture options per question). The authors stated that this might be explained by the difference in cognitive development or by the fact that the 5 year-olds may have learned and experienced more. They concluded that as children approach 5 years of age, formal health instruction should begin in HeadStart programs to prepare children to live healthy lives (Elliott & Wiley, 1996).

Health education for preschoolers is important to help children learn what to ask for in terms of healthy options and become more compliant with parental sun safety efforts (Loescher et al., 1995). Sun safety education programs that present basic concepts that stimulate learning may be a start in developing positive sun safety habits in young children.

Parents of Preschoolers

A focus on health education at the preschool level can serve to alert parents to the importance of healthy lifestyles. Loescher et al. (1995) noted the importance of developing parallel educational materials for parents to complement their preschool sun safety curriculum. Parents received general skin cancer brochures and handouts that provided comprehensive information about sunscreens and sun-safe practices they can teach their children.

Zinman et al. (1995) examined predictors of sunscreen use in childhood, and found that factors associated with the increased likelihood of sunscreen use were child's age between 1-12, parental use of sunscreen, estimation of safe sun exposure of less than 30 minutes, description of child's skin type as burns "sometimes," "easily," or "always," and correct definitition of SPF. In this study, 84% of parents reported their children had used sunscreen at least once in the previous two months. The breakdown by child's age was 54% for children under one year, 91% for children ages 1-12, and 68% for children over age 12.

Jarrett, Sharp, & McLelland (1993) reported that infants were most protected against the sun, with protection declining with increasing age. They also reported a large number of children who had been sunburned in the past year. In their survey, 159 out of 416 children had been sunburned at least once in the previous year, with 30 of those being burned five or more times. Skin type did not affect a child's likelihood of wearing a shirt, sunscreen or hat, suggesting that the increased risk of sunburn in a fair-skinned child was not perceived by its mother. The authors suggest a need for more public education about the dangers of overexposure to sunlight.

Bourke & Graham-Brown (1995) reported that 88% of parents were aware that sunburns could cause skin cancer. However, only 34% regularly protected their children from the sun during mid-day, and 48% said their children burned at least once a year.

Sunscreen use in parents has been shown to be predictive of use in their children and was related more to experience with sunburn than with concerns about future skin cancer risk (Zinman et al., 1995; Maducdoc, Wagner, & Wagner, 1992). The authors noted that there is a need to focus attention on what prompts adults to use sunscreen on themselves. In their study, 73% of adults reported that they use sunscreen. In comparison, a random sample of adults in North Carolina found that 42% never used sunscreen and 33% sunbathed at least once per week (Mawn & Fleisher, 1993).

Parents exert a powerful influence on their children's preventive health practices (Holt et al., 1993). In the case of sun safety, children need parental help in applying their newfound knowledge, given their developmental stage and the limited control they have in this area of their life--for example, they cannot purchase their own sunscreen (Loescher et al., 1995). Health education at the preschool level can serve as the catalyst for basic developmental skills and also for the delivery of health education materials. Health instruction through formal parenting classes and more informal methods, such as newsletters, and health posters in the preschool facility should be utilized (Elliott & Wiley, 1996). Community resources, including health professionals, play a key role in educating parents. Maducdoc et al. (1992) emphasized the need for pediatricians to educate parents about the importance of sun safety during well-child visits.

Teens

Intervention with adolescents is more likely to be effective than is intervention with adults, according to Cockburn, Hennrikus, Scott, and Sanson-Fisher (1989). Attempts to modify behavior in younger persons, before their habits become entrenched, may be more successful than interventions which are aimed at older age-groups in other health-related areas. This study used the health belief model as the framework for understanding sun-protection behaviors of teens. The authors stated that the individual's decision to use sun-protection measures is a function of the individual's beliefs along three subjective dimensions: perception of susceptibility to and severity of skin cancer; the perceived benefits that are associated with the use of sun-protection methods; and the perceived barriers that are associated with such use. They found that only 30% of teens surveyed were protected adequately. Persons who reported that they burned in the sun were more likely to be users of sunscreens. However, the rate of use of sun protection among students who reported that they burned was still low, with only 33% of these students reporting adequate protection. The authors also reported an association between smoking status and the failure to use sunscreens. They suggested that the failure to use sun-protection methods is part of a constellation of risk-taking behaviors which warrants further research.

Cockburn et al. (1989) reported that interventions which rely solely on increasing the perceptions of personal vulnerability to skin cancer, without attempting to modify other more relevant beliefs, are unlikely to be successful. They found a lack of association between knowledge and sun-protection use and concluded that attempts to increase knowledge about skin cancer with "fact sheets" also are unlikely to be effective. They suggest a multifaceted intervention which emphasizes the benefits of sun protection while trying to overcome the barriers. Those who did not use sun-protection measures in their study believed that sunscreens were too expensive and messy, and that hats tended to make one sweaty and itchy. Users of sun-protection were more likely to believe that wearing a hat prevented headaches, that hats were "okay" and that sunscreens maintain the skin in good condition. Those who did not use sun protection were more likely to believe that covering up in the sun "makes you look like a wimp"

and that only "jerks wear shirts in the sun." An intervention would need to attempt to glamorize the practice of covering up, making it attractive and acceptable and therefore, related to a positive image. The authors suggest that one method to achieve this goal might be the use of sporting personalities who spend much time outdoors to model appropriate behavior. The preferred method of sun protection in this study was the use of sunscreens. The authors suggest that interventions that are aimed at increasing use of sunscreens may be more effective than other methods, but should not be promoted as the sole method of sun protection. The fact that the cost of sunscreens was listed as a barrier to their use led to the suggestion that steps should be taken to increase the availabilty of sunscreens to this group, intially by reducing their cost.

Zinman et al. (1995) reported that use of sunscreens and other sun protective behaviors were less in adolescent populations compared with younger populations. Susceptibility to sunburn has been documented to increase the likelihood of sunscreen use in adolescents (Banks, Silverman, Schwartz, & Tunnessen, 1992). In adolescents, its use is more likely among girls if friends are sunscreen users. In addition, if sunscreen use was insisted on by parents when respondents were younger, teens were more likely to continue to use sunscreen (Banks et al., 1992). In an Australian study, Fisher et al. (1996) , reported that parents' use of sunscreen was a significant influence on students' sunscreen use. Among students whose mothers always or mostly wore sunscreen outside, 41% wore sunscreen on the weekends. Only 22% of students whose mothers sometimes or never wore sunscreen reported using sunscreen on weekends.

Several studies have shown that education can increase the use of sunscreens in adolescents (Hughes, Altman, & Newton, 1992; McGee & Williams, 1992). The study by Hughes et al. (1992), was done in Australia, and found that children who received educational materials (leaflet and video presentation) had significantly higher levels of knowledge when compared with control groups. The only significant association with increased knowledge was wearing a sunscreen. There was no association between level of knowledge and wearing a hat, covering up from the sun, or sitting in the shade.

Banks et al. (1992) reported that when teens were asked why they did not use sunscreen, the responses were: 44% - rarely burned, 40% - forgot to bring it, 13% - too messy, and 10% - interfered with a good tan. To enhance use, teens suggested increasing information about the sun's role in skin cancer and skin aging, specifically focusing ads directly at their age group, and emphasizing the ability to tan while using sunscreen. Others said use might increase if products were less expensive, less greasy, and did not aggravate acne.

Summary

Cancer education should be directed toward children, adolescents, their parents, and teachers. The behaviors children and adolescents engage in now will affect their probability of having selected cancers at some later date. Reduced exposure to ultraviolet sunlight is one of the more significant actions children and teens can take to reduce the risk of cancer, in this case, of cancer of the skin (Iverson & Scheer, 1982).

Social norms and the modelling behavior of parents, teachers, and peers are important influences in efforts to alter health-related attitudes and behaviors of children and teens (Fisher et al., 1996). Mothers emerged as an influential "health education agent" in their study, which the authors stated as consistent with her conventional role as family "medical officer" and major nurturer. Although the association between parent behavior and child health behavior decreases during adolescence (Nolte, Smith, & O'Rourke, 1983), this study showed significant positive associations between student reports of parents' sun protection behavior and their own behavior. These findings reinforce the idea of families as early role models and support mechanisms for health promotion activities. Targeting and delivery of health promotion activities should be sensitive to the influence of parents.

Training preschool/day care center staff to implement sun safety programs is also indicated. According to Elliott and Wiley (1996), in order for health education to be effective at the preschool level, it is imperative that staff members be trained in the delivery of

age-appropriate information. County extension agents conduct staff development trainings for preschool/daycare teachers, and could include the topic of sun protection. In addition, preschool teachers should be encouraged to serve as role models for children by practicing sun-protective behaviors. Hughes et al. (1992) noted that in one study, teachers who supervised the sun-protection project were conspicuous by their sunbathing during lunch breaks.

Cancer education programs should use a variety of teaching techniques and audiovisuals since different students often react to different stimuli (Iverson & Scheer, 1982). Cody and Lee (1990) found skin cancer intervention videos effective in enhancing skin protection intentions, although the effect on behavior was not determined. Skin protection education needs to focus on ways of decreasing perceived barriers to skin protection behaviors. Psychosocial barriers may be decreased by using modeling as an intervention strategy. For example, wearing a hat might become more fashionable if more well-known, popular role models were seen wearing hats. Enlisting popular teens in a community to serve as role models in sun protection efforts might be a role for 4-H. For teens who believe that skin protection is less important than obtaining a suntan, education should focus on issues such as sensible exposure times. Cody and Lee (1990) also noted that health interventions may need to focus on overexposure to the sun as a cause of dry and premature aging of the skin instead of emphasizing the risk of future skin cancer.

Much of the research on sun protection has been done in Australia, which has the highest rate of melanoma in the world (National Cancer Institute, 1996). In Queensland, Australia, a number of primary schools have instituted sun protection policies. The, "No Hat, No Play," rule for recess is rather stringently enforced ((Fisher et al., 1996). This environmental aspect of health promotion may not be feasible for public schools in Georgia in this era of decreasing government regulation. However, sun protection policies could be instituted in day care centers/preschools where children often spend a great deal of time outdoors. Requiring that sunscreen be used on children before they go outside, encouraging hats for children, providing shade in play areas, and avoiding exposure to the sun between 10:00 a.m. and 2:00 p.m. are all environmental aspects of sun protection which could be implemented by day care centers at minimal cost.

The number of cases of skin cancer are increasing dramatically (National Cancer Institute, 1996). Studies indicate that sun protection efforts directed at children, teens and their parents are important interventions for decreasing morbidity and mortality from this disease (Banks, et al., 1992; Cockburn et al., 1989; Elliott & Wiley, 1996; Fisher et al., 1996; Hughes et al., 1992; Iverson & Scheer, 1982; Loescher et al., 1995; Parcel et al., 1984; Zinman et al., 1995). However, there is a need for more research to determine the effects of sun protection education programs on behavior. In addition, community efforts for primary prevention of skin cancer are important for increasing awareness. Although children may receive cancer education in school, there is a great deal of variation in the health education curriculum. Community programs, such as those offered through the Cooperative Extension Service, offer a less formal approach to learning, and can play a valuable role in educating children, teens, parents and preschool staff about the importance of sun safety.

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Kid's Camp

PROGRESSIVE FARMER
Fax Cover Sheet

To:	Dawn Lewis
Company:	DHR - Harvesting Healthy Habits
Phone:	912/389-4009
Fax:	912/383-0394
From:	Susan Reynolds Susan
Company:	Progressive Farmer Magazine
Phone:	800/366-4712
Fax:	205/877-6450
Date:	October 23, 1[illegible]
Pages including this one:	1

Dawn:

It was great to see you last week at Sunbelt. As we quickly discussed, we have been looking for children- and teen-level skin cancer educational units for our PROGRESSIVE FARMER Farm Safety Day Camp manual. We would of course give full credit to the group that developed the unit(s). Do you think your's would be appropriate? If so, could you send a copy?

! look forward to talking with you more. I'm on the road for the Olympics this week, but should be back in the office on Monday, the 30th. Thanks for your help!

1996 PROGRESSIVE FARMER
Farm Safety Day Camps

Alabama, Fayette
Alabama, Ft. Payne
Alabama, New Brockton
Colorado, Byers
Florida, Lake City
Georgia, Griffin
Georgia, Millen
Georgia, Sandersville
*?Georgia, Tifton
Illinois, Marion
Indiana, 4
*Kansas, Clay Center
**Kansas, Hoyt
Kansas, Lawrence
*Kansas, Manhattan
**Kansas, Mc Pherson
Kansas, Oakley
*Kentucky, Bowling Green
Kentucky, Campbellsburg
Kentucky, Frankfort
*Kentucky, Hodgenville
Kentucky, Powell Co.
Louisiana, Bunkie
Louisiana, Houma
*Maryland, Garrett County
Maryland, St. Mary's
Maryland, Westminister
Minnesota, Gluek
Missouri, Macon
Missouri, Poplar Bluff
Missouri, Warrensburg
Nebraska, Albion
Nebraska, Beatrice
Nebraska, Bridgeport
Nebraska, Center
Nebraska, Columbus
Nebraska, Franklin
Nebraska, Hardington
Nebraska, Kimball
Nebraska, Laurel
Nebraska, Minden
Nebraska, O'Neill
Nebraska, Osceola
Nebraska, Wilber
Nebraska, Wisner
Nebraska, Nebraska City
Nebraska, Ord
North Carolina, Asheboro
*North Carolina, Washington
*North Dakota, Bismarck
*North Dakota, Fargo
North Dakota, Linton
Oklahoma, Enid
Oklahoma, Kellyville
Oklahoma, Rocky
Oklahoma, Vinita
Pennsylvania, Mechanicsburg
South Carolina, Florence
South Carolina, Orangeburg
South Carolina, Pendleton
Tennessee, Trenton
*Tennessee, Winchester
Texas, Colorado City
Texas, Corsicana
Texas, Denton
Texas, Floresville
Texas, Plainview
Texas, Richmond
Texas, Yoakum
Virginia, Tappahonnock
Virginia, Virginia Beach

1/29/96

MANUAL

FARM SAFETY DAY CAMP

Progressive Farmer®

Program Summary

The goal of the PROGRESSIVE FARMER Farm Safety Day Camp program is to prevent farm injuries and deaths by teaching children and teens about farm-related hazards and how to avoid them. We hope that those who attend our day camps will in turn share what they learn with their parents and others, thus preventing more injuries and deaths.

This manual is a guide for planning PROGRESSIVE FARMER Farm Safety Day Camps for kids. It provides information on how to plan, implement, promote, and evaluate a successful day camp. Suggested subject matter, teaching activities, and other resources are provided for the following topics:

General Farm Safety
Animal Safety
All-Terrain-Vehicles (ATVs) and Bicycles
Agricultural Chemical Safety
Electrical Hazards
Fire Safety
Firearm Safety
First on the Scene
Lawn Mowers
Farm Suffocation Hazards
Sun Sense
Tractor and Equipment Safety
Water Safety

For each of these subjects, the importance of teaching age-appropriate subject-matter is stressed. Because a successful day camp involves members of the local community in planning, coordinating, and teaching sessions during the day camp, information is also provided on how to mobilize individuals and groups to work together to achieve the goals you set for your day camp.

(Continued on back)

PROGRESSIVE FARMER Magazine will provide the following for communities selected to take part in this program:

* Train camp coordinator(s) in how to work within your community to plan and implement a day camp.

* Publicize your camp in PROGRESSIVE FARMER Magazine.

* With the help of our national sponsors, provide free T-shirts and goodie bags.

* Provide sample media for you to personalize and send to your local media.

* Share information on resources that are available for use at your camp.

* When available, send a PROGRESSIVE FARMER editor to your camp (we hope to attend at least half of the day camps.

* Help you evaluate your day camp and share information from the evaluations of other day camps that can help you improve your next day camp.

* Send you any free products made available to us, or tell you how you can obtain them yourself.

Goody bags, t-shirts
Newsletter

PLEASE NOTE: The PROGRESSIVE FARMER name can only be used when a community is selected for the program and a local coordinator is trained by magazine staff. If you are interested in holding a PROGRESSIVE FARMER Farm Safety Day Camp in your community, please contact:

Farm Safety Day Camp Project Coordinator
PROGRESSIVE FARMER Magazine
2100 Lakeshore Drive
Birmingham, Alabama 35209
1-800-366-4712

Lawn Mowers

Ag Chemical Safety

Promoting Your Day Camp

Farm Safety

Electrical Hazards

Learning From Your Camp

Putting On A Day Camp

Sun Sense

Fire Safety

General Farm Safety

Important Forms

Firearm Safety

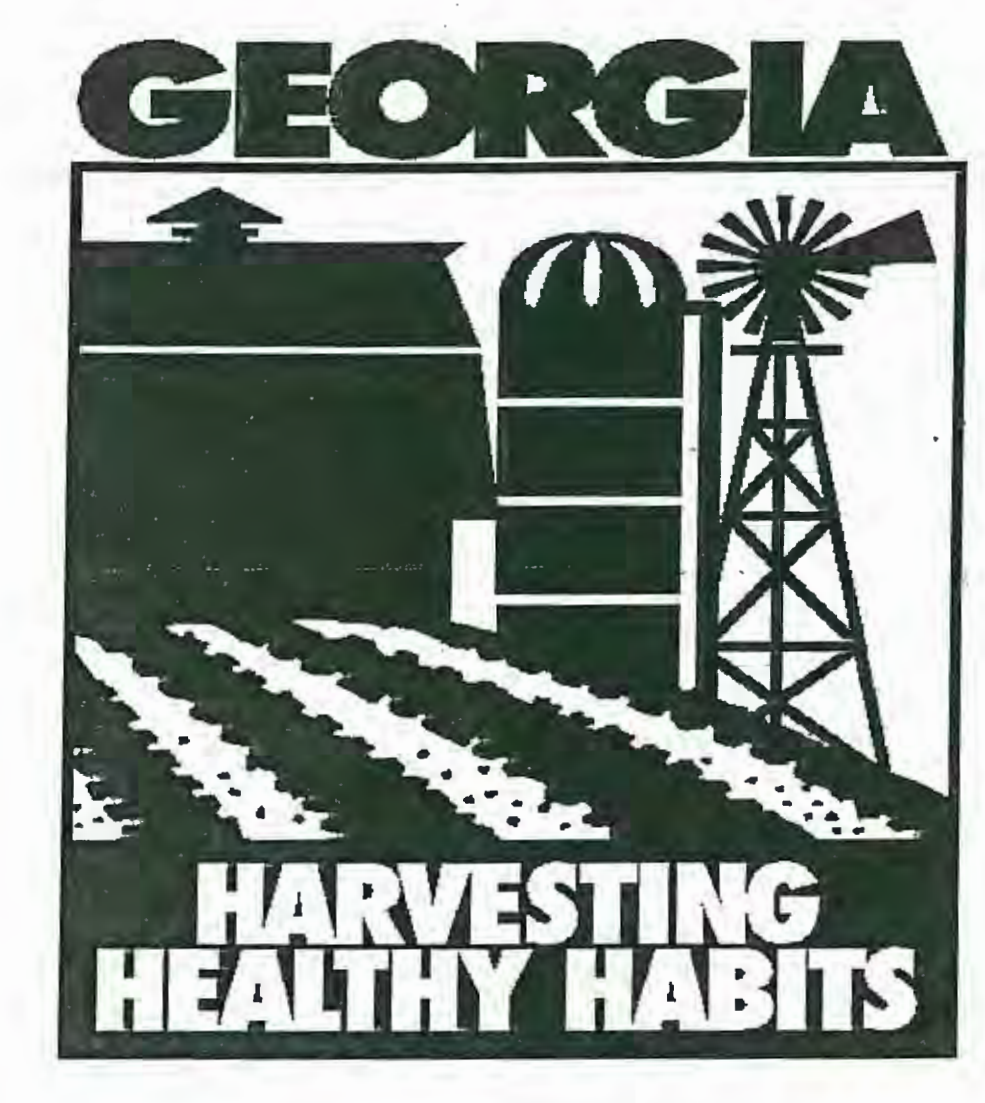
Animal Safety

Community Interaction

First On The Scene First Aid

ATV's & Bicycles

Ages & Stages Of Campers


GEORGIA
HARVESTING
HEALTHY HABITS

Communicating Skin Cancer Prevention Messages to Farm Kids: A Curriculum

Authors:
Roxanne Parrott, Ph.D.
Carol Steiner, M.N., R.N.
Dawn Lewis

Georgia Harvesting Healthy Habits

A joint project between the University of Georgia and The Georgia Department of Human Resources funded by the National Institute of Occupational Safety and Health

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At this stage of development [10-13 years of age], the most consistent evaluations that youth make are judgments of positivity and/or negativity. Thus, when asking youth to evaluate activities, messages, or situations, this predisposition to respond should guide the instrument design.

The program has been designed to teach youth about skin care and skin cancer prevention. Materials for the class consist of:

√ three messages which should be copied onto colorful paper to briefly overiview, skin, cancer, and skin cancer;

√ an activity/survey packet for each child with directions for participating in the evaluation of different hats, sunscreens, and messages;

√ full length and hand held mirrors together with brochures describing the procedure of conducting a skin self exam.

An outline of how to conduct the sun safety seminar for farm kids follows. In general, the following steps occur:

1. the class teacher and assistants should introduce themselves.
2. the knowledge instrument will be administered as a pretest of knowledge.
3. participants read the three skin messages -- skin, cancer, and skin cancer; then they evaluate these messages.

4. A discussion about the messages and skin cancer ensues; see attached outline. During discussion, students may receive sunscreen samples or other rewards for correctly answering questions posed by the class instructor.

5. Participants move into activity centers.

The activity packet includes directions and measures used to evaluate the three activities around which the course is focused. The order of these activities has been randomly assigned within individual activity packets. Thus, one student may begin with sunscreen A, while another student begins at a center by evaluating hat B; then students move through the activities in

Class Outline

2. What does the skin do? Why should we worry about protecting it?
(allow for kids to try and answer, again, attempt to interact with children, provide answer as necessary)

EXAMPLE: (someone answers skin or you provide answer) "It's the organ that's holding in all the other organs, and protecting the organs that are inside of your body, and so for that reason, YOU have to protect it. And so, for the same reason that its there to protect everything else in your body from all kinds of exposure to sun, chemicals, and to everything else, YOU have to protect it."

3. Go over skin briefly as shown on information sheet.

EXAMPLE: "Now who knows what makes up the skin? Well, the skin is made up if 2 different layers and 3 kinds of cells and each kind of skin cancer goes with each kind of cell."

B. Cancer sheet- Cover in similar fashion
1. Establish relevancy for your audience.

EXAMPLE: "How many of you know somebody who has cancer?"
(allow kids opportunity to answer)

2. Explain what cancer is in very simple terms according to information sheet.

EXAMPLE: "Lung cancer, melanoma, what else? Bone cancer? OK., well there are all kinds of cancers and for people, there can be a cell and it just starts to grow funny and it grows fast quite often and when you identify that you go to the doctor, let the doctor see what is going on and hopefully, get it cured."

[Transition: "Going on to the third sheet...]

C. Skin Cancer sheet
1. Main emphasis for seminar -Key is Prevention

EXAMPLE: "With many types of cancer, we are not sure of what causes them, and we don't know how to prevent them, but when it comes to skin cancer, it <u>is largely preventable</u>."

a. make sure they can identify a sunburn that has blistered (ask them to describe and provide information if necessary, i.e., the skin swells up and looks like it has water inside.)
b. emphasize that they need to watch out for sunburn but especially a blistering sunburn

EXAMPLE: "Did you know that one blistering sunburn DOUBLES your chance of getting skin cancer? That is just another reason why we need to protect our skin."

c. make sure they understand what to do as soon as they see themselves start to burn.

EXAMPLE: "What would you do if you noticed that you were starting to sunburn? (Allow children opportunity to answer and provide answers if necessary) You could get out of the sun, apply more sunscreen, or put on more protective clothing."

III. Closing

A. Explain and emphasize 3 main points

1. Who is more at risk for getting skin cancer

a. note that some people's jobs place them at higher risk for skin cancer

EXAMPLE: "Some people are more likely to get skin cancer than others because of their job. Who could be more likely to get skin cancer? (allow time for them to answer, make sure answer includes outdoor workers, such as farmers). People who work outside a lot like farmers, are more at risk."

b. Discuss hair color

EXAMPLE: "What color hair would a person have, who would be more likely to get skin cancer? (allow time for answers) People with light hair, blond and red hair are more likely to get skin cancer."

c. Discuss complexion.

EXAMPLE: "What kind of skin color puts a person at higher risk? The lighter the skin, the more risk."

d Mention genetic link.

EXAMPLE: "Also, skin cancer can be considered somewhat genetic. If someone in your family like your brother or sister has had skin cancer, you could also be at increased risk."

Pre & post test

Which of the following types of hats provides the best protection from the sun?

A. Wide-brimmed straw hat
B. Baseball cap
C. Tightly woven wide-brimmed cloth hat
D. Don't know/Not sure

What tool do you need to conduct an exam of yourskin?

A. Hand mirror
B. Full length mirror
C. Blow dryer
D. All of the above
E. Don't know/Not sure

What does the SPF number on sunscreen mean?

A. How long you are protected from the sun
B. How many minutes before going into the sun you must apply it
C. Don't know/Not sure

Did you come to this camp last summer and learn about skin cancer?

A. Yes
B. No

Survey for Hats, Sunblock, & Skin Exam

SURVEY FOR HAT B

(please circle your answers)

1. Would you wear this hat when you are in the sun?

yes no

2. What are the things that you DO like about this hat?

- the color
- the material
- I like how it looks
- It is comfortable
- It's affordable
- I just like it
- I like to wear hats
- it makes me feel protected from the sun
- other (please specify) _____

3. What are the things that you DON'T like about this hat?

- the color
- the material
- It's embarrassing
- It's uncomfortable
- It would cost too much
- it's too big or too small
- I just don't like it
- I don't like to wear hats
- other (please specify) _____

4. Are you a BOY or GIRL

5. What is your age?

SURVEY FOR HAT D

(please circle your answers)

1. Would you wear this hat when you are in the sun?

yes no

2. What are the things that you DO like about this hat?

- the color
- the material
- I like how it looks
- It is comfortable
- It's affordable
- I just like it
- I like to wear hats
- it makes me feel protected from the sun
- other (please specify) _____

3. What are the things that you DON'T like about this hat?

- the color
- the material
- It's embarrassing
- It's uncomfortable
- It would cost too much
- it's too big or too small
- I just don't like it
- I don't like to wear hats
- other (please specify) _____

4. Are you a BOY or GIRL

5. What is your age?

SURVEY FOR SUNBLOCK A
(please circle your answers)

1. Would you wear this sunblock when you are in the sun?

yes no

2. What are the things that you DO like about this sunblock?

- not too thick
- not too thin
- easy to spread
- smells good
- not sticky
- not greasy
- Doctors recommend it
- I want to protect my skin
- I just like it
- other (please specify)

3. What DON'T you like about this sunblock?

- too thick
- too thin/runny
- hard to spread
- smells bad
- I want to tan
- I'm allergic to it
- too sticky
- too greasy
- irritates my skin
- I just don't like sunblock
- other (please specify)

4. Are you BOY or GIRL? 5. What is your age?_____

SURVEY FOR SUNBLOCK C
(please circle your answers)

1. Would you wear this sunblock when you are in the sun?

yes no

2. What are the things that you DO like about this sunblock?

- not too thick
- not too thin
- easy to spread
- smells good
- not sticky
- not greasy
- Doctors recommend it
- I want to protect my skin
- I just like it
- other (please specify)

3. What DON'T you like about this sunblock?

- too thick
- too thin/runny
- hard to spread
- smells bad
- I want to tan
- I'm allergic to it
- too sticky
- too greasy
- irritates my skin
- I just don't like sunblock
- other (please specify)

4. Are you BOY or GIRL? 5. What is your age?_____

SURVEY FOR SUNBLOCK E
(please circle your answers)

1. Would you wear this sunblock when you are in the sun?

yes no

2. What are the things that you DO like about this sunblock?

- not too thick
- not too thin
- easy to spread
- smells good
- not sticky
- not greasy
- Doctors recommend it
- I want to protect my skin
- I just like it
- other (please specify)

3. What DON'T you like about this sunblock?

- too thick
- too thin/runny
- hard to spread
- smells bad
- I want to tan
- I'm allergic to it
- too sticky
- too greasy
- irritates my skin
- I just don't like sunblock
- other (please specify)

4. Are you BOY or GIRL? 5. What is your age?_____

SKIN SELF-EXAM EXERCISE

(please circle your responses; you may use more than one answer)

1. What DO you like about the skin self-exam information in your booklet?

   - is easy to understand
   - is easy to remember
   - gives me information I want
   - gives me information I need
   - I can share it with my friends
   - I can share it with my family
   - other (please specify)

2. What DON'T you like about the skin self-exam information in your booklet?

   - is hard to understand
   - is hard to remember
   - gives me information I don't want
   - gives me information I don't need
   - it's boring
   - other (please specify)

3. How often should you conduct a skin self-exam?

   a. once a year.
   b. each time you shower.
   c. once a month.
   d. once a day.

4. Which of the following means you should you see a doctor to get a medical exam of your skin?

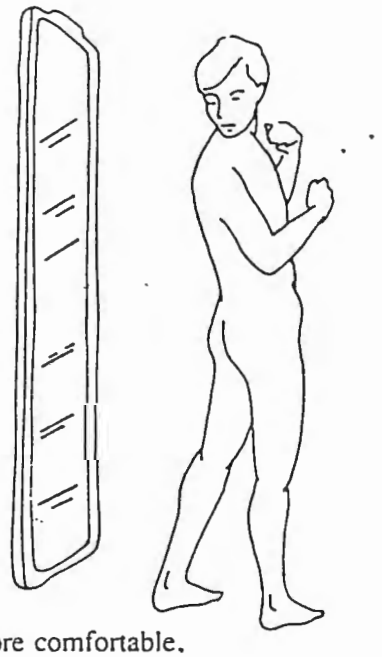
   a. if one half of a mole does not look like the other half.
   b. if your tan is uneven.
   c. if the color of a mole is not all the same.
   d. if you have always had a lot of freckles.
   e. if you suddenly notice a change in your freckles.

5. Are you: MALE or FEMALE 6. How old are you?_____

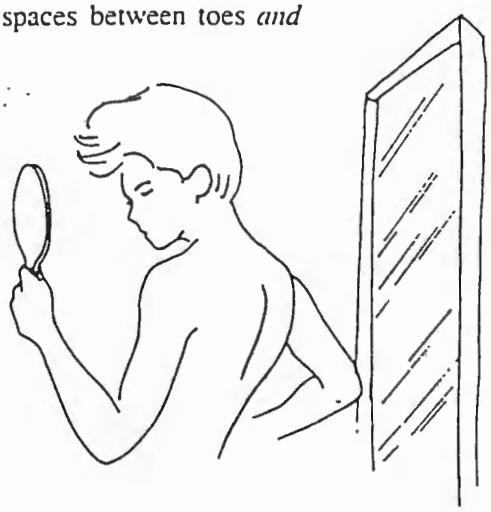
YOUR SKIN SELF-EXAM

The best time to do this simple monthly exam is after a bath or shower. Use a full-length and a hand mirror so you can check any moles, blemishes or birthmarks from the top of your head to your toes, noting anything new—a change in size, shape or color, or a sore that does not heal.

1. Examine your body front and back in the mirror, then right and left sides, arms raised.
2. Bend elbows and look carefully at forearms and upper underarms *and* palms.



3. Sit, if that is more comfortable, to look at backs of the legs, feet — spaces between toes *and* soles.



4. Examine back of neck and scalp with the help of a hand mirror, part hair (or use blow dryer) to lift it and give you a close look.

If you do the exam regularly, you will know what is normal for you and can feel confident. Remember the ABCDs and check with your physician or clinic if you find something.

FACT SHEET #1

YOUR SKIN

THERE ARE SIX FACTS YOU SHOULD KNOW ABOUT YOUR SKIN:

1. Your skin is the largest organ of your body.

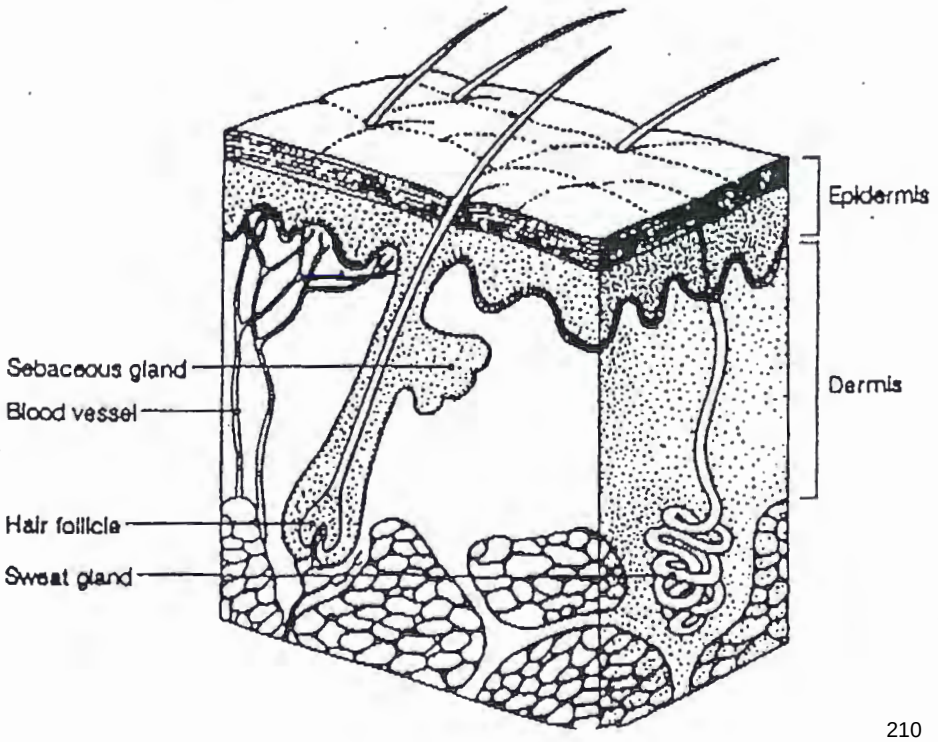
2. Your skin regulates your body's temperature, and protects you from light, chemicals, infection, and injury.

3. Your skin is made up of two major layers: the epidermis and the dermis.

4. The epidermis is the most outer layer of your skin. It is made up of three types of cells: squamous cells, basal cells, and melanocytes.

5. The dermis is the lower layer of your skin. Blood vessels, sweat glands, and hair shafts are found in the dermis.

6. Because your skin is exposed to many harmful substances and conditions on a daily basis, it is very important that you protect it on a daily basis. Always pay attention to warnings on chemicals that you may be exposed to and always protect your skin from chemicals and the harmful rays of the sun.



News Releases

HARVESTING HEALTH HABITS
Fact Sheet

Project Description: The Department of Human Resources in collaboration with the University of Georgia and local community groups designed, implemented and evaluated a skin cancer prevention and detection educational campaign, Harvesting Healthy Habits, with farm families in 3 rural South Georgia counties. CDC provided Georgia with $500,000 over 4 years to conduct this demonstration project The project will end September 30, 1997.

Finding from the Preliminary Survey of 448 farmers in eight south Georgia counties to access their knowledge, attitudes, and behaviors relating to skin cancer prevention.

- 24% of the farmers and wives have never performed a skin self exam;
- 50% have never had a medical professional perform a clinical skin-exam;
- 50% report that they never wear sunscreen when working in the sun;
- 35% never wear a sun-blocking hat or a long-sleeved shirt when working in the sun;
- 82% were unaware of how to use sun block effectively;
- 77% were unable to identify the best hat to provide sun protection;

Project Activities:

- Development and presentation of educational modules on skin cancer prevention and detection to rural physicians, public health nurses, agricultural extension agents, farm workers and farm families;
- Design and dissemination of a skin cancer prevention hats and long sleeved shirts;
- Design/Display Skin Cancer Prevention educational material in feed and seed stores.

Results:

- 15 seminars have been presented to 89 rural health care providers, who see an average of 115,00 clients a year; these providers will be able to educate clients about skin cancer prevention and detection and to identify suspicious skin lesions.
- 118 extension agents have received the skin cancer prevention education program and kit; they have taught skin cancer prevention to consumers in 22 counties. In Coffee County alone, the course has reached over 1500 people.
- Skin Cancer Prevention and Detection classes have been taught at the Georgia Farm Wife Conference and the Georgia Farm Safety Camp. 90% now conduct skin self exam.
- Progressive Farmer magazine has published Georgia's Skin Cancer Prevention outline in their Farm Safety Camp Manual which was provided to 21 states.
- Skin Cancer Prevention Displays were set up in 12 feed and seed stores in 3 counties; 3000 skin cancer prevention brochures and 1000 prevention hats were distributed.
- John Deere Mfg. Co. has added the skin cancer prevention hat to their catalog.

Continuation Plan: Expand activities to other rural South Georgia counties to make skin cancer educational opportunities available to farmers, families, farm agents, and health care providers.

❖Harvesting Healthy Habits❖

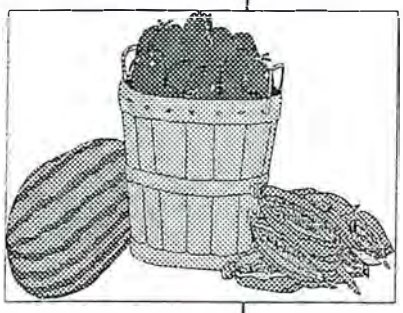
Volume 1 Issue 1 April 199

◆ **What is it?**

Georgia Harvesting Healthy Habits

"Save Your Own Skin!

The Georgia Harvesting Healthy Habits Campaign is a three year effort (October 1, 1993 to October 1,1996) designed to improve the access to cancer prevention and detection information, education, and screening for agricultural workers and their families.



Protect your Harvest, by Protecting Yourself

WHAT ARE THE GOALS OF THE CAMPAIGN?

To demonstrate through systematic process and summative evaluation that innovative cancer prevention and detection programs and communication about existing cancer prevention and detection programs can be implemented.

WHO IS SPONSORING THE CAMPAIGN?

The campaign is a collaborative effort sponsored by the Georgia's Department of Human Resources Cancer Control Program and The University of Georgia's Health Communication Center with funding from the National Institute of Occupational Safety and Health.

Cooperative Agreement # - U03/CCU410103

◆ **Why is it needed?**

Skin Cancer in Farmers

Essentially every study of nonmelanoma skin cancer (NMSC) death in farmers has found farmers to have an elevated relative risk [for every 100 persons who die from skin cancer in the general population, 130 to 180 agricultural workers die from skin cancer].

Although this increased evidence of death among agricultural workers has been demonstrated, and the increased risk for exposure to known causes of skin cancer is obvious, far less is understood or known about farmers' specific prevention and detection behaviors, or precursors to action such as their confidence about performing recommended practices.

Farming families have also been found to have less health insurance, less coverage for preventive care, and seek preventative services such as pap tests and mammograms less often.

◆◆◆

For more information, call or write:

Harvesting Healthy Habits Campaign
Dawn Lewis, Project Manager
707 East Ward Street
Douglas, Georgia 31533

Phone: (912) 383-7709
FAX: (912) 383-0394

Carol Steiner, R.N., M.N.
Department of Human Resources
Roxanne Parrott, Ph.D.
University of Georgia - Health Communications

Georgia Harvesting Healthy Habits Campaign

A joint project between the Georgia Department of Human Resources & The University of Georgia.
Funded by The National Institute for Occupational Safety and Health
(Cooperative Agreement #U03/CCU 410103)

Target Audience: Farmers
Agricultural Industry Workers
Public Health Nurses

Project Objective: To educate and change behaviors of farmers about skin cancer Prevention and Detection.

General Activities:

Provide sun protection messages in places where farmers go.
- Feed and Seed Stores
- Farm Conventions
- Farm Meetings

Provide Skin Cancer Education to Public Health Professionals.
- Regional Nursing Seminars
- On Site Classes for Public Health Nurses
- Educational Brochures and Posters

Providing farmers & farm wives with proper sun protection equipment.
- Sun Protection Hats
- Long-sleeved Shirts
- Hat Patterns
- Sunscreen samples
- Educational Brochures

Impact:

Several farmers now wear the sun protection hats.

Public Health Nurses in 18 counties will be trained and have educational videos and brochures to educate the public on skin cancer prevention.

John Deere Equipment Co. is now planning to use the Sun Protection hat as part of their promotional safety products.

Several other states with Farm Safety programs have modeled their programs after Georgia's and have ordered the hats.

Progressive Farmer Magazine has included our Sun Protection Course Outline in a notebook that is distributed Nationwide for Farm Safety Camps.

The University of Georgia Extension Service now offers our course in all 159 Counties. It is offered to farmers, farm families, and the 4-H Program.

Goldkist Inc. is planning to model a display after ours to use in their Feed and Seed Stores, Nationwide.

We also reach over a hundred farm children each year at a Farm Safety Camp with our skin cancer course through a DHR program - Georgia Healthy Farmers.

GA HEALTHY FARMERS NEWS BULLETIN

SUMMER, 1995 VOLUME 4 ISSUE 3

Roll out those lazy, hazy, crazy days of summer... A fitting and popular lyric for this time of year, and probably one we are all familiar with. The summer days are definitely hazy, not to mention hot. Additionally, the hectic pace of a farmer's summer can certainly be considered crazy. Unfortunately, the summer craziness provides few opportunities to be lazy and carefree. Furthermore, the combination of a hectic pace and lack of free time can greatly increase one's stress level. Virtually, every doctor and psychologist will attest to the negative effects of being over stressed. Recently, a few of our readers expressed an interest in the topic of farm life and stress. It is important to realize what contributes to farm stress and the effects it can have.

THE STRESS OF BEING A FARMER

Within the past decade, a number of writers, researchers, and publications have focused on issues related to stress and farming. Many of them identified such stressful concerns as low farm prices, unfavorable government policies, decreasing land values, and foreclosure. The effects of the stress were evident in higher rates of divorce, mental depression, and even suicide. However, not all farm stress is associated with economic conditions. A farmer's success or failure, and subsequent level of stress, can be determined by many factors. The following addresses various areas which can contribute to the stress of being a farmer.

In a survey assessing stress, farmers were asked to identify the aspects of their occupation that caused them the most worry and concern.* The results indicated that farmers reported six categories of stress. Within each category are the specific items which make up the category.

I. HAZARDOUS WORKING CONDITIONS
- Handling and Crop Storage
- Working with Agricultural Equipment
- Handling of Chemicals
- Operating Hazardous Machinery
- Dusts
- Noise Level of Equipment
- Removal of Manufacturers Safety Devices from equipment

II. GEOGRAPHIC ISOLATION
- Lack of Close Neighbors
- Limited Opportunities for Social Interaction
- Distance from Medical Care
- Distance from Shopping
- Limited Availability of Public Services (fire, sanitation)

III. PERSONAL FINANCES
- Repayment of Farm Loans
- Market Price of crops/livestock
- Financing of Retirement
- Concern About Farm's Future
- Deflated Land Prices

IV. TIME PRESSURE
- Too Much to do and too Little Time
- Not Enough Help on the Farm
- Hurrying Through Farm work
- Too Much Work for one Person

V. CLIMATE CONDITIONS
- Too much/too Little Rainfall
- Early or Late Killing Frost
- Wind Erosion
- Inadequate Levels of Soil Moisture

VI. GENERAL ECONOMIC CONDITIONS
- Government Farm Price Supports
- Government Export Policy
- U.S. Budget Deficit

Eberhardt, B. & Pooyan, A. (1990). Development of the farm stress survey: Factorial structure, reliability, and validity. Educational and Psychological Measurement, 50, 393-402.

THE EFFECTS OF STRESS

Not all farmers experience the same types or amounts of stress, however the previous six categories seemingly encompass types that a farmer could encounter. Of further interest is the relationship between the types of stress and one's Life Satisfaction and Emotional Strain. Additionally, a recognized side effect of stress is Frequency of Illness.

According to the same study, the following significant relationships were observed:

Life Satisfaction
Personal Finances
Time Pressure
Geographic Isolation
Climate Conditions

Specifically, as stress from any of the four categories above increases, a farmer's Life Satisfaction decreases.

Emotional Strain
Personal Finances
Geographic Isolation
Hazardous Working Conditions
Time Pressure
Climate Conditions
General Economic Conditions

All six of these categories can have an impact on emotional strain. As the stress associated with any of the six categories increases, a farmer's Emotional Strain increases.

Frequency of Illness
Personal Finances
Time Pressure
Geographic Isolation
Hazardous Working Conditions
Climate Conditions

As the stress associated with any of the five categories listed above increases, a farmer's Frequency of Illness increases.

TURNING UP THE HEAT

As many of us know, the increased levels of heat and humidity during the summer months can pose a danger to individuals working outdoors. The body's natural reaction to becoming overheated is sweat. Two aspects that affect your body's ability to sweat are your level of physical fitness and dehydration. The more fit you are the easier it is for your body to control your internal temperature. If you are dehydrated and your body is slow to sweat, the outcome is a higher internal body temperature. The following can result from overexposure to heat.

Heat Rash — This occurs when sweat does not evaporate quickly enough and clogs the sweat glands. It is considered a minor problem. Prevent measures include keeping the skin as clean and dry as possible.

Heat Cramps — These can affect any muscle in the body and may be an indication of dehydration and lack of sodium. The Athletic Department at UGA treats muscle cramps due to heat by removing the person from a hot environment, encouraging water or an electrolyte replacement drink, stretching or massaging the affected area and applying a cold pack.

Heat Exhaustion — This occurs due to a loss of body fluids and electrolytes. It can lead to pale, clammy skin; headaches; irritability; lightheadedness; nausea; and a weak sensation. Individuals suffering from heat exhaustion should drink fluids, elevate their feet, rest in the shade or a cool environment.

Heatstroke — Also known as sunstroke, this is the most serious result of overexposure. Symptoms include hot, **dry** skin; lack of sweat; chills; nausea; unconsciousness; and an internal body temperature in excess of 105 degrees. Heatstroke requires immediate medical attention. Individuals should be kept cool by immersing them in cool water, or sponging them off.

HARVESTING HEALTHY HABITS

What is It?

The Georgia Harvesting Healthy Habits Campaign is a three year effort (October 1, 1993 to October 1, 1996) designed to improve access to cancer prevention and detection information, education, and screening for agricultural workers and their families.

What are the Goals of the Campaign?

To demonstrate through systematic process and evaluation that innovative cancer prevention and detection programs and communication about existing cancer prevention and detection programs can be implemented.

Who is Sponsoring the Campaign?

The campaign is a collaborative effort sponsored by Georgia's Department of Human Resources Cancer Control Program and the University of Georgia's Health Communication Center with funding from the National Institute of Occupational Safety and Health.

WHY IS THE CAMPAIGN NEEDED?

Essentially, every study of non-melanoma skin cancer (NMSC) death in farmers has found farmers to have an elevated risk [for every 100 persons who die from skin cancer in the general population, 130 to 180 agricultural workers die from skin cancer].

Although this increased evidence of death among agricultural workers has been demonstrated, and the increased risk for exposure to known causes of skin cancer is obvious, far less is understood or known about farmers' specific prevention and detection behaviors, or indicators of action such as their confidence about performing recommended practices.

Farming families have also been found to have less health insurance, less coverage for preventive care, and so less often seek such preventive services as mammograms and pap tests.

For more information on the Harvesting Healthy Habits campaign call or write:

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Carol Steiner, R.N., M.N.
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HELLO FROM NANCY

Just imagine that it is a broiling hot summer day, you've been irrigating day and night, and there's no rain in sight. Tobacco is being gathered, the peanuts need spraying, there are bollworms in the cotton, the dryer on one of the bulk barns isn't working, the chemical dealer called and wants a check, the cows are in your neighbors corn, your truck has a flat tire, and your son says, "Please Daddy, come to my game, you haven't been all year and I might hit another homerun."

Does this sound like a day that most farmers have experienced at some time or another? In the first paragraph we have dealt with stress resulting from weather, crops, machinery, family, and fatigue. We each must deal with so many demands on our time, our energy, our finances, and our family relationships. Stress in our lives is very real. Stress causes not only changes in family relationships but can also cause real health problems. Have you ever watched a pressure cooker? The hotter the temperature the more pressure and the faster the knob on the top dances around. Our lives are often like living in a pressure cooker type environment, when the "heat" is turned up we feel the pressure. We as individuals need to find ways to reduce the stress in our lives. this is not simple or easy. However, we may be able to do little things along that help. Don't be so busy making a living that you don't take time to enjoy some of life's pleasures.

TRACTORS AND BACKACHES

Tractor drivers are not alone when it comes to experiencing backaches. Truck drivers, crane operators, train engineers, and bus drivers also experience back problems. What do these occupations have in common? The answer may surprise you, whole-body vibration.

Musculo-skeletal problems that can result from whole-body vibration include joint pain, degenerative disc, and slipped discs. Other health issues that repeated bumpy and jarring tractor rides can cause are balance problems and dizziness, a narrowing field of vision, and skin may become less responsive to touch, temperature changes and pain.

WHAT WILL HELP?

A combination of approaches seems to work best and could include:

- After driving the tractor, give your back a brief rest before unhooking equipment or lifting anything. Take a stretch.
- Check tractor tire pressure, appropriate level may be different for paved and unpaved surfaces.
- Too little load on the tractor front axle can increase the vibration level.
- Driving surface should be as even as possible.
- Machine suspension should be soft, but designed so the seat does not lean with every change in pitch. The technology developed to respond to such real-life situations is called an "active system".

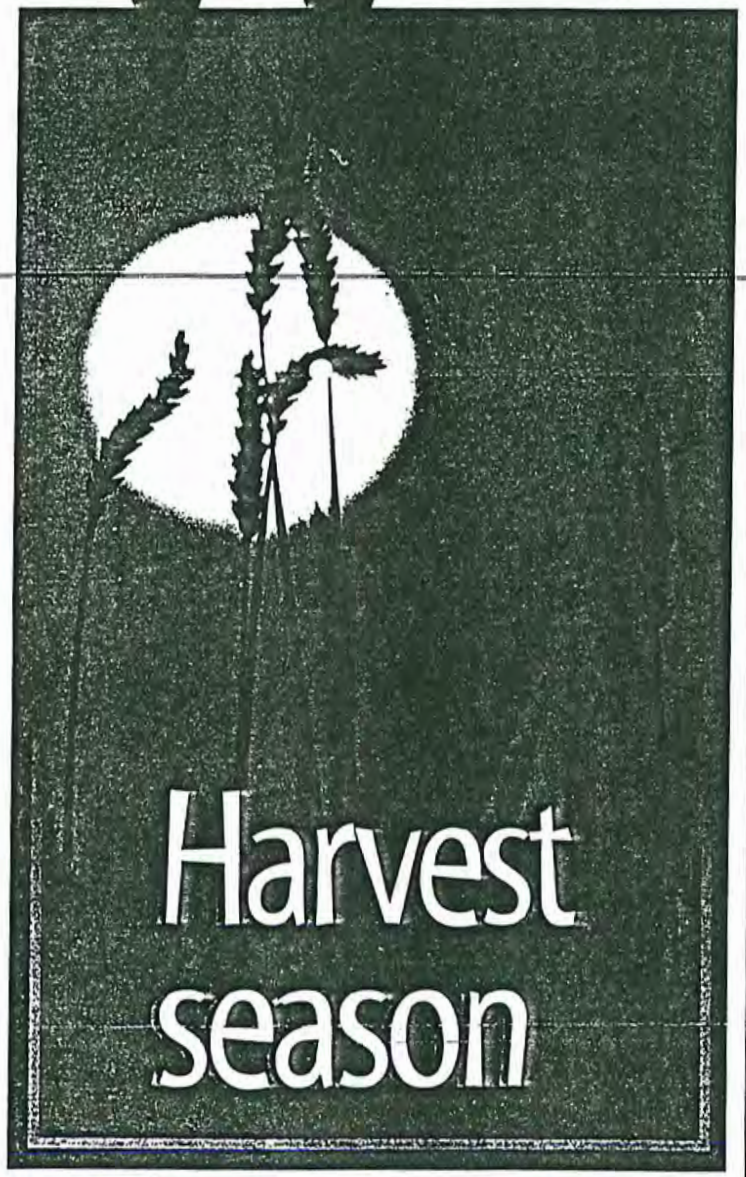
A more in-depth article on vibration injuries appeared in *GA HEALTHY FARMERS NEWS BULLETIN* Fall, 1993 Volume II, Issue 4,. If you would like a copy, please call 404-657-6525 or write to our return address.

THE WINDOW™

JOHN DEERE

Fall 1997

Farm Business and Family Issues for Women in Agriculture



Inside this issue...

Stay alert (and alive)

It was after midnight, and Bud Smith still had four hours of tillage ahead of him in a section of eastern Colorado wheat stubble. The field was featureless in the moonlit night, except for a windmill and stock tank.

Bud (not his real name) remembers making the turn at the end of the field and seeing the windmill on the horizon. The next thing he was aware of? The sound of crashing metal. Asleep for a good quarter mile, Bud had somehow managed to find the field's one obstruction. Luckily, he survived with just a good story to tell. The windmill and stock tank didn't fare quite as well.

"Fatigue and sleep deprivation are two serious problems in farm work," says Dr. Robert Aherin, Extension agricultural safety specialist for the University of Illinois.

How can you tell if fatigue is getting the best of you? According to Aherin:

- It's hard to remember what you've done during the last minutes.
- It's an effort to keep your combine or tractor in the row you are working.
- Your eyes start to water for no reason.
- You feel drowsy.

When you recognize these symptoms, **immediately stop what you are doing.** "Don't try to finish that last row or do one last thing," cautions Aherin. "That is when a lot of the accidents we investigate happen."

Three things help keep fatigue at bay: the right food, the right amount of work breaks, and the right amount of sleep each night.

According to Aherin, you will feel fatigued and drowsy if you eat large meals that are high in protein. "With big meals or an overload of protein, your body puts too much energy into digestion," he explains.

For high-stress days, Aherin suggests frequent small meals of pasta, bread, cereal, potatoes, and other carbohydrates. Cut back on sugared drinks and caffeine, he adds, because the initial burst of energy is followed by a low that will slow reaction times.

As for breaks, Aherin recommends shutting off equipment and walking or stretching for 10 or 15 minutes every two hours. "This makes an incredible difference in your ability to stay alert," he says.

So does a good night's rest. "Most people need seven or eight hours of sleep every night in order to think and react well," concludes the farm safety expert. "Cutting back on sleep won't dramatically speed up harvest. And it could slow you down. Permanently." ✓

Do...

Tame those long tresses. To prevent scalping, wear medium or long hair pulled tightly away from your face and neck. Secure it firmly. THEN PUT ON A SNUG HAT. Do not wear ponytails or loose, long braids. They can catch on turning shafts or drives with disastrous results.

Do

Wear sun-safe hats that protect your ears and neck as well as your face.

Do

Wear clothing that fits right and is in good condition. Frayed and ragged edges are dangerous.

Do

Use respiratory protection in dusty situations like grain bins.

How SAFE *is your* working wardrobe?

Do

Wear close-fitting pullovers, not the "baggy" look.

Do

Wear jeans that are the right length. Cuffs are dangerous.

Do

Wear sturdy boots with good, slip-resistant tread.

For too many farm and ranch families, chore clothes are still those well-worn, overstained pants and shirts that are only a few washings away from being tossed into the rag bag.

"That can be a dangerous attitude," cautions Dr. Jan Stone, Iowa State University Extension specialist and nationwide expert on farm clothing. "Data indicates that clothing can cause or contribute to accidents."

Using data collected by the Iowa Department of Public Health in a farm injury study, Stone found that clothing was cited by several victims as contributing to their injuries. "Multiple injuries were related to sleeves and cuffs, pant legs and cuffs, or jacket hems that became entangled in equipment," she points out. "People do not realize that the strong, durable fabrics used in farm and other work clothing today will not tear easily. Few people are strong enough to resist being pulled into equipment if clothing gets caught."

Jan Stone

Most natural fibers are generally not as strong compared to their synthetic counterparts, says Stone. However, fabric weight and weave also contribute to strength. "So it is impos-

Do...

Wear the right safety protection for the job you are doing. Hearing protection and safety glasses are needed for shop work as well as for mowing, string trimming, and tree trimming. A hard hat is needed whenever flying debris or falling branches are a possibility.

Do

Remove jewelry before going out to work.

Do

Wear jackets and sweatshirts that are properly sized and need no drawstrings.

Do

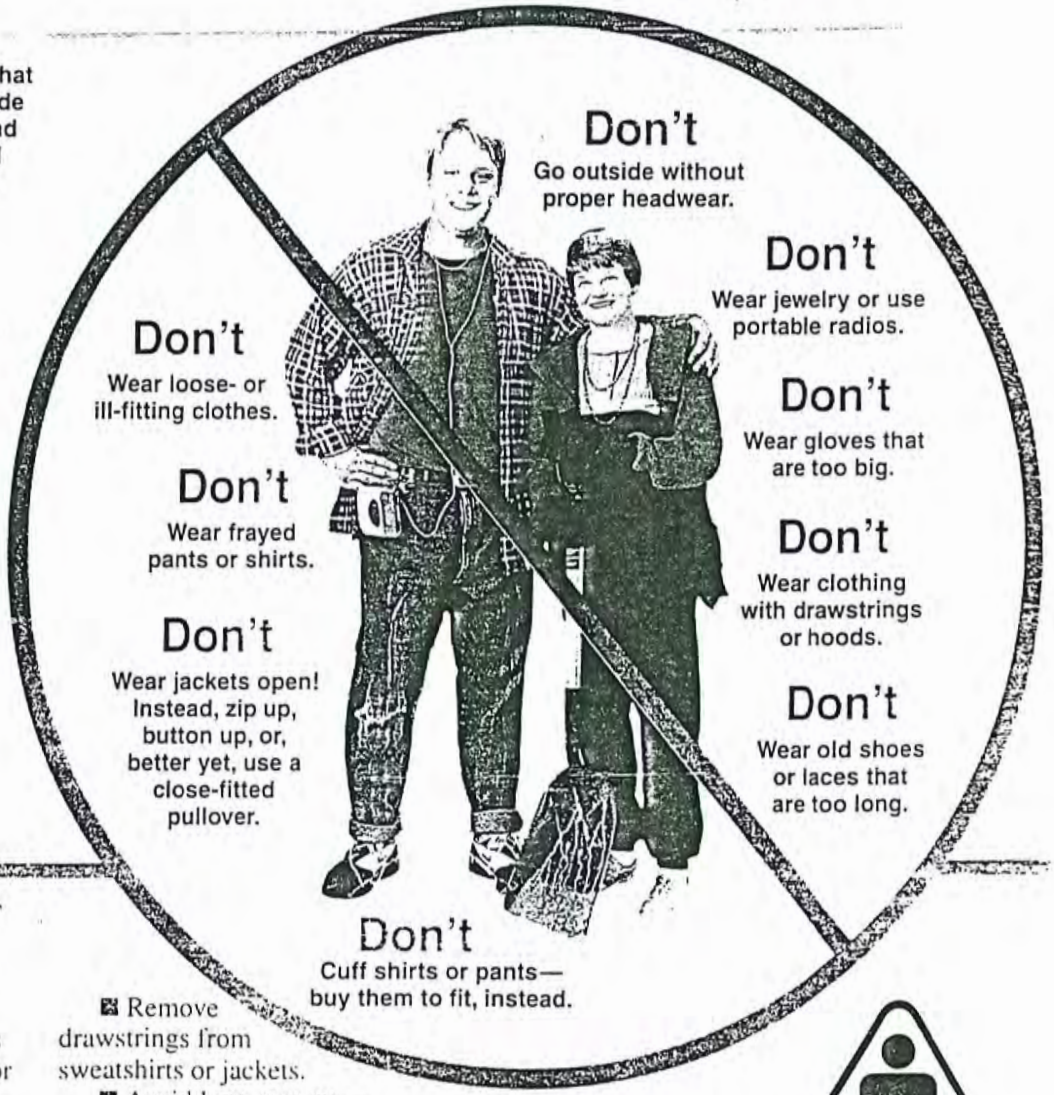
Wear gloves that fit well, provide good grip and are in good condition.

Do

Choose clothing with banded cuffs. Avoid cuffs that need buttoning. Or keep them fastened.

Do

Keep shoelaces short or tuck them into your shoes.



Don't

Go outside without proper headwear.

Don't

Wear jewelry or use portable radios.

Don't

Wear gloves that are too big.

Don't

Wear clothing with drawstrings or hoods.

Don't

Wear old shoes or laces that are too long.

Don't

Cuff shirts or pants—buy them to fit, instead.

Don't

Wear jackets open! Instead, zip up, button up, or, better yet, use a close-fitted pullover.

Don't

Wear frayed pants or shirts.

Don't

Wear loose- or ill-fitting clothes.

sible to say one is safer than the other," she points out.

The best farm clothes are in good condition and fit just right. "Clothing that hugs the body and moves with it is less likely to get caught in equipment or to catch fire if close to an ignition source," she says.

Among Stone's suggestions for work-safe farm clothes:

- Always keep jackets, coats, and cuffs fastened. Or, rely on pullovers.
- Remove drawstrings from sweatshirts or jackets.
- Avoid long scarves—they can literally hang and strangle you.
- Avoid garments designed with protruding loops or straps.
- Select boots that fit well and have skid-proof tread.

JOHN DEERE

SAFETY live with it

Contacts: Local: Dawn Lewis
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DHR, Cancer Control Section
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Date: April 21, 1997

FOR RELEASE IN CHRONIC DISEASE BRANCH NEWSLETTER

SAVE YOUR OWN SKIN -- WEAR "SPF 15"

Did you know that suffering painful or blistering sunburns, especially during childhood, greatly increases your chances of getting skin cancer? Or that simply living in the south, where the sun is more intense, also increases your risk?

While we can't change where we live very easily (even if we wanted to), we CAN keep from getting sunburned very easily. You can begin to reduce your risk for getting skin cancer now by protecting your skin with sunscreen.

Sunscreen, or sunblock, is especially important for people with lighter skin, because lighter-skinned people have less melanin, the chemical in skin that reacts to sun exposure. But lighter-skinned people aren't the only ones who should protect themselves from the sun -- even if you have very dark black skin, you still need to wear sunscreen. Anyone can get skin cancer!

The key to using sunscreen is to remember to always wear one with a "Sun Protection Factor" (SPF) of at least 15 whenever you go out in the sun, to work or to play. Sunscreens with SPFs of 15 and higher come in a wide variety of formulas, and can be found at most drug, discount and grocery stores. Since it is usually very hot in Georgia, look for a sunscreen that is "waterproof" or "sweatproof." When you use sunscreen, make sure you apply it 30 minutes before going outside, and reapply it every two hours, or as directed on the product's label.

-more-

Different sunscreens contain different active ingredients and come in a wide variety of

formulas. If you find one that irritates your skin, that does not mean all sunscreens will. Keep trying different brands and formulas until you find one that your family likes.

A final important thing to remember about sunscreen is that it is not just for summer months, or when you go to the beach or pool. You can get sunburned year-round, especially in Georgia. Southerners should make wearing sunscreen a daily morning habit, just like brushing your teeth. Preventing yourself from getting sunburned will also keep your body temperature cooler, which is important for those of us who work in the sun all day.

There are over one million new cases of skin cancer in the U.S. each year. By wearing sunscreen regularly, you can take the first step in preventing yourself from becoming one of those million.

If you have any questions about using sunscreen and other ways to SAVE YOUR OWN SKIN, call your local cooperative extension service or Dawn Lewis, Project Coordinator for Georgia's Harvesting Healthy Habits Campaign, at 912-383-7709.

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THE WINDOW™

JOHN DEERE

Summer 1997

Farm Business and Family Issues for Women in Agriculture

Summer Safety

How risky is your work and play?

Think of the family farm as a construction zone. Potential dangers exist everywhere—even in the skies above!

Fortunately, some *simple* things can be done to improve your family's odds for a safe summer on the farm. So sharpen your pencil and see how many of them you can check off:

❑ We always shut off equipment and remove the keys when we walk away, even for short periods.

❑ Even our older chore tractors have rollover protection, and we *always* use the seat belts when we use the ROPS.

❑ We have traded our baseball-style caps for styles that shade our ears and necks.

❑ All of the safety shields on our implements are in place.

❑ We never allow passengers on tractors and riding lawn mowers.

❑ We never allow young kids to be around our animals.

❑ We have a mobile communications system for fieldwork.

❑ We have fire extinguishers placed throughout our farm and carry them on our balers and combines.

❑ We use hearing protection whenever we operate loud equipment.

❑ Our children know how to swim and always wear helmets when biking.

❑ We take regular breaks throughout the day.

❑ We talk about safety at least once a week. ✔

Second place is still no place to be

There's good news and bad news. The good news? Mining has taken over as the most dangerous occupation in the United States, leaving agriculture in second place. Helping to lower the death rate: new technologies, improved machinery, and safety education. The bad news? Second place is still no place to be. This issue of *The Window* looks at some of the hazards you and your family face this summer. It also gives you plenty of ideas for making your agricultural operation a safer place to work and live.

Inside ...

Get ready for YOUR da

Back in the days of Tara, when Scarlet O'Hara batted her baby blue eyes and sipped mint juleps, wealth and health were symbolized by pale skin.

During this century, that status symbol changed. Everyone, it seemed, wanted a healthy tan.

"The problem is, there's no such thing as a healthy tan," says Barbara Marlenga of the National Farm Medicine Center, Marshfield, Wis. "Overexposure to the sun is dangerous—whether or not you are tan."

According to the American Cancer Institute, more than 800,000 people in the United States will be treated

Jan Stone

for basal cell or squamous cell cancers this year. Another 38,000 will be diagnosed with melanoma. About 17,000 people will be treated for invasive nonmelanoma skin cancers (usually soft-tissue sarcomas).

Altogether, just under 10,000 folks will die of skin cancer this year.

"The numbers are staggering," says Marlenga.

Farmers, in particular, need to take heed. Their risk for skin and lip cancer is high. "Farmers work in the sun," says Marlenga, "and for the most part, don't protect themselves well enough from overexposure."

Replace that cap, please

Part of the blame seems to be the baseball cap.

"Prior to the mid-1950s, many farmers wore full-brimmed hats," says Dr. Jan Stone, an extension professor in textiles and clothing at Iowa State University. "Now, the common practice is to wear baseball caps."

It's easy to see why. Baseball caps are cheap (often free), adjustable, cool in the heat, and snugger than most hats when the wind kicks up.

"The problem is baseball caps don't shade the ears or neck," says Marlenga, who recently coauthored a study on farmer's hat preferences. "But there seems to be a lot of reluctance by farmers to change hat styles."

Of the various hats evaluated by farmers in Marlenga's study, the detachable flap was most popular.

"It is a flap that attaches to a baseball cap with Velcro," says Marlenga. "I think farmers liked it best because they could take the flap off. I had one farmer tell me that he would wear it out in the field, but remove the flap to go to the feed store."

Flaps attached to baseball caps, such as this one made by Harvesting Healthy Habits, Dougla Ga., protect the neck and ears. Among other styles that provide sun protection are Aussie, fishing, and safari hats.

In a study Jan Stone conducted, many more people agreed they would buy the "outback" and "boonie" than agreed they would buy the flap. If those options don't strike your fancy there are others: cowboy hats, Aussie hats, tropical straw hats, pith helmets, bucket hats, crushable fishing hats, stalker hats, and safari hats, to name a few.

"No one style is better than another," says Stone. "Just be sure it offers really good sun protection."

Both Marlenga and Stone believe that it will take more than a few years to turn farmers into hat "converts."

"Wouldn't it be better if

in the SUN

businesses would give away only hats that offer protection from overexposure to the sun?" asks Marlenga.

"Farmers are used to getting their hats free," says Stone. "They don't want to pay for a better hat if they don't have to. So I think businesses should want to take a moral stand on the issue and give away only hats that offer protection from sunburn. Repeated sunburns can lead to skin cancer."

As you experiment with different hats, Stone suggests that you look for these features:

- a wide brim that measures at least 3 inches
- vents in the crown
- material that blocks the sun
- light-colored fabric with a dark lining under the brim to prevent eyestrain
- crushable, resilient material.

Avoid overexposure

Besides wearing better hats, farm families need to change other attitudes and habits if they are to reduce their risk for skin cancer.

"The best prevention is to not go out into the sun at all," says Marlenga. "But the next best thing is to change your timing."

According to the American Cancer Institute, the prime time to avoid being in the sun is between 10 a.m. and 3 p.m.

"Try to schedule chores and activities so that you and your family are not outside during those hours," Marlenga suggests. "If you have to work during peak sun hours, try to work in a tractor with a cab. Save work in open stations for earlier or later in the day."

In Australia, the incidences of skin cancer grew at such an alarming pace that the government now regulates a number of sun-exposure activities. For example, says Marlenga, school children cannot play outside at recess during certain times of the day. Parents also must dress their children to protect them from overexposure.

Protective clothing includes long-sleeved shirts, long pants, and wide-brimmed hats. Exposed skin should be protected with sunscreen.

"Studies show that most people have already received 70–80 percent of their exposure to the sun by the age of 18," says Marlenga. "So prevention is the key and you have to start with the early years. Think about what you are doing. Think about what your kids are doing. Think protection. It's worth it." ✔

For more safety tips, contact the National Farm Medicine Center at 800-782-8581 or use the Web to request *Is It Time to Change Your Cap?* at http://www.public.IAState.edu/~tc-ext/.

Skin cancer CHECKUP

Melanoma is the kind of skin cancer that can invade the body and spread cancer to other organs. It is also the skin cancer that causes the most deaths. You are at a *very high* risk for melanoma if you have:

- ❑ a fair complexion that burns and blisters easily
- ❑ blond or red hair
- ❑ blue, green, or gray eyes
- ❑ excessive sun exposure during childhood and teen years, blistering and sunburns before age 20
- ❑ outdoor work
- ❑ family history of melanoma
- ❑ more than 100 moles on your body (50 if you are under age 20).

The American Academy of Dermatology suggests that you check monthly for signs of skin cancer. The following steps for self-examination are as follows:

1. Examine your body, front and back, in a full-length mirror, then right and left sides with arms raised.
2. Bend elbows and look carefully at forearms, upper underarms, and palms.
3. With a hand-held mirror, look at the backs of legs and feet, spaces between your toes and on the sole.
4. Then examine the backs of your neck and scalp with the hand mirror. Part your hair and look closely.
5. Finally, check your back and buttocks with a hand mirror. If anything looks different from the month before, or if you have sores that don't heal, or if you have a patch that is raised and unusual looking, see your doctor immediately for a professional opinion.

The ABCD danger signs:

Asymmetry One half does not match the other.

Border irregularity Edges are ragged, notched, or blurred.

Color. Color is not uniform. May include tan, brown, black, red, white, or blue.

Diameter is greater than that of a pencil eraser.

The Web site for the American Academy of Dermatology is: http://www.aad.org.

SENIOR SENSE

Putting Knowledge to Work for Older Georgians

Vol. V., No. 3

Your Health

Skin Cancer and Aging

Did you know that Southerners are more likely to develop skin cancer than people living in Northern states? In the South, there are more cases of skin cancer than of all other cancers combined. Skin cancer is actually the most common type of cancer in the United States. According to current estimates, 40 to 50% of Americans who live to age 65 will have skin cancer at least once. Fortunately, the most common types of skin cancer are easily treated if found early.

Basal cell and squamous cell are the most common types of skin cancer. Melanoma is less common -- it represents only about 5% of all skin cancers in the U.S. However, melanoma is much more serious -- it accounts for approximately 3/4 of all skin cancer deaths. In 1991, 209 people in Georgia died of melanoma.

Skin cancer is related to sun exposure. Exposure to ultraviolet (UV) rays, over time, increases the risk of skin cancer, so people who work primarily outdoors have a higher risk. Fair-skinned people who sunburn easily and people with a family history of melanoma have a higher risk of developing melanoma. However, it is wise for everyone to take steps to protect their skin.

The National Cancer Institute recommends that you examine your skin monthly. Be aware of where your moles are and how they look. Look for any signs of change in a mole. Note if you have new moles. Ask your doctor to check any new moles or spots which have changed or which you are concerned about.

Even though you may have a lifetime of exposure to the sun,

municipal bonds, mutual funds, and retirement plans.

Other assets include real property (house and land), farm assets, business assets and personal property.

Liabilities include mortgage, car loan, installment debts, personal loans, life insurance loans, charge accounts, credit cards, taxes, and payables.

Identify how each asset or liability is owned. Sole ownership (S) means the property has one owner. If the owner dies, the property is distributed according to his or her will. If there is no will, the property is distributed according to state law.

Solely owned property with a designated beneficiary, individual retirement accounts (IRAs), pensions, and life insurance investments pass automatically to the beneficiary.

Tenancy-in-common (TC) means the property is owned by two or more tenants (owners) in equal or unequal shares. The tenants may include spouse or others. When a tenant dies, his or her share is distributed the same as with sole ownership. It does not pass automatically to a spouse or other tenant(s).

Joint ownership with rights of survivorship (JWROS) means the property is owned by two or more tenants in equal shares. Tenants may include spouses or others. If one tenant dies, his or her share passes automatically to the surviving tenant(s).

Review your financial statement regularly. For some, once a year might be enough. For those who have assets that change value frequently, you might want to update your financial statement monthly.
For a financial statement worksheet form, contact your local county Extension agent for a copy of Financial Record Book.

Reference: Preparing A Financial Statement, A Money Management Workbook, AARP, Washington, D.C. p.21-29.

Your Relationships

Transitions of Retirement

In the past, workers often stayed in one job until age 65 or so, and then retired to a life of leisure. Today,

Reorientation Phase: Successful retirees are able to cope with the changes and begin making plans. They turn their energy toward exploring, evaluating, and making decisions about retirement.
Examples: volunteer in the community or at church, and/or begin new job activities which combine with relaxing events to create a retirement lifestyle.
Stability Phase: Persons here are sorting out their experience, reviewing their accomplishments and talents, and setting priorities. They are thinking through what retirement choices are most desirable, and why, and establishing a long-term pattern of self-sufficiency and stability.
Examples: Stabilizing and extending of a new lifestyle sustained by relatively good health.

End of Retirement

Termination Phase: Persons in this phase reach the end of what they usually think of as "retirement" because of growing physical or financial limitations. Their identity of phasing out of worklife and embracing retirement are no longer immediate concerns. Disability and dependence may transform the meaning of stability
Example: Gradual or sudden ending of retirement lifestyle by health or financial limits

No timetable for these phases is "typical" since each person adjusts his/her own terms. Some persons experience phases in a slightly different order or return to past phas to work out additional issues. However, the concept of a process o adjustment is generalizable to all persons.

Reference: Robert C. Atchley. (1983) Aging: Continuity and Change. Belmont, CA: Wadsworth.

AVERAGE CONSUMER SPENDING FOR THOSE 65 AND OVER

In 1995, average annual spending for consumers age 65 and over was as follows:

Item	Amount	Percent
Food	$3,379	15
Housing	7,075	32
Apparel and Services	943	4
Transportation	4,072	19
Health care	2,547	12
Entertainment	898	4
All other*	3,037	14
Total	$21,951	100%

Source: Consumer Expenditure Survey, Fourth Quarter 1995, Report 912

The Rotabain

Rotary Club of Bainbridge, Georgia
1995 - 1996

SEPTEMBER 5, 1995

ACT WITH INTEGRITY,
SERVE WITH LOVE;
WORK FOR PEACE

Bainbridge Rotary Officers 1995-1996

President.....Tracy A. Dixon

Vice-President.....Tom Conger
President-Elect.....Dick I
Secretary.....Jay Leverett
Treasurer.....Edward Reyno

Bainbridge Rotary Directors 1995-1996

Margaret Smith
Lee Harris
Mark Harrell
Andy Porter

PAST PRESIDENTS

1936-37 Ramsay Simons, Sr.*
1937-38 Julian Kwilecki*
1938-39 Wesley Callahan*
1939-40 Ralph Porterfield*
1940-41 Vance Custer*
1941-42 E. F. "Vic" Vickers*
1942-43 Reuben Reynolds*
1943-44 Abe Conger*
1944-45 J. M. Simmons*
1945-46 Herbert Nussbaum*
1946-47 Mayo Livingston*
1947-48 Bob Higdon*
1948-49 Jack Bower*
1949-50 Tommy Smith*
1950-51 Olin Cooper*
1951-52 Jake Nichols*
1952-53 Howard Bridges*
1953-54 Bill White*
1954-55 Rowland Bolton
1955-56 Bernard Nussbaum
1956-57 Leonard Conger*
1957-58 R. T. Willis
1958-59 Gerard Kwilecki
1959-60 J. W. McAllister
1960-61 Alfred Rogers
1961-62 Melvin Nussbaum
1962-63 Mayo Livingston, Jr.
1963-64 Eckie Parker
1964-65 Wesley Calledge
1965-66 Paul Kwilecki
1966-67 Vasco Martin*
1967-68 Ramsay Simmons, Jr
1968-69 Milton "Doc" Woodbury*
1969-70 Gary Hollis
1970-71 John M. Simmons
1971-72 Jim Stone
1972-73 Loyd Poitevint
1973-74 George Herring
1974-75 Nolan Cloud
1975-76 Ed Mobley
1976-77 Drane Smith
1977-78 Cary Davis
1978-79 Bill Jones
1979-80 Ed Shingler
1980-81 John Grimsley, III
1981-82 Clayton Penhallegon
1982-83 J. Wandell Shiver*
1983-84 Jack H. Leverett
1984-85 Jimmy Harrell
1985-86 Marvin Hall
1986-87 Andy Porter
1987-88 R. P. Bolton, Jr.
1988-89 Paul H. Trulock, III
1989-90 Leon D. Culverson
1990-91 Vance Custer
1991-92 Monroe Godwin
1992-93 Steve Underwood
1993-94 Joe Livingston
1994-95 Tom Conger

*Deceased

MAKE-UPS

Alfred Rogers
Ben Lee
Brown Mosely
Jim Mitchell

ATTENDANCE

90.6%

LAST WEEK

Bringing the curtain down on August, Glennie Bench brought us Dawn Lewis and Gloria Kirkland and these two ladies warned us of the danger of the sun. Before last week we did not know over 700 people in Georgia die each year due to skin cancer. We saw some appetizing photos of different types of skin cancer that were enough to turn even the most cast iron stomachs.

Skin cancer is serious; and preventable. The sun is important, but too much of a good thing is harmful. Golfers, farmers, children and anyone who spends any time outdoors should take precautions to protect themselves from sunburn. The importance of the SPF was emphasized, as were some really sporty hats. Raymond, Jack and Tom will look like Legionnaires in these hats, but they will be protected from the sun.

HAPPY BIRTHDAY

Dean Burke	September 7
Thomas Lear	September 7
Don Kirksey	September 8

HAPPY ANNIVERSARY

Tom & Linda Long	September 7
Edwin & Linda Perry	September 9
Bob & Jackie Rich	September 9

Next Week's Program

Harvey Willis - Prostate Cancer

The University of Georgia
Cooperative Extension Service
College of Agricultural and Environmental Sciences
1785

Bacon County Extension Service
201 S. Dixon Street
P. O. Drawer 1895
Alma, Georgia 31510-1985
May 2, 1997

Dawn Lewis
707 E. Ward Street
Harvesting Healthy Habits
Douglas, Georgia 31533

Dear Dawn:

Thank you for the skin cancer prevention shirts, hats, and sunscreen lotion samples you sent me. They were a great addition to the skin cancer prevention program I presented to the Alma Homemakers Club. Enclosed is a picture of the club members with their shirts and hats featured in a local newspaper recently.

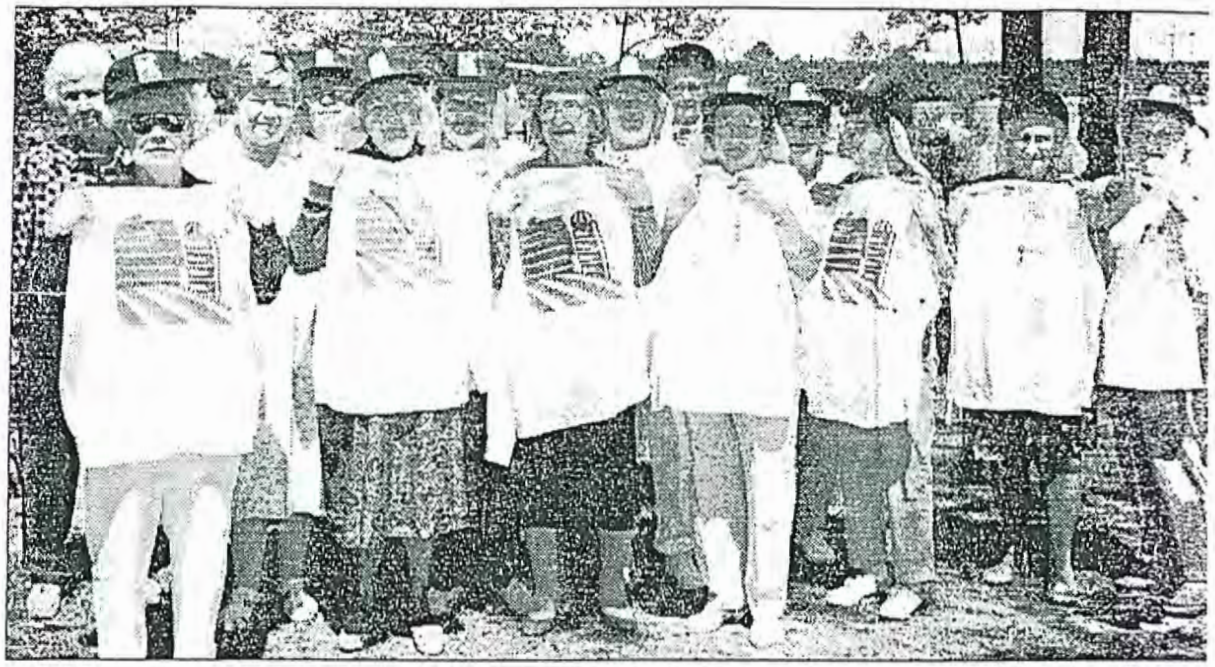
Thank you again.

Sincerely,

Amy Scott

Amy Scott
County Extension Agent
Bacon County

AS:art
Enclosure
c: Darell Dunn



The ladies show white long sleeve t-shirts with helpful information printed on the front, sun cap with a pull down screen on back and samples of moisturizing Suncare Creme that was presented by Amy Scott, Home Economist with the Extension Service.

Alma Homemakers meet at Carter home

The Alma Homemakers Club enjoyed a delightful gathering at the boathouse of James and Marie Carter. The inside was decorated with several different Easter ornaments. There were 20 ladies present, some of the members was sick and unable to attend.

Marie called the meeting to order and led the pledge, and Burnice Graham gave thanks for the food. A variety of food was served buffet style, compliments of the hostess, with some of the favorite dishes brought by other ladies.

Mr. and Mrs. Ronnie Roundship and daughter of Waycross who are friends of the Carter's also joined the ladies for lunch. Mr. Roundship is a U.S. Fire Marshal.

The ladies have recently be making stuffed toys for childr who may be experiencing trauma some kind.

Alma Police Officer, Wal Douglas, and assistant, Lynn Cas were on hand to receive the toy Officer Douglas says the toys w be very helpful in calming the ch dren.

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estimates of
stock num-
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ther income

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s recirculat-
economic

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was due to
n $293 mil-
104 percent

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income was
and pea-

agronomist,
"We had
rything." he
used severe

flooding came just at the right time for many crops. In comparison, 1993 was a dry year."

The survey lists 29 farm commodities.

Broilers led the way in farmgate value with nearly $2 billion, almost 28 percent of the state's total. Forestry ranked second with $860 million, or 12.6 percent. Cotton, peanuts and vegetables rounded out the top five, each less than 10 percent.

"Keep in mind these are calculated estimates, and they're subject to some margin of error," Dunn said. "However, this remains the best source of information on farm-gate agricultural income on a county basis."

The numbers paint a fascinating picture of diversity in Georgia agriculture.

For instance, even though south Georgia is obviously the agricultural heart of the state, a north Georgia county, Hall, claims the highest 1994 farm income, $165 million.

"North Georgia farm income comes mainly from poultry," Dunn said, "while south Georgia is more widely diversified with row crops and livestock."

In all, 14 counties exceed $100 million in farm income, and 50 counties surpass $50 million.

(Rodekohr is with the University of Georgia extension service.)

Elaine Rish instructs Summer Willis, a student in the tractor certification course, on how to operate tractor controls. Students in the course are also required to complete a minimum of 15 hours in the classroom.

Farm safety camp teaches vital skills

By Vanessa Himebaugh

"After two drownings and two near-drownings in Georgia farm ponds, we felt like we needed to do something," said Nancy Fussell, occupational health nurse with Georgia Healthy Farmers.

The result was the first Farm Safety Day Camp for youngsters, held during the summer of 1992.

The 1992 daylong program was only open to children in a limited number of counties. Since then, the camp has grown. The first overnight camp was held in 1993 and was open to children throughout Georgia.

This year's Farm Safety Camp was held at Abraham Baldwin Agricultural College (ABAC) in Tifton June 25-27. More than 120 children, aged 10 to 13, from some 35 counties attended the three-day camp to learn about such issues as pesticides and water safety.

The Farm Safety Camp is organized and directed through the Georgia Healthy Farmers Program, a part of the Environmental Health Section of Georgia Public Health. The camp was originally funded through money allocated by Congress in 1990 as a part of the Agriculture Initiative. Classes included:

- Understanding Pesticides, by David Jones, University of Georgia Cooperative Extension Service.
- ATV Safety, Steven Clay, ATV Safety Institute
- Tractor Certification/Safety, Da Hadsock, Georgia young farmer advise
- Generator/Electrocution Hazard, K Harrison, UGA extension service.
- First-on-Scene, Capt Danny Edwa Tifton Emergency Medical Services.
- Fire Safety, Barbara Ellison, Academy
- Animal Safety, Robert Dove David Bishop, Coastal Plains Experim Station.
- CPR, Rick Bracewell, ABAC.
- Water Safety, Lucy Lowry, Amer Red Cross.
- Power Town, Craig Solomon, Geo Power.
- Sun Sense, Dawn Lewis, Harves Healthy Habits: Cancer Control
- Fun With Farm Safety, Becky Ry Farm Bureau program specialist
- Controlled Burning, Howard Br Georgia Forestry Commission
- Combines, Harvesters & Lawnm ers, Bobby Tyson, UGA extension ag cultural engineer.

In addition, a tractor certification cou was offered to 14- and 15-year-olds. T course involved a minimum of 15 cla room hours along with three hours of dr ing range instruction.

For more information on the program future camps, contact Judy Hartley, dir tor, Georgia Healthy Farmers, 4 657-6525; or Nancy Fussell, occupatio health nurse, 912-383-0393.

P.H. BALANCE

Newsletter by the Depend On Us To Protect Georgia's Health Committee

September 1, 1995

GEORGIA GAIN

Al Brown reports that Georgia Gain classes are coming to an end soon. As supervisors are trained in the new Performance Management process, they will in turn meet with their employees to explain the forthcoming changes. A brochure explaining the Performance Management Process will be given to each employee by mid-September.

Cancer Control ~~~ How Ya Gonna Keep Em Healthy Down On The Farm?

Georgia's Harvesting Healthy Habits Campaign, a collaboration between the Cancer Control section and the University of Georgia's Center for Health Communication, is a three-year, federally funded effort to reduce the incidence of skin, breast, and cervical cancer in south Georgia's farming and migrant populations. After completing one year of intensive formative research, graduate research assistants and project staff are busy working to educate agricultural families about sun protection and the importance of early detection of skin, breast and cervical cancer.

Dawn Lewis, Local Project Coordinator, works closely with area cooperative extension agents, feed and seed stores, farming associations and organizations such as the Coffee County Poultry Growers, and DHR's "Georgia Healthy Farmers" project. One of the most popular components of the campaign is the Sun Protection Cap, a baseball styled cap with the campaign logo that is designed to protect the face, neck and ears from the sun. Farmers are given the hats at feed stores, health fairs, seminars and agricultural expos, along with educational brochures and resource information. Dawn has also been conducting outreach by visiting individual local farms to tell them about the program, and she regularly uses local media outlets, including television tak shows, radios and newspapers, to inform South Georgians about the program.

THE WORLD IS COMING! THE WORLD IS COMING! YOU HAVE QUESTIONS. WE WILL HAVE ANSWERS NEXT MONTH. KARL HOENES REPRESENTS PUBLIC HEALTH ON THE DHR/OLYMPIC COMMITTEE & PROMISES A REPORT FOR THE OCT. ISSUE OF *PH BALANCE.*

P.H. BALANCE

Newsletter by the Depend On Us To Protect Georgia's Health Committee

September 1, 1995

Where'd they Go?

Did you know they were gone? EMS, EMS for Children, and Trauma completed their move to the Legislative Office Building on August 18. Their new address is 18 Capital Square, Room 104, LOB. This is the previous home of Employee Health, closed at the beginning of the fiscal year.

Phone numbers will remain the same. EMS - 7-6700 and Trauma 7-3327.

Plans are under way to fill up the spaces left by the move.

What's NEW?

NEW EMPLOYEES IN PUBLIC HEALTH

Chronic Disease & Health Promotion
Willa Boswell, Gloria Crowder
Director's Office
Gail Wright
Epidemiology & Prevention
Priscilla Hunter
Family Health
Theresa Mannah, Michele Ozumba, Beverly Manders, Delores Sewell, Marvin Stanley, Rodney Taylor
Human Resources
Schenelle Trim
Laboratory
Juanita Johnson
Rural Health
Carla Gaines

Rural Health Awards On The Way

Each year, the Georgia Rural Health Association presents awards for outstanding efforts related to rural health in the fields of Individual Service, Program, Hospital, Research, Legislator, and Student Paper. Nominations may be made by any person or group. Self-nominations are welcomed.

Nominations with supporting materials must be received on or before September 30, 1995. All nominations materials must be on one side of letter size paper. No faxes will be accepted. Mail to the following address:

Jan M. Pittman
Three Rivers AHEC
2457 Airport Thruway, Suite 301
Columbus, Ga 31906

Criteria may be obtained from Tom Lynch, State Office of Rural Health and Primary Care, 657-7524. GRHA is seeking financial support for all awards. If you or your organization are interested in providing support, please contact Jan Pittman, Awards Committee Chair, at (706) 660-2499

The Berlin Olympics was smaller, according to Mrs. Kolzem, who was just 18 when she attended. And it lacked a show during the opening, an innovation of later Olympic Games. The year was 1936 and Adolf Hitler had been dictator of Nazi Germany for three years. Germany had only begun to recover from the double blow of World War I, which ended in 1918, and the worldwide depression which began seven years earlier.

"The Berlin Olympics were glamorous, too, in their own way," she said, "but in Germany there was no big show. It was strictly a sports event."

The opening was announced by Hitler himself as leader of Germany, accompanied by a military band and saluted by a volley of cannon fire and the release of doves.

"Real doves," Mrs. Kolzem said, comparing them to the artificial doves of the Atlanta Olympics, which were actually kites flown by performers. The replacement was made after complaints by animal rights activists.

"There were a lot of flags, although not so many nations came," she said. "We did not have the Communist nations."

Although not a political event in itself, Mrs. Kolzem said, many used the Berlin Games to make a political statement, much as the United States and other nations boycotted the 1980 Moscow Olympics after the Union of Soviet Socialist Republics' invasion of Afghanistan. The U.S.S.R. and Eastern bloc nations boycotted the 1984 Los Angeles Olympics in retaliation.

Although the Atlanta ceremony was very hot, as only a July night in Georgia can be, Mrs. Kolzem said the crowds assembled were excited, but on their best behavior.

"The Olympics in Atlanta were so impressive and showed the true glory of the Olympics," she said.

The audience was a part of the opening spectacle in Atlanta, unlike in Berlin, Mrs. Kolzem said. Those attending the opening were given packages filled

Please see Opening, 3C

DON STALVEY/staff

Albany's Lottie Kolzem, who immigrated from Germany in 1961, shows off her opening ceremony memorabilia from the Atlanta Olympics.

wisely those dollars are being spent by the district attorney's office.

"I want to make sure they are getting their money's worth, and I don't think they are now," Hodges said, referring to what he calls inefficiencies in the current district attorney's office that have lead him to challenge Priddy for the county's top prosecuting job.

But Priddy has touted his experience from the start, saying his 30-year-old challenger's experience ju cut it.

The district attorney's forced into a runoff after received just under the re percent plus one vote nee the majority vote in the J mary. Hodges received 4 and Priddy, 35 percent. Jim Finkelstein drew 16 p the vote, putting him in th and out of the race.

Timely indictments, sp als and eradicating gan

Please see Ru

Hats with flaps latest rage at Games

More than 297,000 have been given out to block the sun

ATLANTA (AP) — There's one thing money won't buy at Centennial Olympic Park — those funny-looking white paper hats with flaps.

"It looks like something from 'Lawrence of Arabia,' or a foreign legion hat," said Joyce Goldberg, a spokeswoman for the state Department of Human Resources, which is giving the hats away.

"People are not concerned about style," she said. "They're wearing them by the droves."

At Centennial Olympic Park, the hats have become somewhat of a fashion statement for everyone from children to senior citizens. Although they're made only of paper, a few visitors have worn them right into the Olympic Rings Fountain.

By Saturday, DHR workers had handed out 297,000 hats to

> "It looks like something from 'Lawrence of Arabia,' or a foreign legion hat."
>
> **Joyce Goldberg**
> **DHR spokeswoman**

out the sun. It's labeled "DHR" on the front and is imprinted with the agency's logo.

"It saved my life," said Ron Cobb, 60, of Douglasville, who picked up a hat at the park. "I was about to drop. I got a drink of water and a hat."

Cobb will give the hat to his grandchildren. "They'll wear anything," he said.

Said Chip Vinson, 33, of Kennesaw, who turned up the bill of his hat: "It's just for fun. I'll wear it till

corridors leading to Olympic venues. Along with the hats, workers have given away 500,000 cups of water and more than 300,000 packs of sunscreen.

"People will say, 'You mean this is free?' " she said.

Some people have brought their dogs by for a drink.

The DHR will refill visitors' water jugs — but there are limits.

Workers discovered that one person who kept coming back to have his cooler refilled was going two blocks down the street and selling the water.

"Now we say we'll refill any reasonable-sized cooler," she said. "And we won't allow people to wash dishes. Some vendors have tried that. Water is a prized commodity in this kind of weather."

The agency used money from its

COVERUP

Morgan Smith raises Angus cattle near the south-central Georgia town of Douglas. He spends most of his work and recreational hours outdoors, he said, and never gave much thought to the discolored patch of skin on one of his shoulders.

Then Roxanne Parrott, a UGA associate professor of speech communication, showed up one night at a local cattlemen's meeting with some graphic photographs — and some serious talk about sun exposure and skin cancer.

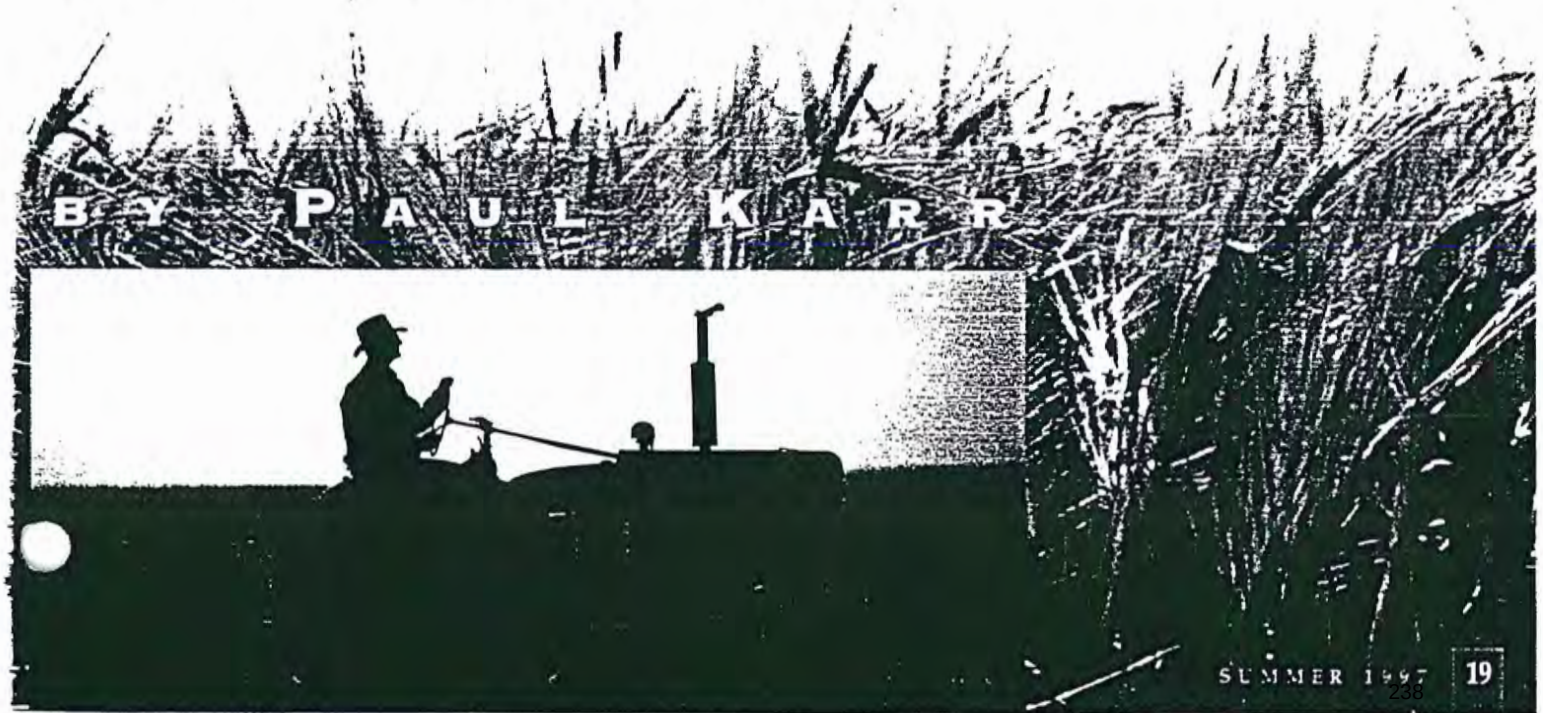
"After that meeting I got concerned," said Smith, 30. "I know a lot of people who've had these cancers, but I didn't know how serious they could be. I went to a doctor and had that patch removed and checked. It sure helped me feel better knowing I didn't have a problem."

Smith was lucky: His patch was benign. But along with his relief came a new resolve. He has since begun wearing long-sleeved shirts, long pants and a special hat that covers his ears and neck while out in the fields. It wouldn't have happened but for a four-year project to protect Georgia's farm families from sunburn and skin cancer.

"She puts [skin cancer education] on the level where the average farmer can understand it," Smith said of Parrott. "I just wish that more people could hear her program. I got a lot out of it and I believe everyone who sees and hears what happens to [skin cancer victims] would."

"Farmers are very independent people," said Parrott, who coordinates the program's outreach initiative. "This is one of those cases where people have to do things every day that may not be ideal for their health. Our job here has been to give them better health information."

BY PAUL KARR



Parrott, a former Arizona resident and skin cancer patient herself, had become accustomed to ranchers and farmers wearing wide-brimmed cowboy hats to keep the sun off their heads in the intense Southwestern sun.

When she arrived in Georgia, however, she was surprised by the lack of protection farmers used. Many Georgians, she noticed, wore little or no protection on their heads, arms and chests while in the fields — especially during the midday hours, when harmful ultraviolet (UV) radiation is most intense. The rate of skin cancer among Georgia farmers, it turned out, was demonstrably higher than normal.

Working with the head of Georgia's cancer control program, Parrott created a study of 450 families in several agricultural south Georgia counties. The work began with a questionnaire whose findings surprised the team.

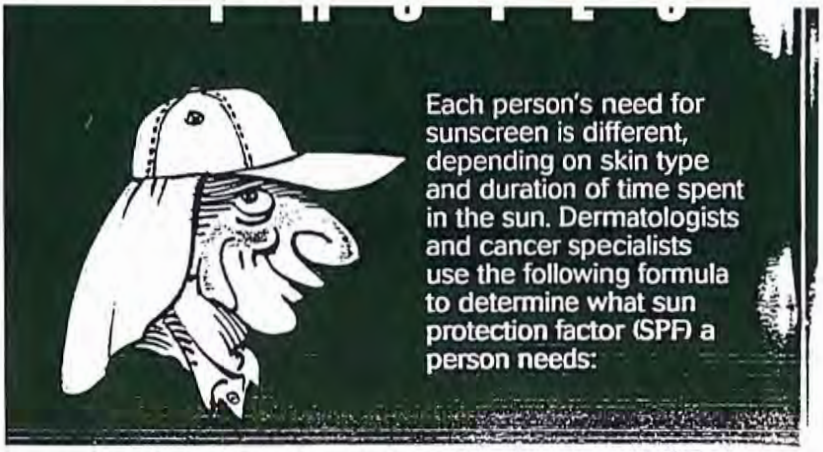
Although a little less than half the farmers in Parrott's survey claimed they wore wide-brimmed hats, sunscreen or long-sleeved shirts, in practice almost none were observed to wear such hats or shirts. One in four did not wear sunglasses; one in seven even wore shorts.

A number of farmers also admitted they used "udder balm" — a product that soothes chapped udders on livestock — for sun protection because the label indicated it protected against sun. (In fact, the balm does not block any UV radiation; it is a moisturizer.)

After sifting through those eye-popping results, Parrott's team came up with an action plan aimed at changing the farmers' skin protection habits. As a population, Georgia farmers are becoming, on average, an older group every year; the members of Parrott's study group averaged 52 years of age. If the researchers were going to change such deeply entrenched habits, they decided they would need to target social situations where farmers would feel most comfortable receiving warnings and advice.

Keeping that in mind, the group's educational work has included some conventional and not-so-conventional efforts.

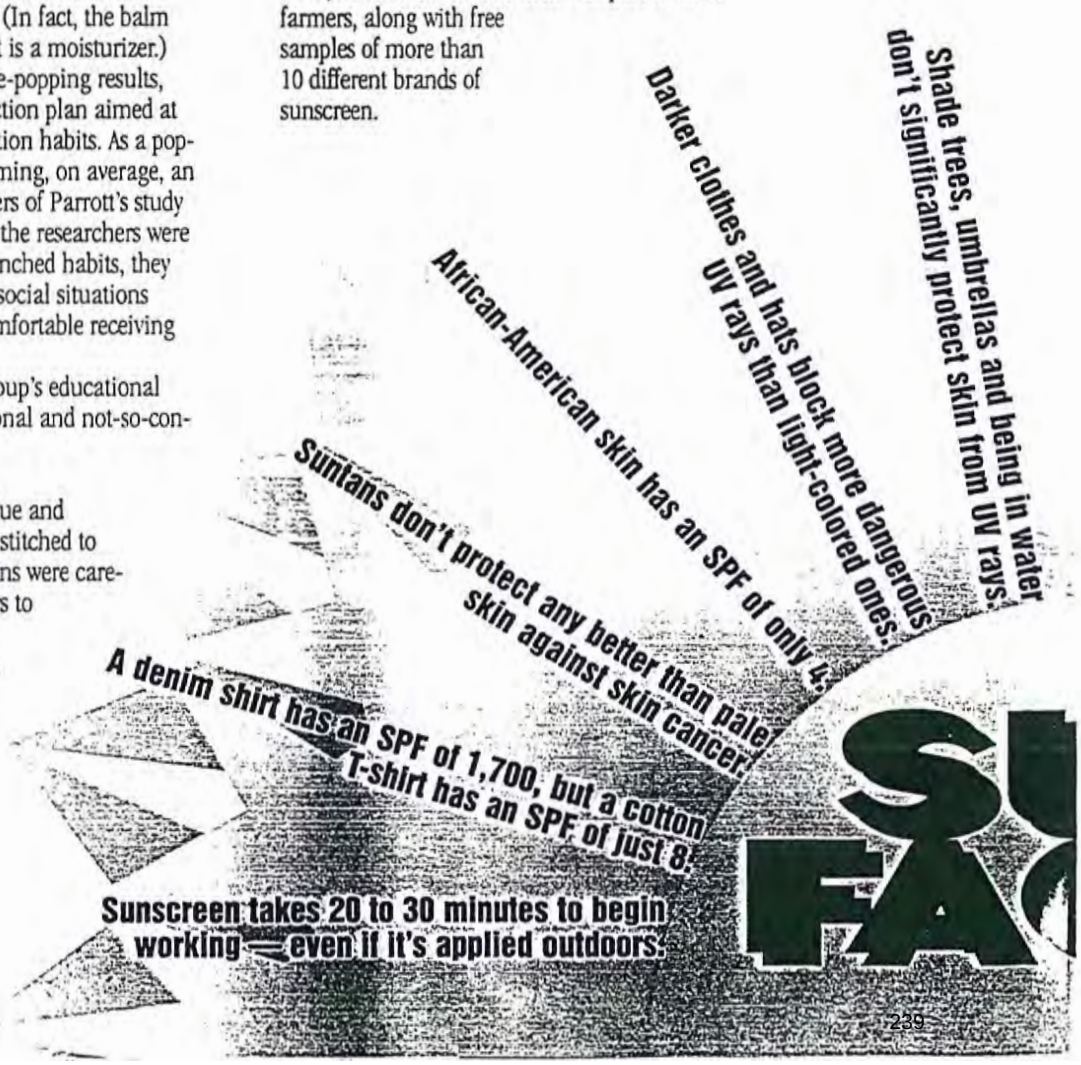
► Parrott obtained special dark blue and red baseball caps with bandannas stitched to their backs — the colors and designs were carefully selected by consulting farmers to appeal to their fellow farmers — which protect ears and necks from sunburn.



"Farmers tend to wear free baseball caps from farm suppliers or feed and seed companies," Parrott said. "So we went after that preference."

The specially designed caps were distributed to feed merchants and county agricultural extension service agents. Farmers who participated in Parrott's survey also each received a coupon good for a hat; later observations demonstrated that, indeed, farmers who received the coupons were more likely to pick up the hats than other farmers.

► The group taught extension agents, agricultural workers and rural health-care providers about the myths and realities of sun protection (see Sun Facts). That information then was passed on to farmers, along with free samples of more than 10 different brands of sunscreen.



. Calculate how many minutes your unprotected skin ormally takes to redden slightly in the midday sun.

. Figure out how many total minutes you will be spend- g in the sun.

Divide the number of minutes you will spend in the sun the number of minutes in which you redden. That's w much SPF you need in your sunscreen.

matter what the SPF, remember to reapply sunscreen ery four hours (or every hour if you get wet).

METER

HIGH

"The biggest barrier has been with the sunscreen," Parrott said, "because when the farmers sweat and work, dirt and pesticides stick to it. And then their skin breaks out." How to address that? "We let sunscreen manufacturers know about this problem, and promoted brands that were more absorbent and less sticky."

► In feed and seed stores, multicolored brochures also were set out to broadcast the same sorts of messages. Migrant workers were even given sun-protection theme coloring books that proved enormously popular among both children and parents.

"This training program has been picked up by 4-H and other farm organizations," Parrott said. At press time, 18 states also had adapted some version of it.

► Sun exposure diaries were distributed to the farmers. The diaries, designed to be as simple and convenient as possible, recorded what farmers wear at certain times of the day.

► Special long-sleeved shirts were given to farmers. Composed of polyester and a little cotton, the shirts are four to six times more effective than cotton T-shirts at blocking UV radiation.

► The group created a sun safety class to serve as part of the Abraham Baldwin College's annual farm safety camp in Tifton, Ga. The summer camp traditionally has focused mostly on tractor rollovers, care working with machinery and the like, but Parrott's program turned out to be astonishingly popular. The offers to sample 12 kinds of free sunscreen and 12 different hats, as well as a show of gruesome photographs of skin cancer victims, all drew big crowds.

Parrott's team now is collecting data to determine whether the education program is making any difference in outdoor behavior. While it's too early to say anything conclusive, field surveys seem to hold encouraging news.

"We feel like we have had good success rates. Farmers seem to be responding to these messages," Parrott said. "I really believe that skin cancer has not had enough effort or research money put into it even though, unlike with many cancers, we know what causes it and how to prevent it."

And with Parrott's educational program now serving as a national model, the message is beginning to get across.

For more information, access http://www.ph.dhr.state.ga.us, or e-mail Roxanne Parrott at rparrott@uga.cc.uga.edu.

Paul Karr is a prize-winning journalist and essayist whose works have appeared in *Sports Illustrated*, the *San Francisco Examiner-Chronicle* and other publications.

hours — and every hour when wet.

Lips are especially vulnerable to sunburn so use special lip sunscreens.

Just one blistering sunburn before the age of 20 doubles the risk of skin cancer for the rest of one's life.

The sun's radiation has strengthened in recent years as the Earth's protective atmospheric ozone layer has thinned.

Sunburn damage is permanent.

DHR

Tommy C. Olmstead, Commissioner

Georgia Department of Human Resources • 2 Peachtree Street, NW • Atlanta, Georgia 30303

October 11, 1996

Memorandum

To: Lead Nurse

From: Dawn Lewis
Project Manager

Re: Skin Cancer Prevention and Detection Course

As per our conversation, I will be teaching a Skin Cancer Prevention and Detection Course in your health department. I will need a TV/VCR unit. Your class will be on _____ _____ from _____ to _____. The class has been approved for 1 hour Continuing Education Credit. I will also be bringing a slide set and a video set for you to keep and use for public presentations. Please call me if you have any questions? I will be out of the office the week of October 14 - 18 but will be checking messages daily. My office number is (912) 389-4009.

Looking forward to working with you!

DHR

Tommy C. Olmstead, Commissioner

Georgia Department of Human Resources • 2 Peachtree Street, NW • Atlanta, Georgia 30303

November 12, 1996

Memorandum

To: Lead Nurse

From: Dawn Lewis

I hope you enjoyed the Skin Cancer Detection and Prevention Course. I have enclosed your certificates for the nurses. For those of you who didn't receive the books when I taught the course, I've enclosed them also. I appreciate you taking time out of your busy schedule to host the seminars. One more favor I'd like to ask. If you enjoyed the seminar and would like to see future seminars brought directy to you, please take the time to write to the following people Carol Steiner, 2 Peachtree St. N.W., 6th floor annex, Atlanta, GA 30303 and Dr. Roxanne Parrott, 127 Terrell Hall, Athens, GA 30602-1725. Also please pass these address along to your staff, if they would like to comment on the program.

Thanks!

Professional's Outline for
Skin Cancer Prevention and Detection

I. Introduction of course and video

II. Video

Normal Moles
- Congenital moles
- Nevi

Melanoma
- Statistics
- Risk Factors
- ABCD's of Melanoma
  - A - Asymmetry
  - B - Border
  - C - Color
  - D - Diameter
- Types of Melanoma
  - Superical Spreading Melanoma
  - Nodular Melanoma
  - Lentigo Magligna Melanoma
  - Acral - lentiginous Melanoma
- Clinical Signs of Melanoma
- Melanoma Treatments

Basal Cell Carcinoma
- Types of Basal Cell
  - Nodular
  - Superficial
  - Morpheaform
  - Pigmented

Squamous Cell Carcinoma
- Clinical Features

Skin Cancer Treatment (Basal & Squamous)

Prevention & Cure
- Sun Avoidance
- Early Detection

III. Questions, Wrap Up & Evaluation

The following questions ask you to describe your ability to reduce your exposure to the sun, and your ability to persuade others to do the same. In the following section, indicate how certain you are about each behavior.

Are you: **Very Uncertain.....(Vu),**
Uncertain.....(U),
Neither certain or uncertain...(N),
Certain.....(C), or
Very certain.....(Vc).

How certain are you that...? ***Please circle your response***

...you could conduct an exam of skin to help detect signs of skin cancer?	**Vu**	**U**	**N**	**C**	**Vc**
...you could show others how to conduct an exam of their own skin to help detect skin cancer?	**Vu**	**U**	**N**	**C**	**Vc**
...you could persuade others to conduct an exam of their own skin to help detect skin cancer?	**Vu**	**U**	**N**	**C**	**Vc**
...you could wear a wide-brimmed hat while working in the sun?	**Vu**	**U**	**N**	**C**	**Vc**
...you could persuade others to wear a wide-brimmed hat while working in the sun?	**Vu**	**U**	**N**	**C**	**Vc**
...you could wear sunscreen while working in the sun?	**Vu**	**U**	**N**	**C**	**Vc**
...you could persuade others to wear sunscreen while working in the sun?	**Vu**	**U**	**N**	**C**	**Vc**
...you could wear a long-sleeved shirt while working in the sun?	**Vu**	**U**	**N**	**C**	**Vc**
...you could persuade others to wear a long-sleeved shirt while	**Vu**	**U**	**N**	**C**	**Vc**

SKIN CANCER PREVENTION AND DETECTION

As part of conducting routine health care check-ups, the American Cancer Society recommends that health care providers examine the skin for signs of skin cancer and talk to clients about ways to prevent skin cancer. Toward that end, please read each of the following questions, and provide your response.

1. How confident are you that skin cancer is a serious health issue? (please circle your answer)

not at all confident 1 2 3 4 5 6 7 very confident

2. How confident are you in your knowledge about the causes of skin cancer? (please circle your answer)

not at all confident 1 2 3 4 5 6 7 very confident

3. How confident are you in your ability to inform others about the causes of skin cancer? (please circle your answer)

not at all confident 1 2 3 4 5 6 7 very confident

4. What are the causes of skin cancer?

5. How confident are you in your ability to identify problem areas on the skin?
(please circle your answer)

not at all confident 1 2 3 4 5 6 7 very confident

General Outline for
Skin Cancer Prevention and Detection

I. **Three types of Skin Cancer**

Basal Cell Carcinoma
5 Warning Signs
1. Open Sore
2. Reddish Patch
3. Smooth Growth
4. Shiny Bump
5. Scar Like Area

Squamous Cell Carcinoma
Warning Signs
Ulceration with raised border, crusty surface, and a pebbly base

Melanoma

II. **ABCD rules of moles and melanoma**
A - Asymmetry
B - Border
C - Color
D - Diameter

III. **Skin Self-exam**
Tools required
Body Map

IV. **Skin Cancer Prevention**
1. Who is at risk?
2. Protection-
   Clothing
   SPF

Outline & Speech for slide show

V. **Sunscreens**
1. Tips

Educator's Outline for
Skin Cancer Prevention & Detection

Slide 1 - *Skin Cancer: Preventable & Curable*

1. Introduce yourself
2. Introduce the program

(Example: Hello, my name is Dawn Lewis, I'm am with the Georgia Harvesting Healthy Habits Campaign, a project designed to promote and educate the detection and prevention of skin cancer)

Slide 2 - This is class is a skin cancer detection and prevention class

I. *Three types of skin cancer*
II. *The ABCD's of moles and melanoma*
III. *Conducting a Skin Self-examination*
IV. *Skin Cancer Prevention*
V. *Sunscreen*

Slide 3 - Skin Cancer is the *most common type of cancer.* In the U.S., approximately *700,000 new cases a year* are reported with an *estimated 9,100 deaths.* There are approximately *300,000 that go undiagnosed. 45 - 50% of all Americans will have Skin Cancer by the time they are 65. 90% of all skin cancers can be attributed to the sun.* As the sun's UVA & UVB rays increase in intensity, so will the number of skin cancer cases. UV rays are the sun's invisible "burning" rays - the ones that cause sunburns, and in some cases, skin cancer.

Basal Cell Carcinoma is the most common type of skin cancer. Overexposure to the sun is the main cause of all basal cell carcinomas. This type of cancer occurs mainly on the exposed parts of the body - face, neck, scalp, shoulders, and back. In rare cases it can occur on other parts of the body. There are 5 warning signs to look for with basal cell carcinoma. Let's look at a few examples;

Slide 4 - An *open sore* that bleeds, oozes, or crusts, and remains open for 3 or more weeks, or a persistent, non healing sore.

Slide 5 - A *reddish patch* or irritated area, usually it occurs on the chest, shoulders, arms, or legs. The patch may be crusty. It can also itch or hurt.

Slide 6 - A *smooth growth* with an elevated, rolled border and an indented center.

Slide 7 - A *shiny bump* or nodule. Usually pearly or translucent. It may be pink, white, red, black, or tan.

Slide 8 - A *scar like* area with irregular borders. This may also be the sign of an aggressive

tumor.

Basal Cell Carcinoma is 99% curable with early detection and treatment. It does not spread and ti usually removed by surgery in a doctor's office with local anesthesia.

The second most common form of skin cancer is squamous cell carcinoma. It is primarily found on the exposed parts of the body usually the face, head, and neck. It grows faster than basal cell and can spread to unexposed parts of the body and vital organs.

Slide 9- Warning signs include a red, scaly patch that becomes thick and rougher as it develops. An ulceration with a raised border, crusted surface, and a pebbly base. Squamous cell carcinoma are usually opaque. It is easy to diagnose and cure if treated early.

Slide 10- The third and most deadly type of cancer is melanoma. It is increasing at an alarming rate. Approximately 32,000 people were diagnosed with melanoma with an estimated 7000 deaths.

Slide 11 - It can occur on any skin surface. In dark skinned people, it tends to develop under the *fingernails*, toenails, or on the palms of hands or soles of feet. In men it is most often found on the trunk area, head, or neck. In women, on the trunk are or lower legs.

The first sign of melanoma is a change in the color, size, or shape of an existing mole. If it appears as a new mole, it usually is abnormal looking. The ABCD rule can help you detect melanoma. Let's look at a few examples:

Slide 12 - A - *Asymmetry* - the shape of one half does not match the other.

Slide 13 - B - *Border* - the border is irregular, its hard to tell where it stops and starts.

Slide 14 - C - *Color* - there are different colors in the mole - black, brown tan, grey, red, white, or blue may be seen.

Slide 15 - D - *Diameter* - if there is a change in size or if it is bigger than a pencil eraser.

Other rules to follow for detecting melanoma or any of the other skin cancers are routine skin exams by a doctor/dermatologist and monthly skin self-exams.

Slide 16 - Conducting a skin self- exam requires a pen/pencil, full length mirror, hand held mirror, and a *body map*. When examining yourself, make notes and chart any

moles.

blemishes, or birth marks. If you note any changes from month to month contact your dermatologist immediately. Begin by examining your body front and back in a full length mirror, then examine your sides with your arms raised. Carefully check your arms and palms. Don't forget your fingernails and in between your fingers. Look at your legs and feet, examining the bottom of the feet, nails, and in between your toes. Next examine the neck, scalp, and ears. Finally check your genital area.

Slide 17 - *Who is at a higher risk for skin cancer?*
- People who have had one or more blistering sunburns as a child.
(It has been estimated that the incidence of skin cancer could be reduced by 78%, if exposed skin is protected during the first 18 years of life.)
-People who live in areas that get high levels of *UV radiation.*
-People who have *family members that have a history of skin cancer.*
-People who *work outside for long periods of time.*

Slide 18 - *What can I do to protect myself from skin cancer?*
- If possible avoid the sun from 10 to 3.
-Wear a tightly woven hat with a big brim.
-Wear a tightly woven long sleeved shirt.
-Wear UV blocking sunglasses.
It is actually worse to wear sunglasses without a UV rating than no sunglasses at all.
-Wear sunscreen with a SPF 15 or greater.

Slide 19 - Sun Protection Factor means that if you can stay in the sun bare-skinned for 10 minutes before you start to burn, the use of and SF. 15 would allow you to stay in the sun for 150 minutes before you start to burn.
The formula used is

 # minutes in the sun bare-skinned before you start to burn
X
SF. of your sunscreen
=The time allowed in the sun

10 x 15 = 150 minutes

Slide 20 - This is one type of hat that can be worn for sun protection

Slide 21 - *Sunscreen Tips:*
-Apply 20 minutes before going into the sun.
-Cloudy or hazy days still require sun protection.
-Reapply sunscreen after swimming or sport activities.

-Try several different types of sunscreen until you find the one you like.
There are gels, cremes, and oils available.

Slide 22 - *Safe Tanning? Your skin can be damaged by "real" or "artificial" UV rays.*
Tanning beds can cause the same reactions the sun causes and in some cases more damage.

Slide 23 - *Skin Cancer is completely avoidable, and with prompt diagnosis, almost always treatable.*

PROJECT

FACT SHEET

AND

OVERVIEW

II.

GEORGIA'S HARVESTING HEALTHY HABITS CAMPAIGN

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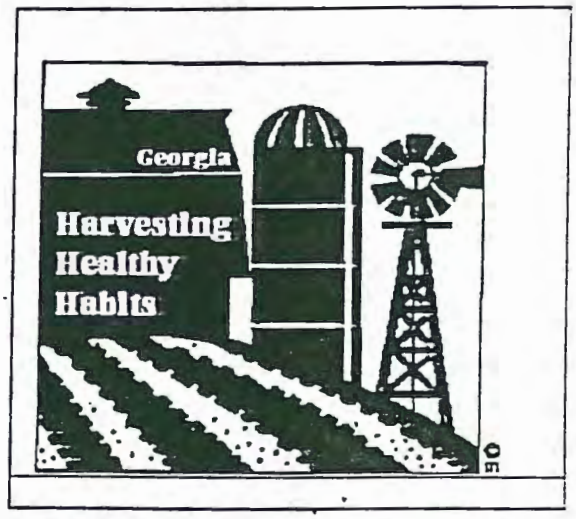


What is It?

The Georgia Harvesting Healthy Habits Campaign is a three year effort (October 1, 1993 to October 1, 1996) designed to improve access to cancer prevention and detection information, education, and screening for agricultural workers and their families.

What are the Goals of the Campaign?

* To demonstrate through systematic process and summative evaluation that **innovative cancer prevention and detection programs** and **communication about existing cancer prevention and detection programs** can be implemented.

Who is Sponsoring the Campaign?

The campaign is a collaborative effort sponsored by Georgia's Department of Human Resources Cancer Control Program and the University of Georgia's Health Communication Center with funding from the National Institute of Occupational Safety and Health.

Why is the Campaign Needed?

*Essentially every study of nonmelanoma skin cancer (NMSC) death in farmers has found farmers to have an elevated relative risk [for every 100 persons who die from skin cancer in the general population, 130 to 180 agricultural workers die from skin cancer].

* Although this increased evidence of death among agricultural workers has been demonstrated, and the increased risk for exposure to known causes of skin cancer is obvious, far less is understood or known about farmers' specific prevention and detection behaviors, or precursors to action such as their confidence about performing recommended practices.

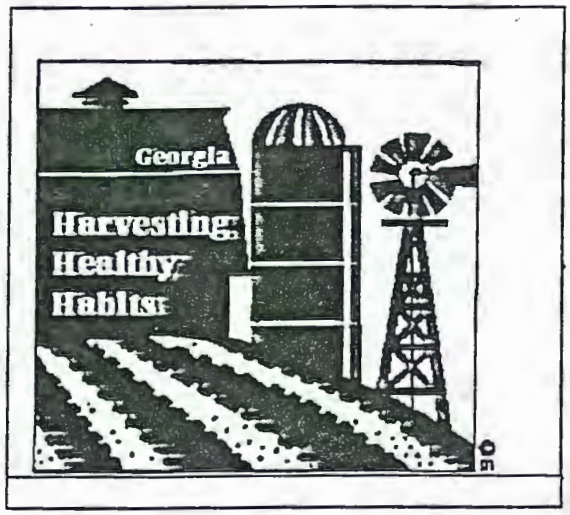
* Farming families have also been found to have less health insurance, less coverage for preventive care, and so less often seek such preventive services as mammograms and pap tests.

***For more information, call or write to the above.**

GEORGIA'S

HARVESTING HEALTHY HABITS

CAMPAIGN



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Georgia's Harvesting Healthy Habits Campaign

What is It?

The Georgia Harvesting Healthy Habits Campaign is a three year effort (October 1, 1993 to October 1, 1996) designed to improve access to cancer prevention and detection information, education, and screening for agricultural workers and their families.

Why is the Campaign Needed?

* Research has previously established the higher incidence of some types of cancer among agricultural populations as compared to other occupational groups.

* Essentially every study of nonmelanoma skin cancer (NMSC) death in farmers has found farmers to have an elevated relative risk [for every 100 persons who die from skin cancer in the general population, 130 to 180 agricultural workers die from skin cancer].

* Scientific evidence has also shown that beyond the exposure of agricultural workers to sun, a number of chemicals, some of which comprise pesticides, increase the risk for skin cancer in agricultural workers. The primary route of worker exposure to the majority of pesticides is the skin, and not, as commonly believed, the respiratory system.

* Although this increased evidence of death among agricultural workers has been demonstrated, and the increased risk for exposure to known causes of skin cancer is obvious, far less is understood or known about farmers' specific prevention and detection behaviors, or precursors to action such as their confidence about performing recommended practices.

* Farming families have also been found to have less health insurance, less coverage for preventive care, and so less often seek such preventive services as mammograms and pap tests.

What are the Goals of the Campaign?

* To demonstrate through systematic process and summative evaluation that **innovative cancer prevention and detection programs** and **communication** about **existing cancer prevention and detection programs** can be implemented.

* To demonstrate that such implementation will increase:

  [1] knowledge about cancer prevention and detection;

  [2] positive outcome expectancies associated with the efficacy of recommended responses/practices associated with cancer prevention and detection;

  [3] perceptions of self-efficacy about their ability to perform recommended practices associated with cancer prevention and detection; and

  [4] actual performance of recommended practices among agricultural groups in Georgia.

* To evaluate the following programs on the above outcomes:

  [1] Migrant Farmworker Outreach Workers' Cancer Prevention and Detection for Agricultural Workers' Program;

  [2] *Extension Agents' Cancer Prevention and Detection Program;*

  [3] 4-H Directors'/Farm Kids' Camp/FAA Skin Cancer Prevention and Detection Program;

  [4] Public Health Nurses' and Rural Health Care Providers' Cancer Prevention and Detection for Agricultural Workers' Program;

  [5] Feed and Seed Supply Store Owners' Skin Cancer Prevention and Detection for Agricultural Workers' Program;

  [6] Farm Bureau's Cancer Prevention and Detection for Agricultural Workers' Program;

  [7] Agri-Business Cancer Prevention and Detection for Agricultural Workers' Program;

[8] Sunscreen Manufacturers' Skin Cancer Prevention and Detection for Agricultural Workers' Program.

Who is Sponsoring the Campaign?

The campaign is a collaborative effort sponsored by Georgia's Department of Human Resources Cancer Control Program and the University of Georgia's Health Communication Center with funding from the National Institute of Occupational Safety and Health.

Who Will Participate in the Campaign?

The Demonstration Sites are:

* Atkinson
* Ben Hill
* Candler [control site]
* Coffee
* Colquitt
* Tattnall [control site]
* Tift
* Toombs [control site].

These counties will be used in all phases of Years 2 & 3 of the GHHH intervention. Survey data will be collected from these counties to serve as baseline data for the intervention phases of the GHHH campaign.

What was the Selection Criteria?

The counties selected met the following criteria:

* Rural with a primary agricultural base and similar crops;

* Have agricultural extension agents willing to cooperate;

* Have feed and seed store owners willing to cooperate;

* Have Public Health District Directors and staff willing to cooperate and assist with project;

* Have active 4-H organization;

* Have school systems, county health departments, physicians, and hospitals who agree to participate in and support the project;

* Have ongoing Georgia Healthy Farmers program, have had such a program, or are adjacent to a county with such a program;

* Have migrant health program in place or adjacent to county with well-established program;

* The total number of farm operators in each cluster of counties is similar.

Summary of Formative Research Approach

During the first year of the GHHH project, formative research was undertaken, primarily in Lowndes, Echols, and Brooks counties.

* Closed and open-ended questions were posed to Georgia farmers during the months of January and February of 1994. A total of 155 farmers participated in answering these questions and talking with the researchers. One version of the questions asked farmers about their reasons for either performing or failing to perform skin protective behaviors, and a second version asked them about their opinions and observations of others in relation to skin protective behaviors. Both versions contained the same questions for the final two pages of the interview. Those questions dealt with general farming experience issues and general health behaviors, in addition to asking about past experience with skin cancer. The results of formative research conducted during the first year of this project demonstrated that:

    (1) less than five percent of the 155 Georgia farmers interviewed had every had a clinical exam of their skin;

    (2) only six percent had ever had a physician recommend such an exam;

    (3) approximately 25 percent indicated they knew how to conduct a self exam of their own skin;

    (4) nearly three-fourths selected the wide-brimmed straw hat over a wide-brimmed tightly woven cloth hat as the best protection from the sun;

(5) approximately 40 percent had reservations about their ability to wear sunscreen while working in the sun with pesticides [a question borne of an early interview in which one farmer directly stated that he did not wear sunscreen because "pesticides stick to it"]; and

(6) other frequently stated reasons for not wearing sunscreen, long sleeved shirts, or wide-brimmed hats included: it takes too long, they put it off, and they forget.

* At the beginning and end of the summer 1994 (early June and late August), trained teams of field researchers visited work sites in our formative research area and observed 144 outdoor workers. Observations of the workers' clothing, including headgear, face wear, upper body clothing, lower body clothing, and foot wear were made, demonstrating that:

(1) 45% were wearing baseball caps;

(2) 25% were wearing nothing on their heads;

(3) 75% wore short-sleeved shirts;

(4) 80% wore no kind of eye protection (e.g., sunglasses); and

(5) 88% wore long pants.

* At the beginning and end of the summer 1994 (early June and late August), trained field researchers observed 10 farms where migrant workers [numbers in each field ranging from about 12 to approximately 50] were picking crops in the fields. Observations of the workers' clothing, including headgear, face wear, upper body clothing, lower body clothing, and foot wear were made, revealing that:

(1) most wear short-sleeved shirts;

(2) most wear nothing on their heads, a bandana, or a baseball cap;

(3) very few wear eye protection;

(4) very few wear hand protection; and

(5) most wear long pants, but some wear shorts.

* During the Spring of 1994, project personnel attended the Georgia Healthy Farmers' Farm Tour and visited a farm where migrant workers were harvesting zucchini.. One occupational health resident on the tour, himself Hispanic and fluent in Spanish, spoke with workers who told him that they did not eat the zucchini from the fields unless it had been washed because of the chemicals on the vegetables. However, when the crew leader announced a break, the workers removed their gloves, ran to the fence at the side of the field just mere yards from the picking, and ate ripe wild plums growing there, seemingly unaware that the same chemicals sprayed on the zucchini fields would have also been sprayed on these wild fruits. Observations of other fields in which migrant farm laborers were at work produced similar findings, with workers in vineyards, peach orchards, and peanut fields all relaying similar beliefs about pesticide exposure to Spanish-speaking field researchers, while revealing inconsistencies between beliefs and behavior. In one instance, a cropduster was spraying a peanut field less than 50 yards from workers who stood watching and waiting to return to work.

* At the beginning of the summer 1994 (June), to assess the availability of pesticides, pesticide protection equipment and devices, and messages relating to both, a field observation checklist was developed for use in feed and farm supply stores, a location that farmers frequent and, therefore, an important point of safety and product information dissemination. The field observation form assessed the availability of information about pesticides, including store newsletters, warning labels on products, store posters, flyers, brochures, and/or videos; and products to promote safe pesticide use, including safety soap and protective clothing [gloves, goggles, masks, boots, aprons], and it was found that:

  (1) from the five feed and farm supply sites, 27 different pieces of literature about pesticides were collected. These varied from one-sided bulletins to one, 50-page booklet. Eight of the 27 pieces included some reference to use and pesticide exposure and risk for humans. These references varied from general statements, including "with any crop protection chemical, always read and follow label instructions," to more specific instructions, such as "wear long-sleeved clothing and protective gloves when handling," "wash hands and face before eating or smoking and after applying," and "harmful if swallowed or absorbed through skin." Only <u>one</u> of these collected pieces of written information contained any content in Spanish--the primary language for most migrant farm workers in Georgia. Specifically, DowElano provided a booklet [6.5 pages, 8 1/2 by 11 inches in size, with 10-12 pitch type] about the herbicide "Broadstrike+Treflan with the following words in Spanish: PELIGRO: Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. The English translation of this message is DANGER: If you do not understand the label, find someone to explain it to you in detail;

(2) all feed stores had a community bulletin board that provided a central location for posting notices of meetings or alert notices. Owners/workers reported that these boards are updated monthly; later visits found this to be true;

(3) with respect to personal protective devices and clothing, the field researchers found that three stores carried some variety of gloves labeled chemically resistant. Two stores had safety goggles, with one type being clearly marked for use with chemicals; the worker in the other store indicated in response to a question about what the goggles in stock were designed to be used for that he "had no idea what they were for." Two stores had some type of protective device relating to face shields displayed for sale. One of the feed and farm supply stores was a representative of a major regional chain. The employees indicated that they had personal protective equipment if someone asked for it, but they did not have it out on the store floor because use was not yet required by law, and the suits were too hot to be safe or comfortable for agricultural workers to use when working in the fields during hot and humid Georgia summers. One store's was the kind designed for use when working around sawdust. The other store had replacement cartridges for masks to be worn when using chemicals, although there were no actual masks displayed; a mask cartridge label noted that it had been approved by NIOSH. One store had a product clearly promoted as being safety soap for use after mixing or applying chemicals. Three stores had boots labeled chemically resistant.

* At the beginning of the summer 1994 (June), trained teams of field researchers visited 14 clinics in our formative research area and observed the availability of skin protective and other health messages, finding that:

(1) only four of the clinics had cancer prevention and detection education materials available for patients;

(2) of the four, three were directly accessible to the patient, while one was available only through the decision of the health care providers;

(3) one clinic had Spanish brochures on cholesterol and heart disease; and

(4) all were interested and willing to provide materials, recommending that they be easy to understand.

* At the beginning of the summer 1994 (June), trained teams of field researchers visited 4 libraries in our formative research area and observed availability of skin protective and other health messages and found that:

(1) these are central locations for posting information about support group meetings and other health-related organization meetings;

(2) a number of outreach programs, particularly to older adults and children, are offered;

(3) one library had 4 books about skin, with the most recent copyright being 1992 and the earliest being 1955; of 6 books about pesticides, most recent was published in 1978 and oldest in 1952; and

(4) one library had current information available through use of accessing CD ROM.

* At the beginning of the summer 1994 (June), trained teams of field researchers visited 5 book stores and 8 video stores in our formative research area and observed the availability of skin protective books and videos--including make-up references, and so on; additionally, the availability of general health books and videos were noted. Summaries of these observations reveal:

(1) most video stores have fitness and weight loss related videos, while only one had a video relating to skin--it was for skin care; and

(2) only one book store had any books relating to cancer--and it was a title about cancer generally, but all stores could special order such books.

* 10 in-depth interviews were conducted with public health nurses in the formative research area, and among the findings:

(1) migrant farmworkers generally speak Spanish but frequently are not literate in Spanish and so require educational materials that primarily rely on pictures;

(2) a skin cancer check list for use when conducting a skin exam of patients would be useful; and

(3) a skin cancer education and detection seminar would be valuable, and should be offered more than once to accommodate various schedules; and

* 10 in-depth interviews were conducted with farmers in the formative research area, with the following findings included:

(1) farmers do not wear sunscreen because it is not convenient;

(2) they do not wear long-sleeved shirts because they are too hot; and

(3) they do not wear wide-brimmed hats because they are too hot, blow off their head, and get in the way of doing work;

* 10 in-depth interviews were conducted with migrant workers in the formative research area, revealing that:

(1) only one reported taking any precautions to protect himself from pesticide exposure, saying he wears a long-sleeved shirt when a field "has just been sprayed";

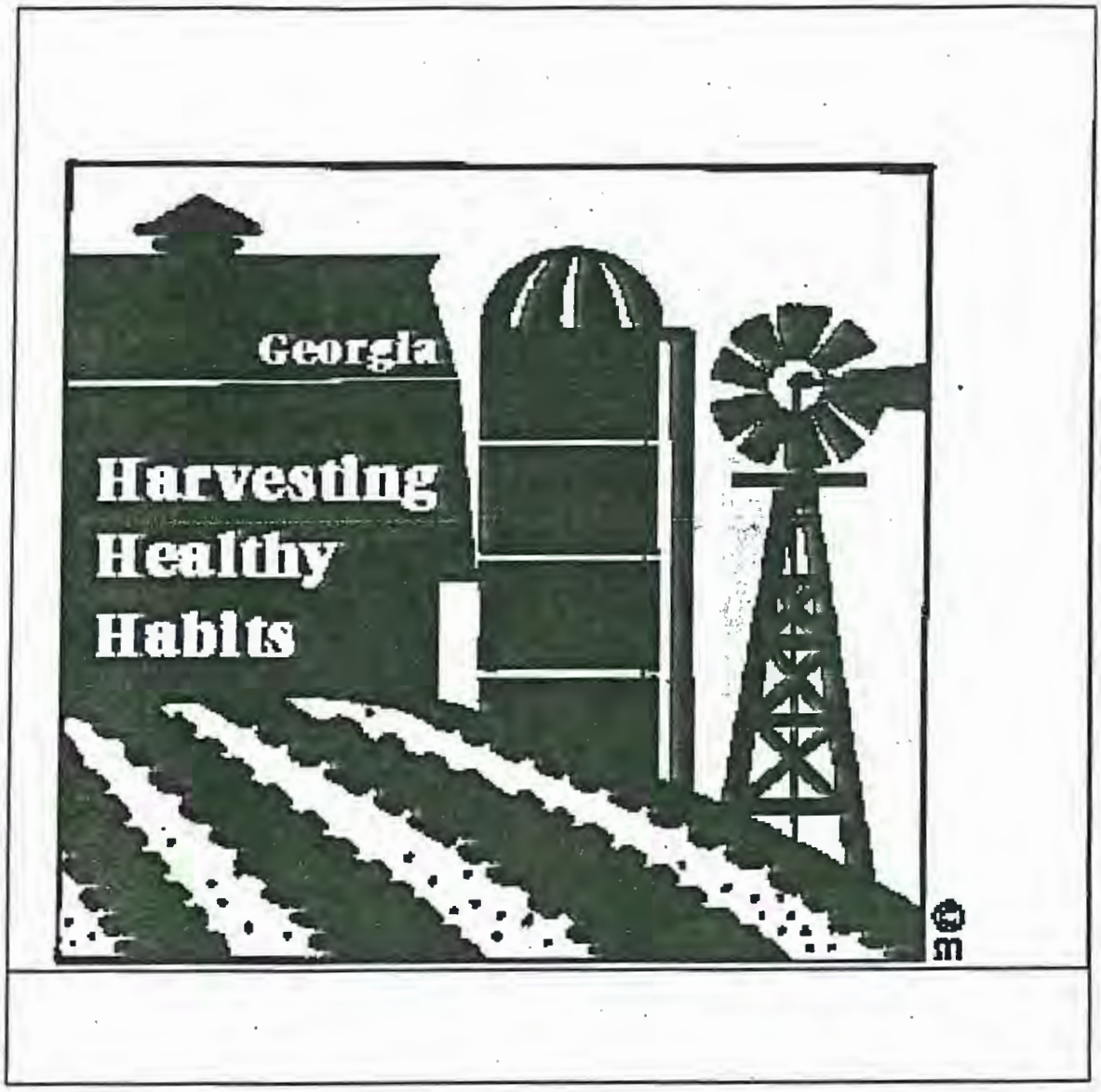
(2) the only female migrant worker interviewed noted that she did not have to worry about pesticide exposure when working in the fields she currently worked in, because pesticides were weaker than the ones where she had worked before;

(3) none of the workers expressed understanding or concern about skin cancer.

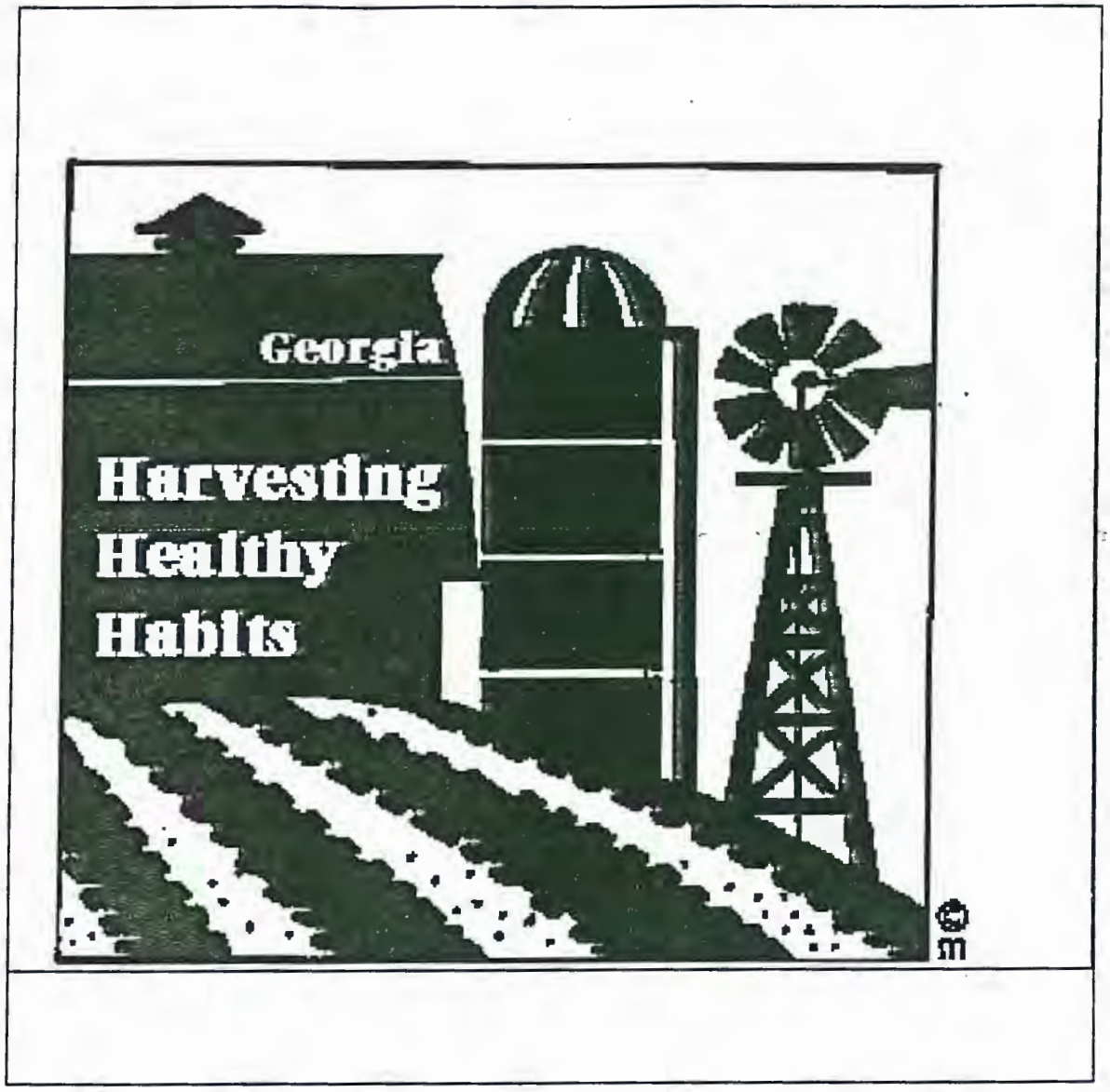
* 10 in-depth interviews were conducted with legislators from the formative research area and other legislators who work with/for farmers and/or migrant farmworkers, revealing that legislators feel that need/desire to educate fellow legislators about the significant contribution that farming makes to the State and the special needs of farmers in relation to health care, including safety, injury, and cancer risk.

* pilot testing of messages demonstrated a significant preference for brochures with pictures of various types of skin cancers and an aversion to the brochure, "Fry Now. Pay later."

* in cooperation with the Georgia Healthy Farmers' Project, a skin protection class was offered to farm kids attending a Farm Safety Camp held at Abraham Baldwin Agricultural College. The class based its principles on theory and research that demonstrates the superiority of learning for those efforts which provide kids with opportunities to observe others performing appropriate behaviors, model and practice appropriate behaviors themselves, and to evoke social cognitive activities--thoughts and conversations--about the desired behaviors. In particular, attendees were given an opportunity to learn to conduct a skin self exam and then to conduct such an exam, to try five different types of sunscreen and then to evaluate those sunscreens, and any of a dozen hats and then to evaluate those as well. Many of the participants reported that this class was their favorite camp activity.



PROFESSIONAL EDUCATION PROGRAM



PROFESSIONAL EDUCATION PROGRAM

Professional's Outline for
Skin Cancer Prevention and Detection

I. Introduction of course and video

II. Video

Normal Moles
- Congenital moles
- Nevi

Melanoma
- Statistics
- Risk Factors
- ABCD's of Melanoma
  - A - Asymmetry
  - B - Border
  - C - Color
  - D - Diameter
- Types of Melanoma
  - Superical Spreading Melanoma
  - Nodular Melanoma
  - Lentigo Magligna Melanoma
  - Acral - lentiginous Melanoma
- Clinical Signs of Melanoma
- Melanoma Treatments

Basal Cell Carcinoma
- Types of Basal Cell
  - Nodular
  - Superficial
  - Morpheaform
  - Pigmented

Squamous Cell Carcinoma
- Clinical Features

Skin Cancer Treatment (Basal & Squamous)

Prevention & Cure
- Sun Avoidance
- Early Detection

III. Wrap Up & Evaluation

GENERAL OUTLINE

General Outline for
Skin Cancer Prevention and Detection Slide Presentation

I. **Three types of Skin Cancer**

Basal Cell Carcinoma
5 Warning Signs
1. Open Sore
2. Reddish Patch
3. Smooth Growth
4. Shiny Bump
5. Scar Like Area

Squamous Cell Carcinoma
Warning Signs
Ulceration with raised border, crusty surface, and a pebbly base

Melanoma

II. **ABCD rules of moles and melanoma**
A - Asymmetry
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C - Color
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III. **Skin Self-exam**
Tools required
Body Map

IV. **Skin Cancer Prevention**
1. Who is at risk?
2. Protection-
   Clothing
   SPF

V. **Sunscreens**
1. Tips

EDUCATOR'S OUTLINE

Educator's Outline for
Skin Cancer Prevention & Detection Slide Presentation

Slide 1 - *Skin Cancer: Preventable & Curable*

1. Introduce yourself
2. Introduce the program

(Example: Hello, my name is Dawn Lewis, I'm am with the Georgia Harvesting Healthy Habits Campaign, a project designed to promote and educate the detection and prevention of skin cancer)

Slide 2 - This is class is a skin cancer detection and prevention class

I. *Three types of skin cancer*
II. *The ABCD's of moles and melanoma*
III. *Conducting a Skin Self-examination*
IV. *Skin Cancer Prevention*
V. *Sunscreen*

Slide 3 - Skin Cancer is the *most common type of cancer*. In the U.S., approximately *700,000 new cases a year* are reported with an *estimated 9,100 deaths*. There are approximately *300,000 that go undiagnosed. 45 - 50% of all Americans will have Skin Cancer by the time they are 65. 90% of all skin cancers can be attributed to the sun.* As the sun's UVA & UVB rays increase in intensity, so will the number of skin cancer cases. UV rays are the sun's invisible "burning" rays - the ones that cause sunburns, and in some cases, skin cancer.

Basal Cell Carcinoma is the most common type of skin cancer. Overexposure to the sun is the main cause of all basal cell carcinomas. This type of cancer occurs mainly on the exposed parts of the body - face, neck, scalp, shoulders, and back. In rare cases it can occur on other parts of the body. There are 5 warning signs to look for with basal cell carcinoma. Let's look at a few examples;

Slide 4 - An *open sore* that bleeds, oozes, or crusts, and remains open for 3 or more weeks, or a persistent, non healing sore.

Slide 5 - A *reddish patch* or irritated area, usually it occurs on the chest, shoulders, arms, or legs. The patch may be crusty. It can also itch or hurt.

Slide 6 - A *smooth growth* with an elevated, rolled border and an indented center.

Slide 7 - A *shiny bump* or nodule. Usually pearly or translucent. It may be pink, white, red, black, or tan.

Slide 8 - A *scar like* area with irregular borders. This may also be the sign of an aggressive

tumor.

Basal Cell Carcinoma is 99% curable with early detection and treatment. It does not spread and ti usually removed by surgery in a doctor's office with local anesthesia.

The second most common form of skin cancer is squamous cell carcinoma. It is primarily found on the exposed parts of the body usually the face, head, and neck. It grows faster than basal cell and can spread to unexposed parts of the body and vital organs.

Slide 9- Warning signs include a red, scaly patch that becomes thick and rougher as it develops. An ulceration with a raised border, crusted surface, and a pebbly base. Squamous cell carcinoma are usually opaque. It is easy to diagnose and cure if treated early.

Slide 10- The third and most deadly type of cancer is melanoma. It is increasing at an alarming rate. Approximately 32,000 people were diagnosed with melanoma with an estimated 7000 deaths.

Slide 11 - It can occur on any skin surface. In dark skinned people, it tends to develop under the *fingernails*, toenails, or on the palms of hands or soles of feet. In men it is most often found on the trunk area, head, or neck. In women, on the trunk are or lower legs.

The first sign of melanoma is a change in the color, size, or shape of an existing mole. If it appears as a new mole, it usually is abnormal looking. The ABCD rule can help you detect melanoma. Let's look at a few examples:

Slide 12 - A - *Asymmetry* - the shape of one half does not match the other.

Slide 13 - B - *Border* - the border is irregular, its hard to tell where it stops and starts.

Slide 14 - C - *Color* - there are different colors in the mole - black, brown tan, grey, red, white, or blue may be seen.

Slide 15 - D - *Diameter* - if there is a change in size or if it is bigger than a pencil eraser.

Other rules to follow for detecting melanoma or any of the other skin cancers are routine skin exams by a doctor/dermatologist and monthly skin self-exams.

Slide 16 - Conducting a skin self- exam requires a pen/pencil, full length mirror, hand held mirror, and a *body map*. When examining yourself, make notes and chart any

moles.

blemishes, or birth marks. If you note any changes from month to month contact your dermatologist immediately. Begin by examining your body front and back in a full length mirror, then examine your sides with your arms raised. Carefully check your arms and palms. Don't forget your fingernails and in between your fingers. Look at your legs and feet, examining the bottom of the feet, nails, and in between your toes. Next examine the neck, scalp, and ears. Finally check your genital area.

Slide 17 - *Who is at a higher risk for skin cancer?*
- People who have had one or more blistering sunburns as a child.
(It has been estimated that the incidence of skin cancer could be reduced by 78%, if exposed skin is protected during the first 18 years of life.)
-People who live in areas that get high levels of *UV radiation.*
-People who have *family members that have a history of skin cancer.*
-People who *work outside for long periods of time.*

Slide 18 - *What can I do to protect myself from skin cancer?*
- If possible avoid the sun from 10 to 3.
-Wear a tightly woven hat with a big brim.
-Wear a tightly woven long sleeved shirt.
-Wear UV blocking sunglasses.
It is actually worse to wear sunglasses without a UV rating than no sunglasses at all.
-Wear sunscreen with a SPF 15 or greater.

Slide 19 - Sun Protection Factor means that if you can stay in the sun bare-skinned for 10 minutes before you start to burn, the use of and SF. 15 would allow you to stay in the sun for 150 minutes before you start to burn.
The formula used is

 # minutes in the sun bare-skinned before you start to burn
X
SF. of your sunscreen
=The time allowed in the sun

10 x 15 = 150 minutes

Slide 20 - This is one type of hat that can be worn for sun protection

Slide 21 - *Sunscreen Tips:*
-Apply 20 minutes before going into the sun.
-Cloudy or hazy days still require sun protection.
-Reapply sunscreen after swimming or sport activities.

-Try several different types of sunscreen until you find the one you like.
There are gels, cremes, and oils available.

Slide 22 - *Safe Tanning? Your skin can be damaged by "real" or "artificial" UV rays.*
Tanning beds can cause the same reactions the sun causes and in some cases more damage.

Slide 23 - *Skin Cancer is completely avoidable, and with prompt diagnosis, almost always treatable.*

#	Title	Transition	Advance	Other Options
1	Skin Cancer:	Normal	Manual	
2	Skin Cancer	Normal	Manual	
3	SKIN CANCER	Normal	Manual	
4	Basal Cell Carcinoma	Normal	Manual	
5	Basal Cell Carcinoma	Normal	Manual	
6	Basal Cell Carcinoma	Normal	Manual	
7	Basal Cell Carcinoma	Normal	Manual	
8	Basal Cell Carcinoma	Normal	Manual	
9	Squamous Cell Carcin	Normal	Manual	
10	Melanoma:	Normal	Manual	
11	Melanoma:	Normal	Manual	
12	ABCD's of Melanoma	Normal	Manual	
13	ABCD's of Melanoma	Normal	Manual	
14	ABCD's of Melanoma	Normal	Manual	
15	ABCD's of Melanoma	Normal	Manual	
16	Skin Self-exam	Normal	Manual	
17	Who is at a higher r	Normal	Manual	
18	What can I do to pro	Normal	Manual	
19	Sunscreens	Normal	Manual	
20	Sun Protection Hat	Normal	Manual	
21	Sunscreen Tips	Normal	Manual	
22	Safe Tanning?	Normal	Manual	
23	Skin Cancer is compl	Normal	Manual	

EVALUATION

The following questions ask you to describe your ability to reduce your exposure to the sun, and your ability to persuade others to do the same. In the following section, indicate how certain you are about each behavior.

Are you: **Very Uncertain.....(Vu),**
Uncertain.....(U),
Neither certain or uncertain...(N),
Certain.....(C), or
Very certain.....(Vc).

How certain are you that...? ***Please circle your response***

...you could conduct an exam of skin to help detect signs of skin cancer?	**Vu**	**U**	**N**	**C**	**Vc**
...you could show others how to conduct an exam of their own skin to help detect skin cancer?	**Vu**	**U**	**N**	**C**	**Vc**
...you could persuade others to conduct an exam of their own skin to help detect skin cancer?	**Vu**	**U**	**N**	**C**	**Vc**
...you could wear a wide-brimmed hat while working in the sun?	**Vu**	**U**	**N**	**C**	**Vc**
...you could persuade others to wear a wide-brimmed hat while working in the sun?	**Vu**	**U**	**N**	**C**	**Vc**
...you could wear sunscreen while working in the sun?	**Vu**	**U**	**N**	**C**	**Vc**
...you could persuade others to wear sunscreen while working in the sun?	**Vu**	**U**	**N**	**C**	**Vc**
...you could wear a long-sleeved shirt while working in the sun?	**Vu**	**U**	**N**	**C**	**Vc**
...you could persuade others to wear a long-sleeved shirt while	**Vu**	**U**	**N**	**C**	**Vc**

SKIN CANCER PREVENTION AND DETECTION

As part of conducting routine health care check-ups, the American Cancer Society recommends that health care providers examine the skin for signs of skin cancer and talk to clients about ways to prevent skin cancer. Toward that end, please read each of the following questions, and provide your response.

1. How confident are you that skin cancer is a serious health issue? (please circle your answer)

not at all confident 1 2 3 4 5 6 7 very confident

2. How confident are you in your knowledge about the causes of skin cancer? (please circle your answer)

not at all confident 1 2 3 4 5 6 7 very confident

3. How confident are you in your ability to inform others about the causes of skin cancer? (please circle your answer)

not at all confident 1 2 3 4 5 6 7 very confident

4. What are the causes of skin cancer?

5. How confident are you in your ability to identify problem areas on the skin?
(please circle your answer)

not at all confident 1 2 3 4 5 6 7 very confident

6. How confident are you in your ability to inform others about how to recognize problem areas on the skin?(please circle your answer)

not at all confident 1 2 3 4 5 6 7 very confident

7. How confident are you in your ability to identify and diagnose skin cancer?(please circle your answer)

not at all confident 1 2 3 4 5 6 7 very confident

8. How confident are you in you ability to inform others about how to identify skin cancer? (please circle your answer)

not at all confident 1 2 3 4 5 6 7 very confident

9. What are the three different types of skin cancer?
a.

b.

c.

10. What are the ABCDs of moles and melanomas?

11. How confident are you in your ability to remember measures that can be taken to prevent skin cancer?(please circle your answer)

not at all confident 1 2 3 4 5 6 7 very confident

12. How confident are you in your ability to persuade others to follow prescribed preventative measures? (please circle your answer)

not at all confident 1 2 3 4 5 6 7 very confident

13. What are some ways to prevent skin cancer?

1.

2.

3.

4.

5.

6.

7.

8.

14. How confident are you in your ability to promote skin cancer prevention and detection? (please circle your answer)

not at all confident 1 2 3 4 5 6 7 very confident

Thank you for taking the time to answer these important questions.

CONDUCTING A SKIN EXAM

As part of conducting routine health care check-ups, the American Cancer Society recommends that health care providers examine the skin for signs of skin cancer. Toward that end, please read each of the following questions, and provide your response.

1. How confident are you in your ability to assess a client's risk factors for skin cancer? (please circle your response)

not at all confident 1 2 3 4 5 6 7 very confident

2. List factors that should be assessed.

1. 5.

2. 6.

3. 7.

4. 8.

3. How confident are you in your ability to perform a clinical skin examination? (please circle your response)

not at all confident 1 2 3 4 5 6 7 very confident

5. How confident are you in your ability to perform a skin self-examination? (please circle your response)

not at all confident 1 2 3 4 5 6 7 very confident

6. How confident are you in your ability to inform others about how to perform a skin self-examination? (please circle your response)

not at all confident 1 2 3 4 5 6 7 very confident

7. How often should a skin self-xamination be performed?

8. Describe how to perform a skin self-exam and what to look for while doing so.

Thank you for taking the time to answer these important questions.

GEORGIA HARVESTING HEALTHY HABITS

presents

A PREVENTATIVE HEALTH EDUCATION COURSE for *Health Care Providers*

Prepared by:
Mary Katherine Martin (1994)
Updated by:
Tricia Stuart (1996)
Health Communication Office

Sponsored by Georgia Harvesting Healthy Habits
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Funding support received from National Institute for Occupational Safety & Health
Grant No. U03/CCU410103

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PREVENTATIVE HEALTH EDUCATION ORGANIZATIONS

The Preventative Health Education Organizations listed in the following pages are national, state, and local groups. They can provide information about skin, breast, and cervical cancer as well as pesticide use.

NATIONAL ORGANIZATIONS TO CONTACT FOR BREAST CANCER INFORMATION

American Cancer Society- Georgia Division**
46 Fifth Street, NE
Atlanta, GA 30308
1-800-ACS-2345

BreasTEST**
Georgia Department of Human Resources
Division of Public Health
Two Peachtree St. NW
Sixth Floor Annex
Atlanta, GA 30303-3186
(404) 657-6600

National Cancer Institute**
Office of Cancer Communications
Building 31, Room 10A24
Bethesda, MD 20892
1-800-4-CANCER

**Indicates organization has literature available in Spanish

ORGANIZATIONS TO CONTACT FOR SKIN CANCER INFORMATION

American Cancer Society- Georgia Division**
46 Fifth Street, NE
Atlanta, GA 30308
1-800-ACS-2345

American Academy of Dermatology
1567 Maple Avenue
P.O. Box 3116
Evanston, IL 60204-3116
(847) 330-0230

Mary Kay Cosmetics
Dallas, TX 75247
1-800-627-9529
(or contact your local independent
Mary Kay Beauty Consultant)

National Cancer Institute**
Office of Cancer Communications
Building 31, Room 10A24
Bethesda, MD 20892
1-800-4-CANCER

The Skin Cancer Foundation***
475 Park Avenue South
Box 561
New York, NY 10016
(212)725-5176

**Indicates organization has literature available in Spanish
***Indicates organization has limited amount of Spanish literature

ORGANIZATIONS TO CONTACT FOR PESTICIDE INFORMATION

Farm Safety Association
340 Woodlawn Rd. West Suite 22-23
Guelph, Ontario NIH7K9
(519) 823-5600

Monsato Company
800 North Lindbergh
Mail Zone C2SB
St. Louis, MO 63167
(314) 694-1000 or call
1-800-225-2883

Novela Health Education **
1001 Broadway, Suite 100
Seattle, WA 98122
1-800-677-4799

Pesticide Education Center**
P.O. Box 420870
San Francisco, CA 94142-0870
(415) 391-8511

Pesticide Hazard Assessment Program
Health Effects Branch
Hazard Evaluation Division
Office of Pesticide Programs
U.S. Environmental Protection Agency
Washington, D.C. 20460

The University of Arizona**
College of Agriculture- Pubic Distribution Center
4042 North Campbell Ave.
Tucson, AZ 85719
(520) 621-7180

University of California-Davis·
Visual Media, Rm 131
1441 Research Park Drive
Davis, CA 95616
(916) 757-8980

**Indicates organization has literature available in Spanish

ORGANIZATIONS TO CONTACT FOR MIGRANT INFORMATION

(All organizations should provide literature in Spanish)

Georgia Migrant Health Program
2 Peachtree Street NW
Sixth Floor
Atlanta, GA 30303-3142
(404) 657-6620

Live Oak Migrant Education Agency
P.O. Box 2669
Statesboro, GA 30459
(912) 489-8601
1-800-621-5217

Migrant Education Program
Georgia Department of Education
1962 Twin Towers East
Atlanta, Ga 30334-5040
(404) 656-4995

Novela Health Education
1001 Broadway, Suite 100
Seattle, WA 98122

Southern Pine Migrant Education Agency
P.O. Box 745
Nashville, GA 31639
(912) 686-2053
1-800-342-3775

ORGANIZATIONS TO CONTACT FOR CERVICAL CANCER INFORMATION

American Cancer Society- Georgia Division**
46 Fifth Street, NE
Atlanta, GA 30308
1-800-ACS-2345

BreasTEST & More**
Georgia Department of Human Resources
Division of Public Health
Two Peachtree St. NW
Sixth Floor Annex
Atlanta, GA 30303-3186
(404) 657-6600

National Cancer Institute**
Office of Cancer Communications
Building 31, Room 10A24
Bethesda, MD 20892
1-800-4-CANCER

**Indicates organization has literature available in Spanish

PREVENTATIVE HEALTH EDUCATION MATERIALS

The Preventative Health Education materials listed in the following pages are currently used and/or recommended by GHHH. Included are materials related to skin, breast, and cervical cancer as well as pesticide use. Full listings of each organization's available literature can located in the appendices.

SKIN HEALTH EDUCATION MATERIALS

BROCHURES

Name	Organization	Item number
"The Many Faces of Malignant Melanoma"	Skin Cancer Foundation	BR-5
"Types and Descriptions of Skin Cancers"	Skin Cancer Foundation	BR-3
"The ABCD's of Moles and Melanomas"	Skin Cancer Foundation	BR-4
"Basal Cell Carcinoma"	Skin Cancer Foundation	BR-7
"What You Need to Know About Moles & Dysplastic Nevi"	National Cancer Institute	93-3133
"The First Number to Teach Your Child is 15"★	American Cancer Society	13-6009

POSTERS

Name	Organization	Item number
"Can You Spot a Killer?" (8 ½" x 11")**	Skin Cancer Foundation	PS-6A
"Protect Your Most Important Assets"	Skin Cancer Foundation	PS-9

SLIDE SETS & VIDEOS

Name	Organization	Item number
"Basal Cell Carcinoma"	Skin Cancer Foundation	SL-2
"Squamous Cell Carcinoma"	Skin Cancer Foundation	SL-3

**Denotes literature available in Spanish

★Recommended for parents with young children as educational device

SKIN HEALTH EDUCATION MATERIALS, (CONT'D)

SLIDE SETS & VIDEOS, (Cont'd)

Name	Organization	Item number
"The Many Faces of Malignant Melanoma"	Skin Cancer Foundation	SL-4
"The ABCD's of Moles & Melanomas"	Skin Cancer Foundation	SL-5
"Skin Wellness: A Skin Cancer Awareness and Prevention Program" ***	Mary Kay Cosmetics	

**Denotes literature available in Spanish
★Recommended for parents with young children as educational device
***Recommended for women, not children

BREAST HEALTH EDUCATION MATERIALS

BROCHURES

Name	Organization	Item number
"Cancer Facts for Women"	American Cancer Society	2007
"Breast Cancer: Questions & Answers"	American Cancer Society	5009.03
"BreasTEST: Helping Women Stay Healthy"	Georgia Dept. Of Human Resources	
"Are you 50 or older? A Mammogram could save your life"	National Cancer Institute	94-3418** 94-3418 (S)★

BOOK MARKS

Name	Organization	Item number
'Do the Right Thing: Get a Mammogram"	National Cancer Institute	
'Are you 50 or older? Get a Mammogram today"	National Cancer Institute	

** English version of brochure recommended for lower literacy.

★ Spanish version of brochure.

PESTICIDE EDUCATION MATERIALS

VIDEOS

Name of Video	Organization
"Safe Handling of Pesticides"**	University of California/ Davis
"Pesticides: The Double Edged Sword"	Farm Safety Association, Inc.
"Working Safely with Pesticides"**	The University of Arizona
"Harvest of Sorrow, Farm Workers & Pesticides: part II: Mixers, Loaders & Applicators"** ☆ (Video & booklet set available)	The Pesticide Education Center

**Videos available in Spanish
☆Highly recommended by GHHH

CERVICAL HEALTH EDUCATION MATERIALS

BROCHURES

Name	Organization	Item Number
"The Pap Test: It Can Save Your Life"** ☆	National Cancer Institute	93-2694S
"BreasTEST & More: Helping Women Stay Healthy"**	Georgia Department of Human Resources	
"Cancer Facts for Women"	American Cancer Society	2007

**Brochure available in Spanish

☆Listed as easy-to-read by the National Cancer Institute.

Appendices:

A full listing of
available literature and facts sheets
from
preventative health organizations.

I. American Academy of Dermatology
II. American Cancer Society: Brochures
III. American Cancer Society: Audiovisuals
IV. National Cancer Institute
V. The Skin Cancer Foundation
VI. The Pesticide Education Center

TEACHING SLIDES (DTS)

Prices	Mbr	Non
Each set	$85	$170
Library (34 sets)	$2601	$5202

___1-35 Complete Library
___ 35 Skin Surface Microscopy
___ 34 Acne/Follicular Disorders
___ 33 Intraoral Disorders
___ 32 Black Skin
___ 31 Geriatric Dermatoses
___ 30 Benign Tumors
___ 29 Pre-Malig/Malignant Tumors
___ 28 HIV Disease
___ 27 Pediatric III Neonatal
___ 26 Bullous Diseases
___ 25 Pediatric II Inflammatory
___ 24 Vulvar Disease
___ 23 Pediatric I Infections
___ 22 Immunodeficiency
___ 21 Foot Lesions
___ 20 Abnormalities of Hair
___ 19 Photosensitive Disorders
___ 18 Pigmented Lesions
___ 17 Genodermatoses
___ 16 Histopathology of Skin Tumors
___ 15 Benign Nail Disorders
___ 14 Connective Tissue/Vascular
___ 13 Hands 1/Contact Dermatitis
___ 12 Hands 2/Infections & Others
___ 11 Papulosquamous Disease
___ 10 Primary/Secondary Lesions
___ 09 Drug Reactions
___ 08 Genital Lesions
___ 07 Oral/Perioral Lesions
___ 06 Life-threatening Dermatoses
___ 05 Infections of the Skin
___ 04 Skin Tumors
___ 02 Some Common Dermatoses
___ 01 Cut Manif Systemic Disease

DIALOGUES

___Renewal ___New *Start:* April Oct
___ Member: US/Canada/Mexico $130
___ Nonmember US/Can/Mexico $260
___ Other Countries-Shipping add $50
___CUMULATIVE INDEX DIAL INDEX 7
Mbr $7.50 Non-mbr $11.25

BOOKMARKS

Prices	Mbr	Non
per package of 200	$12	$24

___ pkgs BKMK86 Bookmarks
___ pkgs BKMK02 Bookmarks

EDUCATION MISC.

	Mbr	Non
___ATLS01 Atlas	$25	$50
___ NBSS01 Melanocyte	$75	$150
___NBSS02 Cut Biology	$150	$300
___NBSS03 Photosens.	$150	$300

DERMINFONET (DSI)

Melanoma Prog Mbr $50 Non $100
___ Mac: US EUR ASIA
___PC: 51/4" DOS 31/2" DOS
Rx/Therapy
Mbr $150 Non $300 UPG $50
___ Mac: US EUR ASIA
___PC: 51/4" DOS 31/2" DOS
___PC: 31/2" Windows
Derm/DDx (PC Only)
Mbr $50 Non $100
___ PC: 51/4" DOS 31/2" DOS
Word/Derm Dictionary (PC Only)
Mbr $50 Non $100
___ PC: 51/4" DOS 31/2" DOS
Drug Reactions (PC Only)
Mbr $150 Non $300
___ PC: 51/4" DOS 31/2" DOS
CD-ROM Databases
Mbr $295 Non $590
___ IDSCD3 DOS Version
___ IDSCD4 MAC Version
___ IDSDC5 WINDOWS Version

SKIN CANCER SLIDES

Prices	Mbr	Non
Skin Cancer Slide Set	$110	$220
1994 Slides Update	$ 20	$ 40

___ TSLID01 Skin Cancer
___ TSLID1R 1994 Update

SKINSAVVY INSERT

	Cost	Shipping
1-10	$ 1.00 ea	3.00
11-20	.80 ea	4.00
21-30	.70 ea	5.00
31-40	.60 ea	6.00
41 +	.50 ea	

POSTERS

Prices for Large Posters
1-5 posters $5.00 ea
6-10 posters $4.50 ea
11 + posters $4.00 ea
___ POST01 Safe Sun: Myths/Facts
___ POST02 Indecent Exposure
___ POST07 Smart Skin Care

Prices for Small Posters
1-5 posters $4.00 ea
6-10 posters $3.50 ea
11 + posters $3.00 ea
___ POST03 Danger Signs
___ POST05 Cathy
___ POST06 See Spot
___ POST08 Melanoma Monday

Skin Cancer Prevention and Detection Posters
1-5 posters $6.00 ea
6-10 posters $5.50 ea
11 + posters $5.00 ea
___ POST09 Pre-Cancerous Glow
___ POST10 Beauty Marks
___ POST11 Take Off Your Clothes
___ POST12 Maniac
___ POST13 Poster Child
___ POST14 Summer Vacation

VIDEOS

Prices	Mbr	Non
	$20 ea	$40 ea

___ PVID06 Skin Cancer Pt. Ed. Video
___ PVID04 Skin Cancer: The Undeclared Epidemic
___ PVID03 The Mystery of Contact Dermatitis
___ PVID02 The Facts About Acne
___ PVID01 Skin Care Under the Sun

CME VIDEOS

Mbr $60 Nonmbr $120
___ CMEV06 Advanced Surgery

PAMPHLETS (PAM)

Prices	Mbr	Non
1-9 pkgs	$10.00 ea	$20.0
10-19 pkgs	$ 9.00 ea	$18.0
20+ pkgs	$ 8.25 ea	$17.0

___41 Darker Side of Tanning
___40 UV Index
___39 Lichen Planus
___38 Seborrheic Keratoses
___37 Scabies ___ 37S Spanish
___36 Rosacea
___35 What's in a Scar?
___34 Contraception
___33 Sun Protection:Children
___32 Herpes Zoster
___28 Mature Skin
___27 Tinea Versicolor
___25 Pityriasis Rosea
___24 Seborrheic Dermatitis
___23 Dermatologic Surgery
___22 Urticaria/Hives
___21 Hair Loss
___20 Herpes Simplex
___19 Athlete's Foot
___18 Black Skin
___17 Cosmetics & Skin Care Products
___16 Spider Vein Therapy
___15 Allergic Contact Rashes
___14 Skin Cancer
___12 Vitiligo
___11 Poison Ivy, Oak & Sumac
___10 Vascular Birthmarks
___09 Hand Eczema
___08 Skin Conditions of AIDS
___07 Atopic Eczema/Dermatitis
___06 The Sun & Your Skin
___04 Moles
___03 Warts ___ 03S Spanish
___02 Acne ___ 02S Spanish
___01 Your Skin/Your Dermatologist
___Preview Pack of Pamphlets
___PAMSTD Display Stand
Mbr $30 Nonmbr $60
50% off w/order of 12 different titles
$15 $30

POSTCARDS

Set of 6 asstd. $5.00 (min order 4)
___ set(s) postcards

TOTAL AMOUNT DUE: $ _____
__ VISA __ MasterCard __ Send Invoice __ Check to come
Acct # |_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|
Exp |_|_|_|_| Order taken by _____

American Cancer Society

TABLE OF CONTENTS

BROCHURES

1. FACTS ON . . . .
   Informative booklets on different forms of cancer
   - -Prostate
   - -Uterine
   - -Breast
   - -Larynx
   - -Brain
   - -Thyroid
   - -Colorectal
   - -Lung
   - -Skin
   - -Mouth & Respiratory
   - -Kidney Cancer
   - -Childhood
   - -Ovarian
   - -Stomach and Esophageal
   - -Bone
   - -Testicular
   - -Bladder
   - -Lymphomas and Multiple Myeloma
   - -Leukemia
   - -Hodgkins Disease
   - -Oral Cancer

2. Information of Particular Concern to Women
   - -How to Examine Your Breasts
   - -Special Touch - BSE
   - -Mammography - There's Nothing Mightier
   - -The Older You Get The More You Need A Mammogram
   - -Beauty Secrets
   - -For Women Only-How to do BSE (shower hanger)
   - -Finding a Lump in Your Breast
   - -Its My Life... My Choices (Pap Smear)
   - -Cancer Facts for Women
   - -Why Now?
   - -3 Steps To Good Breast Health
   - -Stay Healthy - Learn About Uterine Cancer
   - -Breast Cancer Dictionary

3. Information of Particular Concern to Men
   - -For Men Only (Prostate)
   - -For Men Only (Testicular)
   - -Cancer Facts for Men
   - -Good Health Tips For Men
   - -For Men Only - How to Do TSE (Shower Hanger)
   - -The PSA Blood Test and Prostate Cancer

4. Smoking
   - -How To Stay Quit Over The Holidays
   - -The Decision is Yours
   - -Fifty Most Often Asked Questions About Smoking
   - -Tick, Tick, Tick
   - -Don't Let Your Company's Profits Go Up In Smoke
   - -How To Quit Cigarettes
   - -Quit Cigarettes, Live Longer
   - -Smart Move
   - -Smokeless Tobacco - A Game Of Foul Play
   - -The Smoke Around You

-Quit Smoking - The lives you save
-Don't Bite Off More Than You Should Chew

5. General Cancer Information
-Questions Concerning ACS Guidelines
-The most often asked questions about cancer
-ACS Guidelines on Cancer Related Checkups
-What is Chemotherapy?
-Cancer Related Checkups
-Prevention & Early Detection of Malignant Melanoma
-American Cancer Society - What It Is
-Answering Your Questions About Cancer
-Colorectal Cancer-Go For Early Detection
-Eating To Live
-Why You Should Know About Melanoma
-Taking Control - Choice or Change
-Nutrition: Common Sense and Cancer
-Fry Now Pay Later
-The Hopeful Side of Cancer
-Listen With Your Heart
-Self Defense - Cancer Control Through Early Detection
-Know The Facts About Cancer - 1995
-Good News For Blacks About Cancer
-When Your Child Has Cancer - Mister Rogers
-Talking With Your Doctor
-The Radiation Therapist
-Answering Your Questions About Cancer
-Cancer Word Book

AMERICAN CANCER SOCIETY LIST OF AUDIOVISUALS

1. "Something Very Special" (12 minutes) -- Teaches high school girls about BREAST SELF-EXAMINATION and the PAP Test. The purpose is to encourage young women to establish health care habits now that they will continue throughout their lives. Recommended to be shown only to groups of young women to facilitate open and frank discussion. Two Copies.

2. "The Cancer No One Talks About" (13 minutes) -- Provides information on how people can protect themselves against COLORECTAL cancer and seeks to motivate them to take proper action. Explains the 3 examination methods of detection used during checkups. Intended for audiences over the age of 20, particularly for those over the age of 40. One Copy.

3. "Why Quit Quiz" (16 minutes) -- The film emphasizes the health benefits of QUITTING SMOKING. It is intended for anyone over the age of 12. Two Copies.

4. "Women And Smoking" (14 minutes) -- Encourages QUITTING SMOKING. Three women discuss their problems with smoking and how they faced them while recognizing the benefits of a cigarette-free life. Intended for women over the age of 12. One Copy.

5. "Who's In Charge Here?" (14 minutes 40 seconds) -- Teaches the immediate physiological effects of cigarette SMOKING on the body. It also contains a segment discussing the effect on the fetus of the mother's smoking. This is intended for youth. Two Copies.

6. "Huffless, Puffless Dragon" (8 minutes) -- Animated cartoon to emphasize the HAZARDS OF SMOKING. Helps to enhance the image of the non-smoker. Intended as a door opener for more detailed treatment in upper elementary and Junior High. One Copy.

7. "Where There's No Smoke" (15 minutes) -- This film emphasizes the DANGERS OF SMOKING. It is intended for those individuals who are older than 12 years old. One Copy.

8. "Special Delivery" (9 minutes 40 seconds) -- Emphasizes the dangers of women SMOKING while they are PREGNANT. This film is intended for women over the age of 13. Two Copies.

9. "Check It Out" (9 1/2 minutes) -- Stresses the hazards of SMOKELESS TOBACCO. Intended for the ages of 8 to 16, particularly young men. Three Copies.

10. "The Smoke Free Young America" (18 minutes) -- intended for volunteers and staff in order to motivate an interdepartmental effort. One Copy.

11. "ACS's Freshstart: 21 Days to Stop Smoking" -- A volunteer video which contains the ACS's program to stop smoking. One Copy.

12. "Taking Control" (15 minutes) -- Stresses dietary steps one should take to REDUCE YOUR RISK FOR CANCER. Focuses on eating right and the types of food you should avoid in order to reduce your risk of cancer. Intended for **12 and older**. Six Copies.

13. "The Intricate Cell" (11 1/2 minutes) -- Examines basic biological concepts regarding normal and abnormal cell activity. The film also promotes healthy lifestyle choices such as smoking, and cancer risk reduction. This film is intended for **ages 12-18**. It may also be useful for lay adults but it is recommended for 12-18. Three Copies.

14. "Take Joy" (10 minutes 20 seconds) -- Shows active youngsters outdoors to emphasize that enjoying our bodies requires making THE RIGHT HEALTH CHOICES. A film **for grades 5 to 7**. Four Copies.

15. "Testicular Self-Examination" (5 minutes) -- Illustrates testicular self-examination as the best means of early detection of this highly curable disease. This film is recommended for **males 15 years and older**. Six Copies.

16. "Wellness Is Ageless" (18 minutes) -- emphasizes taking care of our bodies, general health maintenance, and the important role of health checkups in the early detection of cancer. Intended **especially for the 50 and older population**. Suitable for all people over the age of 12. Three Copies.

17. "One To One" (5 minutes) -- this presentation urges everyone to get involved as an American Cancer Society Public Education volunteer. Recommended for adults of all ages as well as high school students. One Copy.

18. "Winners In The Sun" (12 minutes) -- The major emphasis is on the PREVENTION OF SKIN CANCER. Looks at why young and older persons alike should avoid overexposure to the sun. It is suitable for both **youth and adult audiences**. One Copy.

19. "Why, Charlie Brown, Why?" (30 minutes) -- A film concerning CHILDHOOD CANCER. Intended for the **ages 5 to 13**. One copy.

20. "The Culture Of Poverty In America" (15 minutes 25 seconds) -- A look at Americans who fall within the lowest income bracket. Suitable for community viewing. One Copy.

21. "Eating Smart" (8 minutes) -- Focuses on EATING RIGHT and choosing healthy foods. Intended for **ages 12 to adult**. Three copies.

22. "Cancer Update: A Crusade Message From Dr. Frank Rauscher" (11 minutes) -- Supplies an overall cancer update. Intended for those over the age of 14 years old. One Copy.

23. "Cancer Update: A Message From The President - Nov. 1985" (4 minutes) -- An update from the President concerning cancer. Intended for those over the age of 16 years old. One Copy.

24. "America's Worksites In The 90's" (6 minutes) -- for office use only. One Copy.

25. "60 Minutes Look Alike Tape" (14 minutes) -- for office use only. One Copy.

26. "Be A Hero" (3 1/2 minutes) -- Volunteer video. Four Copies.

27. "The Best In People" (15 minutes) -- Volunteer video. One Copy.

28. "Community Crusade" (9 minutes) -- Volunteer video. One Copy.

29. "Look Good Feel Better" (16 minutes) -- Volunteer video. One Copy.

30. "Memorials" (8 minutes) -- Volunteer video. One Copy.

31. "Reaching Across Cultures" (13 minutes) -- Volunteer video. One Copy.

32. "Sales Wise" (35 minutes) -- Volunteer video. Two copies.

33. "Special Contacts Training" -- Volunteer video. One Copy.

34. "National Public Leadership Conference - May 25-27,1988 Tape Two" (25 minutes) -- Volunteer video. One Copy.

35. "National Public Leadership Conference - May 25-27,1988 Tape Three" (29 minutes) -- Volunteer video. One Copy.

36. "Walk of Life: The First Step" (10 1/2 minutes) -- Volunteer video concerning the Walk-A-Thon. One Copy.

37. "Clinical Trials" (16 minutes) -- Professional education. One Copy.

38. "Fighting Back" (11 minutes) -- Volunteer video. A 1989 inspirational film. Two Copies.

39. "Great American Food Fight Against Cancer" -- Emphasizes eating well for good health. Intended for ages 8 to adult. One Copy.

40. "Living Proof" (12 minutes) -- Professional education. One copy.

41. "Self-Defense" (12 minutes) -- Stresses the importance of early detection tests in protecting against later stage detection of cancer. Lists some of the tests that individuals can perform. This video is intended mainly **for adults**. One Copy.

42. "Smart Move" (18 minutes) -- Emphasizes the dangers to one's body that result from smoking. This video is intended for people **12 years old and older**. One Copy.

43. "Take The Time" (15 1/2 minutes) -- Explains the pap test and its importance in protecting women from cancer of the uterine. It emphasizes the importance of early testing in detecting cancer. The video also lists endometrial and cervical risk factors. Intended for **women** from the ages of **12 to adult**. Three Copies.

44. "No Where To Hide...A Special Touch" (10 minutes) -- Emphasizes breast self examination as a means of detecting early breast cancer. Gives examples of clinical and self-examinations. Intended for **women 12 years old or older**. Three Copies.

NCI [illegible]tions for Cancer P[illegible]nd the Public

Materials are listed in alphabetical order within categories of prevention, early detection, and patient education; Spanish materials are in a separate section at the end of the list.

Orders may be placed each month. Call the National Cancer Institute's Cancer Information Service at 1-800-4-CANCER to get accurate information on available quantities of specific publications. Photocopying material published by the Federal Government is permitted as these publications are not subject to copyright restrictions.

CANCER PREVENTION NUTRITION

____ p836 Action Guide for Healthy Eating
____ p965 Bookmark: Make Low-Fat Cooking Taste Great! The Down Home Healthy Way
____ p886 Down Home Healthy Cookin'
____ p820 Time To Take Five: Eat 5 Fruits and Vegetables A Day

TOBACCO EDUCATION

____ p620 ASSIST: Stop Smoking Intervention
____ p131 Chew or Snuff Is Real Bad Stuff
____ p133 Clearing the Air: A Guide to Quitting Smoking
____ p139 I Mind Very Much If You Smoke
____ p363 Smoking Facts and Quitting Tips for Black Americans
____ p145 Why Do You Smoke?

EARLY DETECTION

____ p052 Cancer Tests You Should Know About: A Guide for People 65 and Over
____ p050 Testicular Self-Examination

EARLY DETECTION: EASY-TO-READ

____ p046 Are You Age 50 or Over? A Mammogram Could Save Your Life
____ p047 Having a Pelvic Exam and Pap Test
____ p048 The Pap Test: It Can Save Your Life!

GENERAL CANCER INFORMATION

____ p003 Research Report: Bone Marrow Transplantation and Peripheral Blood Stem Cell Transplantation
____ p195 In Answer to Your Questions About Liver Cancer
____ p196 In Answer to Your Questions About Thyroid Cancer
____ p074 The Immune System – How It Works

WHAT YOU NEED TO KNOW ABOUT CANCER

____p014 Bladder
____p015 Bone
____p016 Brain Tumors
____p017 Breast
____p018 Cancer
____p019 Cervix
____p020 Colon & Rectum
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____p022 Hodgkin's Disease
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____p024 Larynx
____p852 Leukemia
____p026 Lung
____p027 Melanoma
____p028 Moles & Dysplastic Nevi
____p030 Multiple Myeloma
____p031 Non-Hodgkin's Lymphoma
____p032 Oral Cancers
____p033 Ovary
____p034 Pancreas
____p035 Prostate
____p036 Skin
____p037 Stomach
____p038 Testis
____p039 Uterus

____p201 Questions and Answers About Metastatic Cancer

PATIENT EDUCATION: ADULT

____ k110 Anticancer Drug Information Sheets
____ p084 Advanced Cancer: Living Each Day
____ p117 Chemotherapy and You: A Guide to Self-Help During Treatment
____ p118 Eating Hints for Cancer Patients
____ p119 Facing Forward: A Guide for Cancer Survivors
____ p476 Patient Guide: Managing Cancer Pain
____ v112 Patient to Patient: Cancer Clinical Trials and You (VHS Videotape-Limit 2)

____ p122 Questions and Answers About Pain Control: A Guide for People With Cancer and Their Families
____ p123 Radiation Therapy and You: A Guide to Self-Help During Treatment
____ p126 Taking Time: Support for People With Cancer and the People Who Care About Them
____ p128 What Are Clinical Trials All About?
____ p129 When Cancer Recurs: Meeting the Challenge Again

PATIENT EDUCATION: EASY-TO-READ

____ p602 Get Relief From Cancer Pain
____ p603 Helping Yourself During Chemotherapy: 4 Steps for Patients

PATIENT EDUCATION: PEDIATRIC

____ p120 Managing Your Child's Eating Problems During Cancer Treatment
____ p127 Talking With Your Child About Cancer
____ p619 When Someone in Your Family Has Cancer
____ p130 Young People With Cancer: A Handbook for Parents

Spanish Language Publications

CANCER PREVENTION NUTRITION

____ p921 Celebre la cocina Hispana: Healthy Hispanic recipes
____ f960 Coma menos grasa tipsheet

TOBACCO EDUCATION

____ p420 Datos y consejos para dejar de fumar
____ p157 Rompa con el vicio...Una guía para dejar de fumar

EARLY DETECTION

____ f406 Hágase la prueba Pap: Hágalo hoy...Por su salud y su familia
____ p045 La prueba Pap: Un método para diagnosticar cáncer del cuello del útero
____ p417 Preguntas para hacerle a su medico sobre el cáncer del seno
____ p049 ¿Tiene 50 años de edad o más? Un mamograma podría salvarle la vida

PATIENT EDUCATION

____ k110 Anticancer Drug Information Sheets
____ p111 Datos sobre el tratamiento de quimioterapia contra el cáncer
____ p124 El tratamiento de radioterapia: Guía para el paciente durante el tratamiento

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NCI Materials for Community Outreach Programs and Health Professionals

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BREAST CANCER/MAMMOGRAPHY RESOURCE MATERIALS

____ f371 Activities and Program Ideas for Your Community
____ f370 Breast Cancer Screening Programs Make Good Business Sense
____ f368 Establishing Workplace Breast Cancer Screening Programs: Blueprint for Action
____ g365 Poster (set of 50): Spread the Word About Mammography
____ g366 Poster (single copy): Spread the Word About Mammography
____ g826 Poster (set of 5): The Art of Early Detection
____ g315 Poster: ¿Tiene 50 años de edad o más? No lo deje para mañana. ¡Hágase un mamograma hoy!

BREAST CANCER/MAMMOGRAPHY OUTREACH MATERIALS

____ p040 Are You Age 50 or Over? A Mammogram Could Save Your Life
____ :907 Bookmark: A Mammogram Could Save Your Life
____ :360 Bookmarks: Do the Right Thing...Get a Mammogram
____ :883 Bookmark (red): Spread the Word About Mammography
____ :884 Bookmark (blue): Spread the Word About Mammography
____ :885 Bookmark (gold): Spread the Word About Mammography
____ :361 Button: Do the Right Thing...Get a Mammogram
____ p376 Questions To Ask Your Doctor About Breast Cancer
____ :400 Magnet: No lo deje para mañana.¡Hágase un mamograma hoy!
____ p417 Preguntas para hacerle a su medico sobre el cáncer del seno
____ p049 ¿Tiene 50 años o más? Un mamograma podría salvarle la vida

CERVICAL CANCER/PAP TEST RESOURCE MATERIALS

____ v541 Videotape: Taking Control of Your Health: The Pap Test and Cervical Cancer

CERVICAL CANCER/PAP TEST OUTREACH MATERIALS

____ p047 Having a Pelvic Exam and Pap Test
____ g415 Hágase la prueba Pap: Hágalo hoy...Por su salud y su familia
____ p045 La prueba Pap: Un método para diagnosticar el cáncer del cuello del útero

NUTRITION EDUCATION RESOURCE MATERIALS

____ g962 Poster (set of 25): Black American Awareness: Eat Foods With Fiber at Every Meal
____ g985 Poster (single copy): Black American Awareness: Eat Foods With Fiber at Every Meal
____ p833 Your Best Body: A Story About Losing Weight
____ g937 Poster (set of 25): ¡Su familia se merece los mejores alimentos!
____ g964 Poster (single copy): ¡Su familia se merece los mejores alimentos!

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____ :965 Bookmarks (set of 10): Make Low-Fat Cooking Taste Great! The Down Home Healthy Way
____ p886 Down Home Healthy Cookin'
____ p820 Time To Take Five: Eat Five Fruits and Vegetables A Day
____ f960 Coma Menos Grasa Tipsheet
____ p921 Celebre la cocina Hispana: Healthy Hispanic Recipes
____ p892 ¡Su familia se merece los mejores alimentos!

TOBACCO EDUCATION RESOURCE MATERIALS

____ p132 Chew or Snuff Is Real Bad Stuff: A Guide To Make Young People Aware of the Dangers of Using Smokeless Tobacco

____ t137 How To Help Your Patients Stop Smoking: A National Cancer Institute Manual for Physicians

____ p138 How To Help Your Patients Stop Using Tobacco: A National Cancer Institute Manual for the Oral Health Team

____ p158 School Programs To Prevent Smoking: The National Cancer Institute Guide To Strategies That Succeed

____ p162 Smoking Policy: Questions and Answers

____ m488 Smokeless Tobacco or Health: An International Perspective

____ m492 Tobacco and the Clinician: Interventions for Medical and Dental Practice

____ p548 Tobacco Effects in the Mouth: A National Cancer Institute and National Institute of Dental Research Guide for Health Professionals

____ p157 Rompa con el vicio: Una guía para dejar de fumar

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____ p620 ASSIST: Stop Smoking Intervention

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____ p363 Smoking Facts and Quitting Tips for Black Americans

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ADDITIONAL MATERIALS FOR SPECIAL POPULATIONS RESOURCE MATERIALS

____ p260 Cancer Education Resources for American Indians and Alaska Natives

____ t936 Clear and Simple: Developing Effective Print Materials for Low-Literate Readers

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____ p052 Cancer Tests You Should Know About: A Guide for People 65 and Over

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____ t068 Making Health Communication Programs Work: A Planner's Guide

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____ p975 El estudio de prevención del cáncer de la próstata

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JL-1	**The Skin Cancer Foundation Journal** $5 each (1-24 copies); cartons of 25, $75		

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SL-2	**Basal Cell Carcinoma** 10 color slides	$20		
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SD-2	**The Sun Day News II (for children)** 1-20, $5 ea.; 21-40, $4 ea.; 41-60, $3 ea.; 61-100, $2 ea.			

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SL-7	**Skin Cancer: Preventable and Curable** 15-minute VHS Video	$59		

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Scand J Work Environ Health 11 (1985) 397—407

Cancer among farmers

A review

by Aaron Blair, PhD,[1] Hans Malker, MS,[2] Kenneth P Cantor, PhD,[1] Leon Burmeister, PhD,[3] Kerstin Wiklund, MS[4]

BLAIR A, MALKER H, CANTOR KP, BURMEISTER L, WIKLUND K. Cancer among farmers: A review. *Scand J Work Environ Health* 11 (1985) 397—407. During the performance of routine tasks farmers may come in contact with a variety of substances, including pesticides, solvents, oils and fuels, dusts, paints, welding fumes, zoonotic viruses, microbes, and fungi. Because some of these substances are known or suspected carcinogens, the epidemiologic literature regarding cancer risks concerning farmers has been reviewed. Farmers had consistent deficits for cancers of the colon, rectum, liver, and nose. The deficits for cancer of the lung and bladder were particularly striking, presumably due to less frequent use of tobacco among farmers than among people in many other occupational groups. Malignancies frequently showing excesses among farmers included Hodgkin's disease, leukemia, non-Hodgkin's lymphoma, multiple myeloma, and cancers of the lip, stomach, prostate, skin (nonmelanotic), brain, and connective tissues. The etiologic factors that may contribute to these excesses in the agricultural environment have not been identified. Detailed, analytic epidemiologic studies that incorporate environmental and biochemical monitoring are needed to clarify these associations.

Key terms: analytic epidemiology.

Farming is a physically demanding occupation that requires varied skills. Farmers routinely perform tasks normally associated with other occupations; for example, they repair machinery, weld, apply pesticides, paint, and operate heavy equipment. In doing so, farmers may come in contact with a number of potentially hazardous chemical and biological agents, including pesticides, solvents, fuels and oils, dusts, zoonotic viruses, microbes, and fungi (58), some of which are known or suspected carcinogens. In addition the use of power tools and mechanized equipment and the tending of livestock place farmers at increased risk of accidental death or injury (15, 53, 68).

Despite these potential hazards, overall mortality among farmers is less than that among the general population (38, 43, 63) and many other occupations, including some white-collar groups. Lower mortality rates for ischemic heart disease among farmers than among other occupational groups have been reported from England and Wales (38), Australia (63), and the United States at the national (43), county (21), and state (74) level. Despite low mortality from all causes combined, surveys of occupational groups and studies of specific tumors suggest that farmers may have elevated incidence and mortality rates for certain cancers. A thorough review of the epidemiologic literature may help focus attention on agricultural factors that pose a carcinogenic risk to farmers. Some findings are also relevant to the general public, since many chemicals used by farmers (eg, insecticides, herbicides, paints, and solvents) are also used by other segments of the population.

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Materials and methods

We have assembled findings from epidemiologic studies and broad occupational surveys of cancer mortality and morbidity among farmers from industrialized countries around the world. Table 1 details the occupational surveys included in this review, while tables 2—5 present observed and expected numbers and ratios from these surveys by cause. The statistical significance of the ratios of the observed and expected numbers in tables 2—5 was assessed with the use of the ratio of a Poisson variable to its expectation following the procedure of Bailar & Ederer (4). In order to summarize data from broad occupational surveys, we have grouped the cancers into three categories according to their pattern of risk among these populations. Cancers that occur among farmers more frequently than expected (risk ratios >1.0) in at least two-thirds of the surveys are in the high-risk category, while those that are not elevated or elevated in less than one-third of the surveys are in the low-risk category. The remaining cancer sites with elevated risks among farmers in more than one-third but less than two-thirds of the studies form the intermediate category.

Table 1. Description of the occupational mortality and morbidity studies surveyed.

Geographic location of study	Data base	Years	Total number of white male subjects	Number of malignant neoplasms among farmers	Age range (years)	Mortality/ incidence index[a]	Occupation	Reference
United States, Washington State	Death certificates	1950—1979	429 926	4 654	≥20	PMR	Usual	Milham (65)
United States, California	Death certificates	1951—1961	200 000	1 956	≥20	PMR	Latest	Petersen & Milham (73)
The Netherlands	Death certificates	1931—1935	23 318	2 801	All ages	PMR	Latest and previous	Versluys (89)
United States, Iowa	Death certificates and census	1971—1978	All white men	Not given	20—64	SMR	Usual	Pomrehn et al (74)
	Death certificates	1971—1978	121 101	6 402	≥20	PMR	Usual	Burmeister (16)
United States	Death certificates and census	1950	All white men	5 165	20—64	SMR	Usual	Guralnick (43)
United States, veterans	Veterans with life insurance	1954—1970	293 458	824	31—84	SMR	Usual	Walrath et al (90)
England and Wales	Death certificates and census	1970—1972	550 297	Not given	15—64	SMR	Latest	Fox & Goldblatt (38)
Canada	10 % census sample	1965—1969	415 201	75	All ages	SMR	Current	Howe & Lindsay (51)
Australia	Death certificates and census	1968—1978	All men	Not given	30—64	SRR	Usual	McMichael & Hartshorne (63)
Denmark	Death certificates and census	1970—1975	1 401 967	1 012	20—64 (1970)	SMR	At census (1970)	Danmarks Statistik (25)
Sweden[b]	Death certificates and census	1961—1970	3 738 861	6 593	≥15 (1960)	SMR	At census (1960)	.
United States, Massachusetts	Death certificates	1971—1973	34 879	183	≥20	MOR	Usual	Dubow & Wegman (30)
Sweden[c]	National Swedish Cancer-Environment Register	1961—1979	3 738 861	28 226	≥15 (1960)	SIR	At census (1960)	.
United States, Roswell Park	Hospital register	1956—1965	6 434 + unknown number of referents	275	≥15	OR	Lifetime occupational history	Decoufle et al (26)
United States, Third National Cancer Survey	10 % interview survey of all incident cancer cases	1969—1971	3 539	109	≥15	OR	Usual	Williams et al (94)
British Columbia	Death certificates	1950—1978	254 901	4 602	≥20	PMR	Usual	Gallagher et al (39)

[a] PMR = proportionate mortality ratio, SMR = standardized mortality ratio, SRR = standardized risk ratio, MOR = mortality odds ratio, SIR = standardized incidence ratio, OR = odds ratio.
[b] Data from the linked register between the Death Cause Register (1961—1970) and the census of 1960 (82).
[c] Data from the linked register between the National Swedish Cancer Register (1961—1979) and the census of 1960 (93).

Results

Tables 2—6 display the risks for selected diseases among farmers from various countries. The studies are grouped according to design (ie, proportionate mortality, cohort, or case-referent). Although risks vary from population to population, certain patterns occur.

Mortality from all causes, arteriosclerotic heart disease, and all cancer is low among farmers. Specific cancers that fall into the low-risk category for farmers include those of the colon, rectum, liver, nose, lung, and bladder. Each survey showed a deficit for cancers of the lung and bladder, presumably due to the less frequent use of tobacco by farmers than by other occupational groups (21, 63, 84, 85). In Sweden, for example, in the early 1960s about 30 % of farmers smoked in comparison to nearly 50 % of the general population (22). These figures would imply a relative risk of about 0.6 for lung cancer among farmers, on the assumption of a 10-fold relative risk for smoking (3). The consistent deficits for cancers of the colon

may be related to high levels of physical activity among farmers (40). Reasons for the low risk of cancers of the rectum, liver, and nose are not clear.

Malignancies commonly high among farmers include Hodgkin's disease, multiple myeloma, and cancers of the lip, stomach, prostate, skin (nonmelanotic), brain and connective tissue. The remaining cancers [ie, non-Hodgkin's lymphoma, leukemia, and cancers of the skin (melanoma), esophagus, pancreas, testis and kidney] show a generally inconsistent pattern. Leukemia, non-Hodgkin's lymphoma, and cancers of the skin (melanoma) and pancreas show relative risks greater than 1 in more than 50 % of the surveys.

The observed numbers of specific cancers were small in a few surveys, and cancers with fewer than three cases or deaths were dropped from consideration in table 6. Despite this restriction, the risk pattern in table 6 is nearly identical to that in tables 2—5. Cancers commonly high among farmers (ie, elevated risk in two-thirds of the eligible surveys) in the restricted evaluation included Hodgkin's disease, multiple myeloma, leukemia, and cancers of the lip, stomach, prostate, skin (nonmelanotic), brain and connective tissue. The relative risks for these sites were usually less than 1.5, except for cancer of the lip, for which five of six studies had relative risks greater than 1.5. For the other cancers in the commonly high category, the proportion of the studies with relative risks less than 1.1 was 8 % for stomach, 33 % for prostate, 20 % for nonmelanotic skin, 38 % for brain, and 20 % for connective tissue cancer and 33 % for Hodgkin's disease, 17 % for multiple myeloma, and 22 % for leukemia. Sites generally not elevated in this restricted set of studies included cancer of the esophagus, colon, rectum, liver, nose, lung, and bladder.

The risks among farmers are not exceptionally high for most cancers, and many elevations did not achieve statistical significance. The proportion of studies reported in table 6 with statistically significant elevations in relative risks by specific cancer was lip (43 %), stomach (58 %), prostate (33 %), skin (40 %), brain (0 %), connective tissue (0 %), Hodgkin's disease (0 %), multiple myeloma (43 %), and leukemia (22 %). The consistent excesses for specific cancers across these broad surveys prompted us to conduct a detailed review of the literature for further information on the sites of particular interest, ie, those in the commonly high category.

Leukemia

Of studies investigating the association between farming and cancer, leukemia has received the most attention.

Table 2. Mortality from all causes, heart disease, and cancer among farmers from various countries.

Country[a]	All causes		Arteriosclerotic heart disease		All cancer	
	N[b]	Risk	N[b]	Risk	N[b]	Risk
I. Proportionate mortality ratios (risk = PMR)						
United States, Washington (65)	..	..	11 315	0.98*	4 654	0.95*
United States, California (73)	..	..	4 792	1.00	1 956	0.98
United States, Iowa (16)	..	..	..	..	6 402	0.97*
The Netherlands (89)	..	..	..	..	2 801	1.00
British Columbia (39)	..	..	11 100	1.01	4 602	0.94*
II. Standardized mortality ratio (risk = SMR)						
United States (43)	36 273	0.83*	8 648	0.69*	5 165	0.77*
United States, veterans (90)	4 489	0.92*	1 797	0.91*	824	0.90*
United States, Iowa (74)	..	0.93*	..	0.92*	..	0.89*
England and Wales[c](38)	10 041	0.91*	..	0.82	..	0.92
Canada (51)	331	0.88*	..	..	75	0.87
Denmark (25)	3 283	0.67*	1 087	0.68*	1 012	0.67*
Australia (63)	..	0.90*	..	0.86*	..	..
Sweden (82)	32 151	0.82*	10 252	0.78*	6 593	0.85*
III. Standardized incidence ratios (risk = SIR)						
Sweden (93)	..	..	..	..	28 205	0.92*
IV. Case-referent studies (risk = odds ratio)						
United States, Roswell Park (26)	..	..	..	..	..	..
United States, Third National Cancer Survey (94)	..	..	..	..	..	..
United States, Massachusetts[d] (30)	..	..	..	..	181	0.78*
Percentage of surveys showing excess (with number excessive/total in parentheses)	0 (—/18)		10 (1/10)		0 (—/14)	
Risk category[e]	Low		Low		Low	

[a] Reference in parentheses.
[b] For the proportionate and standardized mortality ratios N = number of deaths among the farmers; for the case-referent studies N = number of farmers among the cases.
[c] Farmers, foresters, and fishermen.
[d] Risk determined from the mortality odds ratio.
[e] Low = cancer occurrence not elevated or elevated in less than one-third of the surveys.
* $p \leq 0.05$.

Table 3. Risk of cancer of the lip, esophagus, stomach, colon, rectum, liver, and pancreas among farmers from various countries. (Numbers and risks connected with a broken line are figures for the included group of cancer sites)

Country[a]	Cancer sites													
	Lip		Esophagus		Stomach		Colon		Rectum		Liver		Pancreas	
	N[b]	Risk	N[b]	Risk	N[b]	Risk	N[b]	Risk	N[b]	Risk	N[b]	Risk	N[b]	Risk
I. Proportionate mortality ratios (risk = PMR)														
United States, Washington (65)	21	1.56	82	0.83	573	1.18*	428	0.88*	203	0.94	91	1.02	323	1.09
United States, California (73)	3	1.30	55	1.23	210	1.12	188	0.98	93	0.92	13	0.77	139	1.17
United States, Iowa (16)	20	1.62	95	0.74*	338	1.14*	1 064	----------	----------	1.03	54	0.90	416	1.07
The Netherlands (89)	25	1.87*	171	0.92	1 566	1.23*	163	0.78*	166	0.90	159	1.06	17	0.52*
British Columbia (39)	17	1.91*	68	0.59*	672	1.19*	389	0.84*	..	..	..	..	334	1.05
II. Standardized mortality ratio (risk = SMR)														
United States (43)	..	..	..	..	763	0.89*	647	----------	----------	0.69	..	..	..	..
United States, veterans (90)	..	..	9	0.61	60	1.07	87	0.71*	32	0.79	19	0.83	60	1.03
England and Wales[c] (38)	..	..	..	1.13	..	0.97	..	1.20	..	1.00	..	..	..	1.02
Canada (51)	..	..	2	1.10	15	1.77	4	0.53	4	1.16	..	..	3	0.57
Denmark (25)	343	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	0.72*
Australia (63)	..	..	..	..	..	0.96	..	0.81*	..	0.84*	..	..	..	0.91
Sweden (82)	9	1.9	87	0.61	1 601	1.08*	459	0.74*	386	0.90	30	0.50*	464	0.80*
III. Standardized incidence ratio (risk = SIR)														
Sweden (93)	777	1.63*	246	0.71*	3 399	1.10*	1 850	0.80*	1 624	0.96	411	0.61*	1 021	0.88*
IV. Case-referent studies (risk = odds ratio)														
United States, Roswell Park (26)	..	..	6	1.00	22	1.67*	33	----------	----------	0.58*	..	..	..	..
United States, Third National Cancer Survey (94)	..	..	2	1.03	4	0.49	15	1.24	6	0.77	..	..	5	1.05
United States, Massachusetts[d] (30)	..	..	..	..	..	..	7	2.33	..	..	..	..	5	1.37
Percentage of surveys showing an excess (with number excessive/total in parentheses)*	100 (7/7)		33 (4/12)		71 (10/14)		25 (3/12)		10 (1/10)		29 (2/7)		57 (8/14)	
Risk category[f]	High		Intermediate		High		Low		Low		Low		Intermediate	

[a] Reference number in parentheses.
[b] For the proportionate and standardized mortality ratios N = number of deaths among the farmers; for the case-referent studies N = number of farmers among the cases.
[c] Farmers, foresters, and fishermen.
[d] Risk determined from the mortality odds ratio.
* Does not include a study if the figures given are for a group of sites.
[f] High = cancer occurrence more frequent among farmers than expected (risk ratio > 1.0) in at least two-thirds of the surveys, low = cancer occurrence not elevated or elevated in less than one-third of the surveys, intermediate = cancer occurrence elevated in more than one-third but less than two-thirds of the studies.
* $p \leq 0.05$.

Studies in the United States from Washington (64), California (35), Nebraska (10, 12), Iowa (18, 28), Wisconsin (11), and Illinois (14), as well as from British Columbia (39) and Tasmania (41), suggest that farmers are at higher risk of leukemia than many other occupations. The study from Tasmania (41) also noted increased relative risks for myeloproliferative and lymphoproliferative disorders among persons employed in rural industries (not further described). Not all studies, however, have shown this association. An initial report on leukemia incidence in Olmsted County, Minnesota, suggesting that farmers were at high risk (61), was not confirmed in a more detailed, case-referent study (62).

Recent studies have attempted to identify specific agents or farm practices related to leukemia risk. In death-certificate case-referent studies (10, 11, 18), the risk of leukemia was the greatest among farmers born after 1900 and/or dying before 65 years of age, a phenomenon suggesting that more recent agricultural practices may be associated with an increase in risk. A link with oncogenic viruses has also been suggested. This hypothesis is particularly appealing since an infectious virus has been established as the primary agent in bovine lymphoma and because human exposure may occur through contact with infected animals and/or from the use of unpasteurized milk (37). Although the virus can cross species barriers (47), there is no serologic evidence that it can be transmitted to humans (29, 80). Furthermore, findings from ecological comparisons between the distribution of cattle populations and the occurrence of human leukemia are inconsistent (7, 55, 57, 96). No such association was noted in geographic studies from Sweden (57), Russia (55), and the United States (7), nor did studies in Wisconsin (11) and New York (81) find evidence of increased risk among dairy farmers in comparison to that among other farmers. On the other hand, the frequency of bovine leukemia in areas in Poland (96) correlated positively with leukemia rates among humans, and Donham et al (28) found elevated rates of acute lymphatic leukemia among Iowa men from counties where dairying was an important agricultural activity. The rates for acute lymphatic leukemia were the highest among persons from Iowa counties where dairy herds were known to be infected with the bovine leukemia virus. Burmeister et al (18) also reported higher risks for unspecified lymphatic leukemia among Iowa farmers from dairying counties. In summary, despite some suggestive findings, the weight of serologic and epidemiologic evidence gives little support to a role for bovine leukemia viruses in the etiology of human leukemia.

Other zoonotic viruses, such as that involved in fowl leukosis, have been considered possible etiologic agents

Table 4. Risk of melanotic and nonmelanotic skin cancers and cancer of the prostate, testis, kidney, bladder and brain among farmers from various countries. (Numbers and risks connected with a broken line are figures for the included group of cancer sites)

Country[a]	Cancer sites													
	Melanoma		Non-melanotic skin		Prostate		Testis		Bladder		Kidney		Brain	
	N[b]	Risk	N[b]	Risk	N[b]	Risk	N[b]	Risk	N[b]	Risk	N[b]	Risk	N[b]	Risk
I. Proportionate mortality ratios (risk = PMR)														
United States, Washington (65)	16	0.73	48	1.25	842	1.02	9	0.88	213	0.87*	89	0.89	69	1.11
United States, California (73)	16	1.26	30	1.55*	304	1.07	5	1.37	86	0.86	44	1.07	18	0.88
United States, Iowa (16)	105	----------	----------	1.13	1 138	1.10*	..	..	274	0.92	178	1.08	111	1.10
The Netherlands (89)	69	----------	----------	1.70	132	0.88	..	..	56	0.78	10	0.73	..	..
British Columbia (39)	..	..	..	..	764	1.13*	..	..	215	0.97	..	..	..	..
II. Standardized mortality ratio (risk = SMR)														
United States (43)	..	..	..	..	263	0.88*	..	..	165	0.73*	..	..	223	0.97
United States, veterans (90)	..	..	..	..	120	1.06	..	..	20	0.50*	21	0.80	27	1.04
England and Wales[c] (38)	..	..	..	1.19	..	1.22	..	..	..	0.70	..	..	..	0.99
Canada (51)	..	..	..	..	6	1.16	..	..	..	..	..	..	4	1.77
Denmark (25)	..	..	..	..	140	----------	----------	----------	----------	----------	----------	0.73*	..	..
Australia (63)	..	..	..	..	..	..	..	..	..	0.75*	..	..	..	..
Sweden (82)	92	1.06	28	1.29	1 066	0.96	39[d]	0.90	165	0.86*	240	0.85*	164	1.03
III. Standardized incidence ratio (risk = SIR)														
Sweden (93)	383	0.85*	1 690	1.07*	6 839	1.06*	128	0.95	1 297	0.73*	1 080	0.86*	856	1.06
IV. Case-referent studies (risk = odds ratio)														
United States, Roswell Park (26)	6	3.11*	43	0.76	26	1.52	5	1.14	19	0.57*	6	1.49	2	6.53
United States, Third National Cancer Survey (94)	..	..	..	..	37	1.52*	1	2.00	6	0.65	1	0.58	1	1.73
United States, Massachusetts[e] (30)	..	..	..	..	..	..	..	..	..	..	78	1.83	..	..
Percentage of surveys showing excess (with number excessive/total in parentheses)[f]	60 (3/5)		83 (5/6)		77 (10/13)		50 (3/6)		0 (—/14)		40 (4/10)		73 (8/11)	
Risk category[g]	Intermediate		High		High		Intermediate		Low		Intermediate		High	

[a] Reference number in parentheses.
[b] For the proportionate and standardized mortality ratios N = number of deaths among the farmers; for the case-referent studies N = number of farmers among the cases.
[c] Farmers, foresters, and fishermen.
[d] Cancer of the testis and other genital organs.
[e] Risk determined from the mortality odds ratio.
[f] Does not include a study if the figures given are for a group of sites.
[g] High = cancer occurrence more frequent among farmers than expected (risk ratio > 1.0) in at least two-thirds of the surveys, low = cancer occurrence not elevated or elevated in less than one-third of the surveys, intermediate = cancer occurrence elevated in more than one-third but less than two-thirds of the studies.
* $p \leq 0.05$.

in human leukemia (47). The epidemiologic evidence to support this hypothesis is mixed. Milham (64) used death certificates from Washington and Oregon in a case-referent approach and reported a significantly elevated risk for leukemia and multiple myeloma among poultrymen, and unspecified lymphatic leukemia was elevated among Iowa farmers from counties with a large poultry industry (18). These reports suggest that oncogenic viruses (fowl leukosis) may be involved. Associations between leukemia and poultry production were not seen in other studies however (10, 75).

In several studies (10, 11, 12, 18) the subjects were stratified according to agricultural characteristics of their county of residence to uncover farm-related factors associated with the risk of leukemia. Although no single agricultural factor has been consistently associated with leukemia risk, correlations with insecticide use were noted in Nebraska (10, 12) and Wisconsin (11), with herbicide use in Iowa (18), and with corn production in Nebraska (10) and Iowa (18). Several studies have attempted to correlate specific histological types of leukemia with farm practices. Acute and chronic lymphatic and acute unspecified were the cell types most strongly associated with farming in Nebraska (10, 12) and Iowa (18, 28), while chronic myeloid leukemia showed the strongest association among Wisconsin farmers (11). In Iowa (18) unspecified lymphatic leukemia was elevated among farmers from heavy soybean-producing counties, while in Nebraska (12) acute lymphatic leukemia and acute and chronic myeloid leukemia were associated with corn production.

Other lymphatic and hematopoietic cancers

Other hematopoietic malignancies have not been as extensively studied as leukemia with regard to the role of agricultural factors. In California, farm residence was associated with leukemia mortality, but no association was found with non-Hodgkin's lymphoma, Hodgkin's disease, or multiple myeloma (35).

Cantor (19), using a death-certificate case-referent approach similar to that employed in studies of leukemia (10, 11, 18), found that Wisconsin farmers from heavy fertilizer-, herbicide-, and insecticide-using counties had increased risks of non-Hodgkin's lymphoma. The association between non-Hodgkin's lymphoma and farming in Wisconsin was stronger

Table 5. Risk of cancer of the nose, lung, and connective tissue and of non-Hodgkin's lymphoma, Hodgkin's disease, multiple myeloma, and leukemia among farmers from various countries. (Numbers and risks connected with a broken line are figures for the included group cancer sites)

Country[a]	Cancer sites													
	Nasal		Lung		Connective tissue		Non-Hodgkin's lymphoma		Hodgkin's disease		Multiple myeloma		Leukemia	
	N[b]	Risk	N[b]	Risk	N[b]	Risk	N[b]	Risk	N[b]	Risk	N[b]	Risk	N[b]	Risk
I. Proportionate mortality ratios (risk = PMR)														
United States, Washington (65)	9	0.63	646	0.79*	25	1.52	72	1.01	38	1.07	78	1.25	225	1.07
United States, California (73)	..	..	167	0.64*	8	1.21	36	0.81	20	1.34	22	1.00	97	1.15
United States, Iowa (16)	..	..	1 466	0.78*	56[c]	1.08	208	1.14*	47	1.22	133	1.27*	332	1.10
The Netherlands (89)	..	..	63	0.41*	..	..	..	..	..	..	..	..	..	..
British Columbia (39)	14	1.78	742	0.66*	..	..	102	0.99	..	..	68	1.03	219	1.22*
II. Standardized mortality ratio (risk = SMR)														
United States (43)	..	..	728	0.55*	..	..	348	0.89*	348	----------		0.89*	333	1.16*
United States, veterans (90)	..	..	144	0.83*	..	..	..	..	..	..	..	..	55	1.13
England and Wales[d] (38)	..	..	..	0.84	..	..	..	1.12[e]	..	1.03	..	..	..	..
Canada (51)	..	..	19	0.69	..	..	3	0.62	3	----------		0.62	1	0.33
Denmark (25)	..	..	234	0.44*[f]	..	..	..	..	128	----------				1.03
Australia (63)	..	..	..	0.73*	..	..	..	..	..	..	..	..	..	..
Sweden (82)	10	0.60	453	0.45*	26	0.86	135	1.02	98	0.98	198	1.11	338	0.92
III. Standardized incidence ratio (risk = SIR)														
Sweden (93)	87	0.87	1 224	0.46*	216	1.04	208	1.04	267	1.04	611	1.29*	1 066	1.01
IV. Case-referent studies (risk = odds ratio)														
United States, Roswell Park (26)	..	..	..	..	..	..	19	0.59*	19	0.59*	2	0.41	7	0.58
United States, Third National Cancer Survey (94)	5	0.89	51	0.69*	..	..	1	2.15	1	1.50	1	1.17	2	0.56
United States, Massachusetts[g] (30)	..	..	15	0.79	..	..	..	..	..	..	7	3.09*	..	..
Percentage of surveys showing excess (with number excessive/total in parentheses)[h]	20 (1/5)		0 (—/15)		80 (4/5)		55 (6/11)		75 (6/8)		78 (7/9)		64 (7/11)	
Risk category[i]	Low		Low		High		Intermediate		High		High		Intermediate	

[a] Reference number in parentheses.
[b] For the proportionate and standardized mortality ratios N = number of deaths among the farmers; for the case-referent studies N = number of farmers among the cases.
[c] Connective tissue and bone cancer.
[d] Farmers, foresters, and fishermen.
[e] Lymphosarcoma only.
[f] Cancer of the respiratory system.
[g] Risk determined from the mortality odds ratio.
[h] Does not include a study if the figures given are for a group of sites.
[i] High = cancer occurrence more frequent among farmers than expected (risk ratio > 1.0) in at least two-thirds of the surveys, low = cancer occurrence not elevated or elevated in less than one-third of the surveys, intermediate = cancer occurrence elevated in more than one-third but less than two-thirds of the studies.
* $p \leq 0.05$.

among decedents born more recently and among those less than 65 years of age than among those dying at older ages. Mortality from non-Hodgkin's lymphoma in New Zealand showed a similar age pattern (72). In Iowa, however, the risk of non-Hodgkin's lymphoma was greater among farmers born before 1890 or dying after age 65 (17) and among farmers residing in counties where herbicide usage was high and in counties where chickens, hogs, and dairy products were major commodities. Results from case-referent studies in Sweden are consistent with the association between herbicide use and non-Hodgkin's lymphoma in Iowa and Wisconsin. In the Swedish study herbicide exposure was associated with a fivefold risk of Hodgkin's disease and non-Hodgkin's lymphoma (45). Most herbicide exposures in the Swedish study were farm-related. Prior to this report, Hodgkin's disease had not previously been linked to farming in general or to specific agricultural exposures (44).

Multiple myeloma has been associated with farming in Washington and Oregon (64), Wisconsin (20), Iowa (17), and Texas (1). In Wisconsin, farmers born before 1906 or dying after age 65 were at the highest risk (20), but no such pattern was discernable among Iowa farmers (17). In New Zealand the risk of multiple myeloma was greater among farmers under 65 years of age (72). In Wisconsin and Iowa, however, farmers residing in counties with heavy herbicide and insecticide use or with large chicken inventories were at higher risk than farmers residing elsewhere. Particularly striking was the elevated risk among Wisconsin farmers from heavy insecticide-using counties who were born after 1906. This was the only situation in the Wisconsin study where the relative risk for farmers born more recently was higher than those born earlier. Farmers born during this recent time period are more likely to have engaged in modern, chemical farming than farmers born earlier. In New Zealand (72) farmers in general were at higher risk of non-Hodgkin's lymphoma and multiple myeloma than other occupations. There was no association for dairy or other livestock farmers.

Soft-tissue sarcomas

Since many farmers use herbicides, Swedish reports

Table 6. Surveys with three or more deaths or cases per cancer site among farmers.[a]

Cancer site	Number eligible	Number with risk >1.0[b]	Number with risk ≥ 1.5[b]	Number with risk > 1.0 and < 1.1[b]	Number with statistically significant elevations[b]	Number with statistically significant deficits[b]
Lip	7	7 (100)	6 (86)	— (0)	3 (43)	— (0)
Esophagus	9	1 (11)	— (0)	— (0)	— (0)	3 (33)
Stomach	12	10 (83)	2 (17)	1 (8)	7 (58)	1 (8)
Colon	10	2 (20)	1 (10)	— (0)	— (0)	5 (50)
Rectum	9	1 (11)	— (0)	— (0)	— (0)	— (0)
Liver	7	2 (29)	— (0)	2 (29)	— (0)	2 (29)
Pancreas	12	7 (58)	— (0)	5 (42)	— (0)	4 (33)
Melanoma	5	3 (60)	1 (20)	— (0)	1 (20)	1 (20)
Nonmelanotic skin	5	4 (80)	1 (20)	1 (20)	2 (40)	— (0)
Prostate	12	9 (75)	2 (17)	4 (33)	4 (33)	1 (8)
Testis	5	2 (40)	— (0)	— (0)	— (0)	— (0)
Kidney	9	4 (44)	1 (11)	2 (22)	1 (11)	2 (22)
Bladder	12	— (0)	— (0)	— (0)	— (0)	7 (58)
Brain	8	6 (75)	1 (12)	3 (38)	— (0)	— (0)
Nose	5	1 (20)	1 (20)	— (0)	— (0)	— (0)
Lung	13	— (0)	— (0)	— (0)	— (0)	11 (85)
Connective tissue	5	4 (80)	1 (20)	2 (20)	— (0)	— (0)
Non-Hodgkin's lymphoma	9	4 (44)	— (0)	3 (33)	— (0)	2 (22)
Hodgkin's disease	6	4 (67)	— (0)	2 (33)	1 (17)	1 (17)
Multiple myeloma	7	6 (86)	1 (17)	1 (17)	3 (43)	— (0)
Leukemia	9	7 (78)	— (0)	2 (22)	3 (33)	— (0)
All cancer	12	— (0)	— (0)	— (0)	— (0)	9 (75)

[a] Publications not providing number of cases not included.
[b] Percentage in parentheses.

of an increased risk of soft-tissue sarcoma among farmers and foresters with herbicide exposure are of particular interest (33, 46). The high proportionate mortality ratio for this cancer among Washington farmers (65) and the occurrence of soft-tissue sarcomas among industrial populations exposed to herbicides (24, 70, 97) raise further concerns. However, in a New Zealand case-referent study of soft-tissue sarcomas, in which most of the exposed persons were farmers, the relative risk was elevated, but less than 2 (79). Reports are not yet available from ongoing case-referent studies of soft-tissue sarcoma in the United States that specifically focus on agricultural exposures.

Lip cancer

The excess risk of lip cancer among farmers in six surveys evaluating this site is consistent with the known association with outdoor occupations (54, 59, 60). In one study of discharges from veteran's hospitals in the United States, 27 % of the lip cancer patients, but only 8 % of the referents, were farmers (54). Solar radiation is considered to play the major etiologic role in this excess.

Nonmelanotic skin cancer

As with cancer of the lip, excess mortality from nonmelanotic skin cancer among farmers (16, 26, 48, 65) is consistent with epidemiologic findings implicating ultraviolet radiation as the major etiologic factor (32, 36).

Stomach cancer

In addition to the surveys in tables 2—5, elevated mortality from stomach cancer among farmers has been reported in Kansas (49), Iowa (17), New York (56), and Ireland (78). In Iowa (17) farmers born before 1900 and residing in cattle- and corn-producing counties were at higher risk, while stomach cancer patients from the Roswell Memorial Park Institute showed an association with exposure to grain dusts (56). These findings may be confounded by social class since the risk of stomach cancer is inversely related to socioeconomic status (13). Diet is also thought to play a major role in the origin of stomach cancer, and studies indicate that a high intake of complex carbohydrates or salted food and a low intake of fresh fruits and vegetables are consistently related with high risk (69). This pattern closely parallels the diet of many nonmetropolitan families that emphasizes breads and potatoes rather than fresh fruit and vegetables (88).

There is also evidence that high nitrate intake, either from food or from water, is associated with stomach cancer. The problems caused by high nitrates are examined in detail in a report published by the National Academy of Sciences in the United States (71). Some salient facts from the report are as follows: (i) important sources of nitrates include leaching and surface runoff from croplands, (ii) agricultural watersheds have the highest nitrogen export rates, and (iii) fertilizer was the largest single anthropogenic input of fixed nitrogen into water in the contiguous United States in 1975. The two areas of highest use are the corn belt and the central valley of California. In addition several

reports (2, 50, 76, 98) have concluded that positive correlations exist between stomach cancer and nitrates in drinking water and high consumption of salt-preserved foods, presumably high in nitrate and perhaps in sodium nitrite.

In addition nitrates may interact with common herbicides such as atrazine to produce n-nitrosamine, a known mutagen. Atrazine has a low basicity, and therefore the chemical environment of the stomach may offer a suitable site for n-nitrosamine formation from ingested atrazine in drinking water (95).

Prostatic cancer

Cancer of the prostate is associated with farming occupations in several of the large surveys of occupational groups (16, 26, 65, 94). The positive correlation between county mortality rates for prostatic cancer and chicken inventory (6) is consistent with the excess mortality noted among Washington poultrymen (65). A review of occupation and industry on death certificates from the Alameda and San Francisco counties in California indicated that gardeners and groundskeepers and persons in horticultural services (which included farmers) had elevated risks for prostate cancer (34). However, a case-referent interview study of prostate cancer in Minnesota did not find farmers to be at high risk (77). In Iowa (17) prostate cancer risk was greater among farmers born before 1900 and dying at older ages. This risk was not associated with any particular agricultural commodity, nor have other studies revealed compelling associations with specific agricultural agents.

Brain cancer

Mortality from cancer of the brain and central nervous system was elevated among farmers in Minnesota (23) and among Washington ranchers, dairymen, and poultrymen (65). Children from Maryland with brain cancer were more likely to have lived on farms than children without cancer (42). Previous contact with insecticides was more common among children with brain tumors than among reference children. These differences may be partially due to selective recall, since reported exposure to insecticides did not differ between children with brain cancer and children with other tumors. In an Italian study (67), glioma patients worked in agriculture more often than referents. This association was particularly evident among those first engaged in agricultural work after 1960 and those who worked for more than 10 years; these findings suggest that modern agricultural chemicals which became commonplace in the 1960s may be involved. A report of higher levels of organochlorine compounds in adipose tissue from glioblastoma patients than from noncancer referents (87) also supports the association between pesticides and brain cancer. Although the etiology of brain cancer is not well understood, these findings, plus reports of brain cancer among petroleum workers (86), suggest that exposure to certain chemicals may play a role.

Studies of related occupations

The mortality experience of veterinarians is of interest because of exposures they have in common with farmers, particularly to insecticides and zoonotic viruses. Elevated mortality from cancers of the lymphatic and hematopoietic system, brain and central nervous system, and skin (9) among veterinarians raises suspicion that exposures common to both groups may be involved. The increased relative frequency of skin cancer among veterinarians is confined to practitioners specializing in large animals, in accord with their presumed greater exposure to sunlight. Mortality from brain cancer was found to be excessive among all types of veterinarians (small animal, large animal) and nonpractitioners such as regulators and meat inspectors and is, therefore, not likely due to occupational exposures, but rather may reflect the quality of medical care received by professional groups. The leukemia excess is probably linked to x-ray exposure, since the excess is mostly confined to veterinarians who practiced during the 1950s and 1960s, a period when there was rapid growth in diagnostic radiography without adequate attention to safety procedures (9). The role of zoonotic animal viruses in the origin of leukemia is possible, but unlikely, since we have no information to suggest that the level of contact of veterinarians with supposedly infectious animal agents has varied appreciably over the past several decades. In conclusion, although the cancer mortality pattern among veterinarians resembles that of farmers, it is unlikely that common environmental agents are involved, except for cancer of the skin.

Approximately 65 % of all pesticides used in the United States in 1976 (74 % of the herbicides, 59 % of the insecticides, and 39 % of the fungicides) were used by farmers (31). Twenty-five percent may have been applied by commercial applicators (52), who may have considerable contact with pesticides. Studies of pesticide applicators suggest that these workers may experience high risks for certain cancers, particularly cancer of the lung (5, 8), which is not excessive among farmers. Slight excesses of leukemia have also been reported among some pesticide-exposed populations (8, 27, 83), but other studies have failed to uncover significant excesses (66, 91, 92). None of the studies had the statistical sensitivity necessary to detect significant elevations in leukemia and other cancers less common than lung cancer.

Discussion

Epidemiologic studies suggest that farmers, despite their generally favorable overall mortality experience, have elevated risks for cancers of the lymphatic and hematopoietic system, stomach, prostate, brain, lip,

skin, and connective tissue. The evidence is strongest for cancer of the lip, for which heavy exposure to ultraviolet radiation undoubtedly plays a predominant role. The epidemiologic evidence for an association between farming and lymphatic and hematopoietic tumors is intriguing. Potential biases related to diagnostic practices and the quality of medical care must, however, be considered for several of the cancers commonly high among farmers. Less sensitive diagnostic practices and a limited availability of medical care in rural areas may result in an underascertainment of leukemia and cancers of the brain and prostate. Such bias would, however, tend to understate the risk of these cancers among farmers. Although studies to evaluate the level of ascertainment among farmers apparently, have not been attempted, two recent investigations comparing characteristics of prostate cancer in Iowa farmers and nonfarmers have been completed. An unpublished review of records of 800 histologically confirmed prostate cancer cases referred to University of Iowa hospitals between 1966 and 1978 indicated that the diagnosis of prostate cancer by a screening examination was less frequent for farmers (4 %, 9 %, 19 %) than for nonfarmers (10 %, 16 %, 20 %) among those aged 75, 65—74, and 50—64 years, respectively. The stage of diagnosis was localized less among farmers for each of the three age groups. Although these results were not statistically significant within each age group, they do suggest that ascertainment is lower among farmers. Another study from the Iowa Health Registry (1971—1978) on stage of diagnosis of prostate cancer indicated that fewer farmers than nonfarmers were diagnosed at stage I. The stage at diagnosis was localized in 64.3 % of 1 564 farmers, compared to 69.5 % of 2 693 nonfarmers. This difference is statistically significant ($p < 0.01$).

Specific agents that might contribute to the excesses of certain cancers among farmers have yet to be identified. The identification of such agents is difficult because farm work involves exposure to a wide variety of potentially hazardous agents for which details on duration and intensity are generally unavailable. Epidemiologic evidence for the role of oncogenic animal viruses is weak and consists primarily of sporadic reports of leukemia excesses among certain farm populations. No serologic evidence of human infection from such viruses has been found. Heavy pesticide use may account for some excess risk of cancer among farmers. The excess of leukemia among farmers suggests a link with pesticide exposure in view of the suggestion of an increased risk of leukemia among pesticide applicators and producers and case reports of pesticide-related aplastic anemia and chromosome aberrations. Although certain chemicals associated with modern agriculture are suspect, analytic studies are now needed to clarify associations between farm work and particular cancers and to identify the specific etiologic agents. These studies should include an assessment of exposure through ambient air monitoring, patch tests for skin exposures and biochemical monitoring of levels of suspect agents or their metabolites in body fluids or tissues.

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Received for publication: 16 April 1985

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Pesticide-Related Health Problems and Farmworkers

by Marion Moses, MD

Farmworkers labor under some of the worst conditions of any group of workers in the United States. Farm work not done by farm owners and their families is largely performed by ethnic minorities, primarily Hispanics of Mexican origin, who may comprise 80% to 90% of the work force (Martin, 1985). American blacks comprise the next largest group, with a smaller number of Haitians, Filipinos, Vietnamese, Laotians, Koreans, Jamaicans, and others. The U.S. Department of Agriculture (USDA) estimates an annual agricultural work force of approximately two million hired workers and three million farm owners and their families (unpaid). California, Texas, and Florida are the leading states in number of hired farmworkers (USDA, 1986).

THE WORKERS

Farmworkers are excluded, completely or partially, from federal laws that protect other workers including: the National Labor Relations Act (which guarantees the right to join a union and bargain collectively); the Fair Labor Standards Act (which governs minimum wage and child labor); and the Occupational Safety and Health Act (which governs standards of health and safety in the workplace). Furthermore, most migrant farmworkers are excluded from state laws such as workers' compensation and unemployment insurance.

THE WORKPLACE

The USDA defines a farm as a place that sells or could sell $1000 of agricultural products during the year. There are 2,214,429 farms in the U.S., and one billion acres of cropland (not including pasture and rangeland). The average farm size is 455 acres; however, 14% of the farms with the highest income control 50% of the land (USDA, 1986).

Farmworkers labor under some of the worst conditions of any group of workers in the United States.

The largest amount of acreage in the U.S. is in crops such as corn, wheat, soybeans, and cotton, in which cultivating and harvesting is almost completely mechanized. Labor-intensive crops, primarily fruits and vegetables still require large numbers of workers for hand-cultivating and harvesting. It is the picking of these crops, which Edward R. Murrow called "The Harvest of Shame," that is the major work of the migrant and seasonal farmworker.

The agricultural workplace poses many hazards related to the use of tractors, harvesters, ladders, irrigation and other equipment and machinery. Other hazards include heat stress, bee stings, snake bites, dusts, and airborne allergens. This review will focus on an additional and more insidious hazard faced by agricultural workers—pesticide exposure.

PESTICIDE USE IN AGRICULTURE

Almost all commercial crops in the U.S. are heavily and repeatedly sprayed with chemical pesticides, the majority of which are toxic materials that pose both acute and chronic health problems to exposed workers.

The largest single user of pesticides in the U.S. is agriculture, which, in 1985, accounted for 77% of nationwide usage of 1.08 billion pounds (does not include wood preservatives); and 78% of expenditures of $4.6 billion (U.S. Environmental Protection Agency, 1986). In California, where approximately 250 million pounds of pesticides are used annually, 92% is used in agriculture.

Pesticides must be registered with the Environmental Protection Agency (EPA) before they can be legally sold or used in the U.S. Of the 1,200 pesticide active ingredients currently registered, about half are used in agriculture. These pesticide active ingredients are combined with other so-called "inert" ingredients into approximately 35,000 different commercial products or formulations.

Inert ingredients, which may be as toxic or even more toxic than the pesticide itself, are neither required to be tested for acute and chronic health effects nor listed by name on the pesticide label. Inert ingredients may comprise 90% or more of a registered pesticide product, but due to "trade secret" provisions of the Federal Insecticide Fungicide Rodenticide Act (FIFRA), the identity of these ingredients cannot be released to the public (even in cases of serious poisoning) by state or federal regulatory agencies.

The pattern of pesticide use in

agriculture has changed greatly, with a 175% increase in herbicide use from 25 years ago; herbicides now represent two thirds of all usage. Widely used herbicides include: alachlor (Lasso), Atrazine, 2,4-D, Paraquat (Gramoxone), Simazine (Princep), and trifluralin (Treflan).

The use of the less persistent but more acutely toxic organophosphate and N-methyl carbamate insecticides has increased with the banning or restriction of the environmentally persistent chlorinated hydrocarbons (DDT, Aldrin, Dieldrin, Lindane, Chlordane, Heptachlor, and Toxaphene). Widely used organophosphates include chlorpyrifos (Dursban, Lorsban), diazinon (Spectracide), malathion, parathion, Phosdrin, methamidophos (Monitor), and DDVP (Vapona). Widely used N-methyl carbamates include aldicarb (Temik), carbaryl (Sevin), carbofuran (Furadan), and methomyl (Lannate, Nudrin).

Highly toxic fumigants such as methyl bromide and D-D (Telone or 1,2-dichloropropane/1,3-dichloropropene) are being used in increasingly larger amounts as replacements for DBCP, banned in 1979, and ethylene dibromide, banned in 1984.

While fungicides represent a small percentage of total volume of pesticide use, they are important because many are carcinogens and/or teratogens. They are used extensively on fruits and vegetables and may persist as residues in the marketed fresh or processed product (National Academy of Science, 1987). Widely used fungicides include Benomyl, Captan, chlorothalonil (Bravo, Daconil), Maneb, and Mancozeb (Dithane).

ENVIRONMENTAL PESTICIDE EXPOSURE

Pesticides are among the few toxic materials deliberately added to the environment. Their use in agriculture is a major source of involuntary exposure of the general public to carcinogens due to contamination of fresh and processed food by persistent pesticide residues, most of which cannot be washed off or degraded by cooking.

The dominance of chemical pest control in agriculture in the U.S. began in the middle and late 1940s. By the middle 1950s, evidence of widespread contamination of fish, birds, and wildlife by pesticides was mounting. EPA and other monitoring agencies throughout the world have shown that pesticide contamination is global, including snow caps of the highest mountains and core samples from the arctic ice pack. A recent California study shows that pesticides concentrate in fog (Glotfelty, 1987).

The primary route of worker exposure to the majority of pesticides is the skin, and not, as commonly believed, the respiratory system.

Humans are contaminated with pesticides, especially fatty tissue. Breast milk is contaminated with a variety of pesticides (Rogan, 1980; Savage, 1981), with high levels in the U.S. found in women in the rural south (Barnett, 1979). The highest have been reported in farmworker women in cotton growing areas in Central America (deCampos, 1979). Many pesticides cross the placenta, and newborn infants are already contaminated at birth.

A problem inherent in current pesticide application technology is drift, or dispersal of the pesticide away from the site of application. Only 10% to 15% of applied pesticides actually reach the target pest, with the remaining 85% to 90% dispersed off-target to air, soil, and water through drift, runoff, volatilization, off-gassing, etc. (Matthews, 1982).

Pesticides can drift as far as 50 miles from the site of application, depending on particle size and wind conditions. Pesticide residues can be persistent soil contaminants and a continuing source of contamination from runoff as well as dust. A dust storm was found to have carried pesticides from Texas to Ohio (Akesson, undated). Significant concentrations of almost all pesticides applied aerially or by ground rig sprayers can drift up to a mile or more from the site of application, even under the best wind conditions (Akesson, 1964; Matthews, 1982).

Communities that abut agricultural land are at risk from pesticide drift, and while some episodes of illness have been reported (Goldman, 1987; Ratner, 1986), the extent of the problem is essentially unknown and undocumented. In 1987 in California, pesticide drift caused three major evacuations of community residents—two from Guthion being used in peach orchards and one from methyl bromide off-gassing from a gladiola field.

Agricultural pesticide use is the major cause of non-point source contamination of groundwater (a non-point source means there is not a single identifiable place such as a toxic dump, factory, sewer line, etc. causing the contamination, see Table 1). Nationwide, 50% of the drinking water supply is from groundwater and in rural areas, 90% or more.

OCCUPATIONAL PESTICIDE EXPOSURE IN AGRICULTURE

The primary route of worker exposure to the majority of pesticides is the skin, and not, as commonly believed, the respiratory system. Fumigants, which are in the form of gases, are a notable exception. This accounts, in part, for their greater toxicity. However, the skin is a source of absorption for them as well (van den Oever, 1982, 1984). Persistence of pesticides on the skin for many months after the last known exposure has been shown (Kazen, 1974).

Workers who mix, load, and apply pesticides are exposed to the concen-

trated form of the pesticide. A large number of workers are exposed from the use of ground rig spray equipment. A common method uses tractor-mounted or drawn tanks with attached booms and nozzles that vary in number and size. Most are open-cab with minimal protection for the applicator. Air blast sprayers, used in nut and fruit groves and orchards, are among the most highly polluting equipment.

Nationwide, the percentage of pesticides applied by fixed-wing aircraft or helicopters (called crop dusters) is unknown. In California, it is estimated that more than half are applied by such methods. The pilots are less at risk of poisoning than the ground crews who mix and load the pesticide, and especially the flaggers who direct the crop duster from the ground.

Chemigation, or putting the pesticide in the irrigation water, is increasing. Pesticides are also incorporated into soil (usually granular formulations), or as in the case of fumigants, injected into the soil and then tarped with plastic sheeting to minimize loss from off-gassing. Animals are also treated with pesticides, externally through the use of "dips," or in their feed. Residues of pesticides from such use can then contaminate the meat, milk, eggs, gelatin, and other animal products.

Fieldworkers who harvest and cultivate crops are exposed to residues of pesticides, primarily on leafy surfaces (dislodgeable residues), but also on the crop itself or in the soil or duff (decaying plant and organic material that collects under vines, trees, etc.). Farmworkers are also exposed to pesticides by crop dusting aircraft or ground rig sprayers applying pesticides to adjacent fields, often the very field in which they are working.

ACUTE HEALTH EFFECTS OF PESTICIDES

Acute health effects of pesticide exposure range from eye and upper respiratory tract irritation and contact dermatitis to systemic poisoning, which can lead to death.

The number of workers in the United States affected by pesticides is unknown, although estimated at 300,000 a year (Wasserstrom, 1985). A Nebraska study of emergency room visits and hospitalizations for pesticide-related illness, conducted during the 1984-85 crop season, found an annual incidence of 1.35 cases per 10,000 population.

The great majority of workers do not know the names of pesticides to which they are exposed or the acute and chronic risks to their health.

Organophosphates were responsible for 25% of the incidents and anhydrous ammonia for 33% (Rettig, 1987).

Only the state of California requires mandatory reporting of pesticide-related illness, with 1,211 cases in 1986 (California Department of Food and Agriculture, 1987). However, the California system is based on doctor reporting through the workers' compensation system. Many affected workers never see a doctor, are not properly diagnosed or are unaware of their rights under the law (Kahn, 1976; Wasserstrom, 1985). The most frequently mistaken diagnoses in workers with pesticide poisoning are flu and gastroenteritis.

The organophosphate pesticides, similar to nerve gas in their effects on the nervous system (inhibition of the enzyme cholinesterase), are the most toxic, and have been responsible for the great majority of systemic poisonings and deaths in agricultural workers. Other highly toxic pesticides that have caused serious illness and death include the dinitrophenol class of chemicals and the fumigants. The large body of literature on the diagnosis and management of acute pesticide poisoning will not be discussed in detail in this review (Hayes, 1982; Namba, 1971; Morgan, 1982; Tafuri, 1987).

Many poisonings of entire crews of farmworkers from skin absorption of pesticide residues on crops they were picking have been documented (Midtling, 1984; Peoples, 1978; Saunders, 1987). Most are from organophosphate pesticides, especially Parathion.

To prevent these poisonings, California set quarantine times in 1972, or "reentry intervals" for some pesticides—making it illegal for workers to enter a field for a specified amount of time after it had been sprayed. California is the only state to have its own reentry intervals, which are much longer and cover more crops and pesticides than the weaker EPA standards promulgated later (see Table 2). If no specific reentry intervals have been set, the fields may be reentered legally (but not necessarily safely) "when dusts have settled and sprays have dried."

These intervals do not always protect workers from acute illness, and there have been poisonings even when the legal reentry time was observed (Saunders, 1987). The author investigated the following situation, which illustrates the failure to protect workers: A 32-year-old worker who was sent into a tomato field that had been sprayed one hour before with the organophosphate, Monitor (methamidophos), died six hours later. Reentry intervals do not address the problem of worker exposures to residues of carcinogenic pesticides or pesticides with other potential chronic effects.

EFFECTS OF PESTICIDES ON THE SKIN

More than 40% of all reported occupational diseases in the U.S. are disorders of the skin. The actual incidence is estimated to be ten to 50 times higher than the reported incidence of 1.5 cases/1,000.

TABLE 1

Oncogenic and Suspect Pesticides Found in U.S. Groundwater Based on EPA Data with Classification Code* (as of April 1988)

Pesticide	Classification*	Pesticide	Classification*
Acephate (Orthene)	C	CPA	NA
Acetochlor	B2	Cypermethrin	C
Aciflurofen (Tackle/Blazer)	B2	2,4-D	C
Alachlor	B2	Dalapon	NA
Aliette	C	Daminozide (Alar)	B2
Amdro	B2	DBCP	B2
Amitraz	C	DDT, DDE, DDD	B2
Amitrole	B2	DDVP	B2
Apollo (Clofentezine)	C	Diallate	NA
Assert	D	Diclofop-methyl (Hoelon)	NA
Assure	C	Dicofol	C B2
Asulam	C	p-Dichlorobenzene	C B2
Atrazine	C	Dieldrin	B2
Barban (Carbyne)	NA	Dimethoate	NA
Baygon (Propoxur)	B2	Dinoseb	C
Baytan (Triadimenol)	C	2,4-DP Acid	NA
Benomyl	C	Ethalfluralin	NA
Biphenox (Mowdown)	NA	Ethylene dibromide	B2
Biphenthrin	C	Ethylene thiourea (ETU)	B2
Bromacil	NA	Fenarimol	D E
Bromoxynil	C	Fluridone	E
Cadmium	B1	Folpet	B2
Captafol	B2	Fomesafen	C
Captan	B2	Formaldehyde vapor	NA
CDEC	NA	Furmecyclox	B2
Chloramben	NA	Galben	NA
Chlordane	B2	Gardona	C
Chlordimeform	B2	Glyphosate (Roundup)	C
Chlorobenzilate	NA	Guthion	D
Chlorothalonil	B2	Haloxyfop-methyl (Verdict)	C
4-chloro-o-toluidine	NA	Harvade	C

* *Classification Code*
A—Human Carcinogen.
B—Probable Human Carcinogen.
B1—Sufficient evidence of carcinogenicity from animal studies with limited evidence from epidemiologic studies.
B2—Sufficient evidence of carcinogenicity from animal studies, with inadequate or no epidemiologic data.

Workers in agriculture are at a four times greater risk of skin disease than workers in other industries. Most pesticide-related skin problems are primary irritant or contact dermatitis. However, pesticides can also cause allergic contact dermatitis, which can become a chronic problem—in some cases the workers can be permanently disabled since they cannot tolerate even minute exposures to the pesticide. Often the condition is aggravated by sunlight, adding to the disability.

Pesticides shown to be sensitizers, ie, cause allergic contact dermatitis include: alachlor (Lasso), Benomyl (Benlate), Botran, Captan, Captafol (Difolatan), Dazomet, Dyrene (Anilazine), malathion, Maneb, Mancozeb, Naled (Dibrom), PCNB (Pentachloronitrobenzene), Propachlor, Pyrethrum, Rotenone, Thiram, Zineb, and Ziram, among others (Adams, 1983).

A major difficulty in making the diagnosis of allergic contact dermatitis from pesticide exposure in agricultural workers is determining if the dermatitis is from the pesticide or the crop itself. Crops that can cause allergic dermatitis include: artichokes, asparagus, brussel sprouts, cabbage, chicory, chives, citrus, garlic, leeks, onions, and pineapple, among others. Patch testing is neces-

Pesticide	Classification*	Pesticide	Classification*
HCB (cont. with PCNB)	B2	Permethrin	NA
Heptachlor	B2	PHMB	NA
Hoelon	NA	Picloram	NA
Imiden (Phosmet)	C	Primicarb	NA
Isoxaben	C	Prochloraz	C
Kerb (Pronamide)	C	Profluralin	NA
Lactofen	B2	Propazine	C
Larvadex (Cyromazine)	NA	Propioconazol (Tilt)	C
Lindane	B/C	Pydrin	NA
Linuron	C	Rabon	NA
Maleic hydrozide	NA	Resmethrin	NA
Mancozeb	NA	Ronilan	E
Maneb	NA	Rotenone	pending
MBC	NA	Savey	C/B2
Metalaxyl	E	Sutan	NA
Methane arsenic acid	NA	Telone II	B2
Methidathion	C	Terbuthylazine	NA
Metolachlor	pending (C)	Terbutryn	C
Methoxychlor	NA	Tetrachloroethylene	A
Metronidazole	NA	Toxaphene	NA
Mirex	NA	1,1,2-Trichloroethane	NA
Monuron	NA	Trichlorfon	NA
Nemacur	NA	Tridiphane	NA
Nitrofen (TOK)	NA	Trifluralin	C
Norflurazon	NA	UDMH (Daminozide metab.)	B2
OPP	NA	Vel	NA
Oryzalin (Surflan)	C	Vinylidene chloride	NA
Oxadiazon (Ronstar)	B2	Zineb	NA
Paraquat	C		
Parathion	C		
PCNB	D		

C—Possible Human Carcinogen. Limited evidence of carcinogenicity in the absence of human data.
D—Not classifiable as to human carcinogenicity. Inadequate or no human and animal data for carcinogenicity.
E—Evidence of noncarcinogenicity for humans. No evidence of carcinogenicity in at least two animal species in adequate studies, based on available evidence and does not mean is not a carcinogen under any circumstances.
NA—Not available or not provided.

sary to identify the allergen and confirm the diagnosis.

CHRONIC EFFECTS OF PESTICIDES

Little is known about the extent or magnitude of chronic health problems related to occupational exposure to pesticides because appropriate studies have not been done. Nor is the maintenance of records of pesticide usage that would document exposures required by current law. Most workers are exposed to many different pesticides (and "inert" ingredients) over a working lifetime and have many different employers, often for only short periods of time. The great majority of workers do not know the names of the pesticides to which they are exposed or the acute and chronic risks to their health.

Lack of record-keeping and the failure to document exposures and illness are reasons for little worker population-based scientific data on the extent of chronic health problems in farmworkers from pesticide exposures. In this regard, the almost universal response of the agricultural industry to concerns of farmworker health effects from chronic, low-level exposure to pesticides is: if there were a problem we would know about it.

Another problem in documenting chronic and delayed health effects from farmworkers' exposure to pesticides is the long period of clinical latency for some of the effects, especially cancer. The time from last exposure to development of disease may range from 15 to 30 years.

A large percentage of the pesticides widely used in agriculture are animal carcinogens and/or teratogens (see Tables 1 and 3). Enormous deficiencies in the toxicology submitted to EPA by the agrichemical companies on the acute and chronic toxicity of their products have been reported (Begley, Scandal in the testing lab. *Newsweek*, May 30:83, 1983). These data gaps and their implications for the safety of workers, consumers and the environment have been the subject of many reports (National Academy of Science, 1987; Mott, 1984; U.S. General Accounting Office, 1980, 1986a, 1986b, 1986c).

Based on what is known from laboratory animal studies and from the few human studies, chronic effects of concern in pesticide-exposed populations include cancer, birth defects, neurobehavioral deficits, neuropsychological changes, and reproduction and fertility problems. Such chronic effects may occur with no indication of any acute health effects, even with long-term exposure over a working lifetime. Chronic effects can occur though exposure to the pesticide ceased many years before.

PESTICIDES AND CANCER IN HUMANS

Several of the early studies of cancer in humans exposed to pesticides were done at pesticide manufacturing plants and reported no evidence of increased risk of cancer. Such early reports were used to conclude that pesticides could be used safely and posed no carcinogenic risk to occupationally exposed workers, or to the general population exposed to much lower levels.

Drawing such conclusions from these studies is problematic. The number of deaths was very small, and a low incidence cancer (such as lymphoma, liver, brain) may not have been found because the sample was too small or the clinical latency period was too short. Since cancer is a disease of long latency, too few years might have passed for the effect to be demonstrated. Both of these factors could bias the studies toward finding no significant effects (Shindell, 1986). In addition, many of these studies had serious design flaws, and some were based on poorly documented company records.

Little is known about the extent or magnitude of chronic health problems related to occupational exposure to pesticides because appropriate studies have not been done.

Several occupational groups whose pesticide exposure may put them at increased risk of cancer have been studied. Among them are farm owners and managers, farmworkers, pesticide sprayers, structural pest control operators (exterminators), pesticide manufacturing workers, and grain mill workers.

Malignant Lymphoma

Increased risk for malignant lymphoma has been found in farmers in California (Stubbs, 1984), Iowa (Burmeister, 1981, 1983), Minnesota (Cantor, 1985), Utah (Schumacher, 1985), Wisconsin (Saftlas, 1987), and New Zealand (Pearce, 1985); and in grain mill workers (Alavanja, 1987b).

A case-control study in Kansas found increased risk of non-Hodgkin's lymphoma in farmers who used herbicides more than 20 days a year; even higher risk was found for farmers who frequently mixed or applied herbicides themselves. The excess mortality was associated with exposure to the herbicide 2,4-D (Hoar, 1986).

In Iowa and Minnesota farmers, excess mortality for non-Hodgkin's lymphoma was associated with exposure to methyl bromide, pentachlorophenol, insecticides, and herbicides (Everett, 1985). Increased risk for small cell lymphocytic lymphoma was associated with exposure to nicotine, lindane, glyphosphate (Roundup), Atrazine, and Cyanazine, and, for all types of non-Hodgkin's lymphoma, with exposure to DDT, chloramben, and carbofuran (Cantor, 1985).

One case study reports two California firemen who had cleaned up a tank truck spill of the fumigant 1,3-dichloropropene and died six years later of malignant lymphoma (Markovitz, 1984).

Leukemia

Increased risk for leukemia has been found in farmers in Iowa (Burmeister, 1981, 1982), Minnesota (Blair, 1985a), Nebraska (Blair, 1979, 1985b), North Carolina (Delzell, 1985), Oregon and Washington (Milham, 1971), Wisconsin (Saftlas, 1987), and British Columbia (Gallagher, 1984).

In Iowa and Minnesota farmers, excess risk of leukemia was associated with exposure to Ethoprop, nicotine, Methoxychlor, and DDT (Blair, 1985a), and with exposure to insecticides and herbicides (Everett, 1985). In Iowa, the risk was higher for farmers who lived in the counties using the most herbicides (Burmeister, 1982), and in Nebraska for farmers from high insecticide use counties (Blair, 1979).

Multiple Myeloma

Increased risk for multiple myeloma has been found in farmers in Iowa (Burmeister, 1981, 1983), Washington (Milham, 1971), Wisconsin (Cantor, 1984; Saftlas, 1987), Australia (Nandakumar, 1986), and Sweden (Wiklund, 1986a); in Finnish herbicide sprayers (Riihimaki, 1982), and in orchard farmers in New Zealand (Pearce, 1985). In Wisconsin

TABLE 2

Reentry Intervals (REI)* in Days (1988 California Department of Food and Agriculture and the Environmental Protection Agency for Selected Pesticides)

	CALIFORNIA						EPA
Pesticide	Apples	Citrus	Corn	Grapes	Peaches	Other	All Crops
All Category I†	1	1	1	1	1	1	—
Aldicarb (Temik)	1	1	1	1	1	1	1
Anilazine (Dyrene)	2	2	2	2	2	2	1
Carbofuran	—	—	14	—	—	—	2
Chlorpyrifos	—	2	—	—	—	—	4
Diazinon	—	5	—	5	5	—	—
Dimethoate	—	2	—	2	—	—	4
Dioxathion	—	30	—	30	30	—	1
Disulfoton	2	2	2	2	2	2	1
Endosulfan	2	2	2	2	2	2	2
Ethion	2	30	2	14	14	2	1
Fenamiphos (Nemacur)	1	1	1	1	1	1	2
Fensulfothion	1	1	1	1	1	1	1
Guthion	14	30	—	21	14	14	1
Malathion	—	1	—	1	1	—	—
Methidathion	2	30,40	2	2	2	2	1
Methomyl (Lannate)	2	2	2	2	2	—	2
Methyl bromide	—	—	—	—	—	—	2
Methyl parathion	14	14	14	14	21	14	1
Mevinphos (Phosdrin)	2	4	2	4	4	2	—
Monitor	2	2	2	2	2	2	1
Monocroptophos	2	2	2	2	2	2	1
Naled (Dibrom)	—	1	—	1	1	—	1
Parathion-ethyl	14	30,45,60,90	14	21	21	14	2
Phorate (Thimet)	2	2	7	2	2	2	1
Phosalone (Zolone)	—	7	—	—	7	1	1
Phosmet (Imidan)	—	—	—	5	5	—	1
Propargite (Omite)	—	14	—	14	—	—	7
Propargite (Omite CR)	—	42	—	—	—	—	—

* *A reentry level (REI) is a quarantine period after a pesticide has been sprayed before workers are permitted to enter the field. When a longer interval is not on the label, workers can enter "when sprays have dried and dusts have settled."*

† *The most acutely toxic, with oral LD50 less than 50 mg/kg, dermal LD50 less than 200 mg/kg or inhalation LD50 less than 2000 mg/l.h. In California (but not EPA) all Toxicity Category I pesticides have a one day REI.*

farmers, excess risk for multiple myeloma was found in those born after 1905 and living in high insecticide use counties (Cantor, 1984).

A case-control study using Surveillance Epidemiology and End Results (SEER) data in selected counties in Washington State and Utah, and in metropolitan Atlanta and Detroit, found the highest risk for multiple myeloma in subjects who reported past exposure to pesticides (Morris, 1986).

Testicular Cancer

Increased risk of testicular cancer has been found in farmers and farm managers in England and Wales (McDowall, 1984) and in agricultural workers in Texas (Mills, 1984).

Statistically nonsignificant increased risk of testicular cancer has been found in pest control operators in Sweden, where mortality ratios were shown to increase from 1961-66 to 1967-73 to 1974-79 (Wiklund, 1986b). Statistically nonsignificant increased risk was found in farmers in Wisconsin (Saftlas, 1987), and in pesticide manufacturing workers in Michigan and Arkansas where the only common exposure the workers had was

to methyl bromide (Wong, 1984).

Two cases of testicular cancer in 30-year-olds, diagnosed within a year of each other, were reported in Illinois. Both had had occupational exposure to pesticides at the same canning plant (Prabhakar, 1978).

Cancer of the Gastrointestinal Tract

Increased risk for liver cancer has been found in agricultural workers in New Jersey (Stemhagen, 1983) and in Swedish grain millers (Alavanja, 1987b). A trend for increasing risk of liver cancer from 1961 to 1979 was found in Swedish farmers (Wilkund, 1986a). Statistically nonsignificant elevated risk has been found in pesticide manufacturing workers (Wong, 1984); and for liver/gallbladder cancer in California farmworkers, both white (includes Hispanics) and nonwhite, and in farm owners, both white (includes Hispanics) and nonwhite (Stubbs, 1984).

A five-center collaborative study found statistically nonsignificant elevated risk of liver cancer for pesticide exposure, employment in agriculture, employment in livestock agriculture, and for occupation as farmer or farmworker. No consistent trend between years of farming and risk was demonstrated (Austin, 1988).

Increased risk of stomach cancer has been found in farmers in Iowa (Burmeister, 1981), British Columbia (Gallagher, 1984a), Wisconsin (Saftlas, 1987), and Sweden (Wiklund, 1986a); and in farmworkers in California (Stubbs, 1984). Statistically nonsignificant elevated ratios were found in British Columbia farmworkers (Gallagher, 1984b); and in pesticide manufacturing workers (Mabuchi, 1980).

Excess mortality from pancreatic cancer has been found in grain mill workers (Alavanja, 1987a); and in farmers in British Columbia (Gallagher, 1984b), Iowa (Burmeister, 1981), and Wisconsin (Saftlas, 1987). Statistically nonsignificant elevated ratios were found in East German pesticide sprayers (Barthel, 1981) and British Columbia farmworkers (Gallagher, 1984a, b).

Lung Cancer

Excess mortality from lung cancer has been found in Florida pest control operators (Blair, 1983); in Maryland pesticide manufacturing workers (Mabuchi, 1980); and in East German pesticide sprayers (Barthel, 1981). Statistically nonsignificant increased ratios were found in U.S. pest control operators (Wang, 1979); in California farmers (Stubbs, 1984); in pesticides sprayers in England and Wales (Coggon, 1986); and in Finnish pesticide sprayers (Riihimaki, 1982).

In the 1970s, several case reports suggested a possible association between pesticide exposure and cancer in children.

Brain Cancer

Excess mortality from primary brain cancer was found in California farmworkers (Stubbs, 1984) and farmers in Italy (Musicco, 1982). Statistically nonsignificant elevated ratios were found in Florida pest control operators (Blair, 1983); in herbicide sprayers in England and Wales (Coggon, 1986); in pesticide manufacturing workers (Wong, 1984); and in farmers in Iowa (Burmeister, 1981), North Carolina (Delzell, 1985), and Wisconsin (Saftlas, 1987).

CANCER IN CHILDREN AND PESTICIDE EXPOSURE

In the 1970s, several case reports suggested a possible association between pesticide exposure and cancer in children. In Ohio, five children were diagnosed with neuroblastoma at the same hospital in the same year and all of the mothers of the children had prenatal exposure to chlordane (Infante, 1978).

Nine cases of colorectal cancer, a rarity in children, were diagnosed at the same hospital within a two-year period; eight of the children were from rural areas in Mississippi, Arkansas, or Tennessee and had had insecticide exposure (Pratt, 1977). This same investigator reported a case of colon cancer in a child who had lived in Times Beach, Missouri, where he had potential exposure to dioxin (Pratt, 1986).

A study in Baltimore, Maryland, found children with primary brain cancer were more likely to have had pesticide exposure in the home than children without cancer. Household insecticides were reported to be associated with leukemia and aplastic anemia in children (Reeves, 1982). A study of children in Los Angeles with acute lymphocytic leukemia found increased risk for children whose parents used pesticides in the home, with the risk being even higher for lawn or garden use (Lowengart, 1987).

A cluster of childhood cancer has been reported from agricultural communities in the San Joaquin Valley of California. In McFarland, over a period of three years, eight children were diagnosed with cancer when two cases would have been expected. The types of cancer were two cases of Wilms' tumor and one case each of non-Hodgkin's lymphoma, neuroblastoma, astrocytoma, osteogenic sarcoma, fibrosarcoma and rhabdomyosarcoma (California Department of Health Services, 1988; Kern County Health Department, 1986). Since this report, two more cases of cancer have occurred in children in McFarland; a 14-year-old boy died of hepatoblastoma in November 1987 and a case of primary brain tumor has been diagnosed recently.

No direct evidence implicates pesticides in these cancers but Kern county, where McFarland is located, is the second leading pesticide use county in California, annually using approximately 11% to 12% of all restricted-use pesticides in the state (California Department of Food and

TABLE 3

Teratogenic Pesticides·
(Based on EPA Data as of June, 1988)

Pesticide	Use	Pesticide	Use
Acrolein (Aqualin)	H	Fenarimol (Rubigam)	F
Altosid (Methoprene)	IGR	Fenoxaprop ethyl	H
Amiben (Chloramben)	H	Fluazifop-butyl (Fusilade)	H
Avermectin	I	Folpet	F
Bacquacil		Hexachlorobenzene	F
Baycor (Bitertanol)	F	Imidan (Phosmet)	I
Bayleton (Triadimefon)	F	Kinoprene	IGR
Benazolin-ethyl	H	Larvadex (Cyromazine)	I
Benomyl	F	Mancozeb	F
Bentazon (Basagran)	H	Methyl parathion	I
Bladex (Cyanazine)	H	Mirex	I
Bromoxynil	H	Nemacur (Fenamiphos)	N
Cacodylic acid	H	Nitrofen (TOK)	H
Captafol	F	Omite (Propargite)	A
Captan	F	OPP	D,F
Carbaryl (Sevin)	I	OPP-sodium salt	D,F
Chlordimeform	I,A	Paclobutrazol	PGR
Chlorpropham	H,PGR	PCNB	F
Copper sulfate	F	Picloram	H
Cycloheximide (Acti-dione)	F	Potassium maleic hydrazide	PGR
2,4-D acid	H	Sodium arsenate	I
Dichlobenil	H	Sodium arsenite	F,H,I
Dichlorophene	F,B	Sodium omadine	
DMF		2,4,5-T	H
2,4-DP Acid (Dichlorprop)	H	Terrazole	F, NI
Dinocap (Karathane)	F,A	Tributyltin oxide	F
Dinoseb	H	Trichlorfon	I
Diquat	H	Trifluralin	H
Endosulfan	I	Triphenyltin fluoride	F
Endothall	H	Triphenyltin acetate	F,H,M
Ethion	I	Triphenyltin hydroxide	F
2-Ethyl 1,3-hexanediol		Vinyzene	
Ethylene dichloride	Fum	Warfarin	R

A—acaracide
B—bactericide
D—disinfectant
F—fungicide
Fum—fumigant
H—herbicide
I—insecticide
IGR—insect growth regulator
M—molluscicide
N—nematicide
NI—nitrification inhibitor
PGR—plant growth regulator
R—rodenticide
Rep—repellant
S—solvent
WP—wood preservative

Agriculture, 1986). Restricted-use pesticides are those that require a permit for use and must be applied by, or under the supervision of a state-certified applicator. In California only, amount used must be reported. An estimated one third of the pesticides used in agriculture in Kern County are proven or suspected animal carcinogens.

REPRODUCTIVE OUTCOME AND PESTICIDE EXPOSURE

Many pesticides have been shown to be teratogenic, embryotoxic or fetotoxic, causing the equivalent of spontaneous abortion, death of the fetus in utero, or a broad range of developmental, behavioral or growth problems. Other effects on the reproductive system of laboratory animals include infertility, sterility and chromosomal abnormalities (Schardein, 1985b).

DBCP and Sterility in Humans

In 1977, several men working in

the pesticide formulation division of a California chemical company noticed they had not recently fathered children. All of the men had exposure to the agricultural fumigant 1,2-dibromo-3-chloropropane (DBCP). Five of the first men tested were shown to be either azoospermic, with total absence of sperm, or oligospermic, with very low sperm counts of less than 20 million.

Further study of male employees at the plant found that of those men exposed to DBCP, 13% were sterile or azoospermic (compared to 2.9% of workers with no exposure), 16.8% had very low sperm counts or were oligospermic (compared to none of the nonexposed), and 15.8% had lowered sperm counts (compared to 5.7% of the nonexposed workers). Two of the sterile workers had not had any exposure to DBCP in nine and 13 years respectively, and both had fathered children prior to their exposure to the pesticide. None of the sterile men showed any improvement one year later (Whorton, 1979, 1980). A follow-up five to eight years after all exposure to DBCP ceased found that for some of the workers the damage to their testes was permanent (Eaton, 1986).

When the sterility in the workers in California was discovered, studies of other workers exposed to DBCP and a similar pesticide, ethylene dibromide (widely used as a grain fumigant), were done. Sperm counts of agricultural workers in six different southern states with exposure to DBCP showed low sperm counts (Sandifer, 1979).

Decreased fertility was found in workers at a plant in Arkansas that manufactured ethylene dibromide (Wong, 1979). Sterility was found in men working at a DBCP plant in Israel (Potashnik, 1978).

DBCP was used by injecting it into the soil. It is now the most widespread contaminant of groundwater in the state of California and of drinking water in many agricultural valley towns, where thousands of wells have been capped due to the contamination (California Legislature, 1985; Russell, 1987). Both DBCP and ethylene dibromide are potent animal carcinogens.

Birth Defects

Birth defects are the leading cause of infant mortality and a major cause of infant morbidity in the U.S. They are relatively rare, occurring in 3% to 7% of all births. The cause is known for only a small percentage of birth defects (eg, alcohol, certain drugs, certain viruses, ionizing radiation, chromosomal defects). For 65% of birth defects, the cause is unknown (Janerich, 1983).

First trimester pesticide exposures have been associated with birth defects and occasional case reports and legal cases.

In one of the few studies of farmworkers, all births in a California County Hospital were investigated to determine any difference in the prevalence of birth defects in infants born to agricultural workers and nonagricultural workers. An increased prevalence of limb-reduction defects was found in infants of agricultural workers (Schwartz, 1986). A larger follow-up study showed an association between residence in agricultural counties and limb-reduction defects (Schwartz, 1988).

In occasional case reports and legal cases first trimester occupational pesticide exposures have been associated with birth defects. In a recent limb-reduction defect case settled out of court, the farmworker mother's exposure was to the fungicides Captan and Benomyl sprayed in the vineyard where she was picking grapes. In another recent case, a woman was exposed while picking cauliflower that had been sprayed with Metasystox-R, a known animal teratogen. She delivered a chromosomally normal child with multiple severe defects that only survived a short time (Midtling, in press).

Studies in Arkansas (Nelson, 1979), New Zealand (Hanify, 1981), and Hungary (Thomas, 1980) have been done to determine if parental environmental or occupational exposures to the phenoxy herbicides, mainly 2,4,5-T and 2,4-D, were associated with birth defects. None have found any significant associations between these herbicides and major structural defects.

Vietnam veterans have also raised concerns about their exposure to the combination of the phenoxy herbicides 2,4-D and 2,4,5-T known as "Agent Orange." Two well-conducted case-control studies done by the Centers for Disease Control in Atlanta and by the Australian Government found no relationship between service in Vietnam and fathering a child with a birth defect (Australian Government, 1983; Erickson, 1984).

The State of California has recently set up a birth defects monitoring program for 60% of all births in the state, which includes major agricultural areas. A California law (SB950, 1984) requiring pesticide product registrants to supply adequate chronic toxicity testing for their products or lose their California registration is called "The Birth Defects Prevention Act."

Spontaneous Abortion

It is possible that more birth defects are not associated with pesticide exposures because of the toxicity to the embryo and fetus. The fetus may die very early in the pregnancy and be spontaneously aborted (Schardein, 1985a). Spontaneous abortion, unfortunately, is an even more difficult area of reproductive epidemiology to study than birth defects. A study of maternal occupation and fetal death found farmworker women to be at increased risk for spon-

taneous abortion (Vaughan, 1984). A study in India found increased spontaneous abortion, stillbirth, and sterility in grape garden workers (Rita, 1987).

CHRONIC EFFECTS FROM ORGANOPHOSPHATE PESTICIDES

Pesticide-Induced Delayed Neuropathy

While the acute toxic effects of organophosphate exposure are well characterized and documented (Namba, 1971; Morgan, 1982; Hayes, 1982), little is known about neuropathological and neurobehavioral delayed or chronic effects in humans.

Certain organophosphates can cause a pesticide-induced delayed neurotoxicity (PIDN). Long and large diameter fibers in the spinal cord and peripheral nervous system are damaged. Demyelination results in muscle weakness that may progress to paralysis. The feet and legs are usually more severely affected than the hands and arms. Onset is usually two to four weeks after the acute exposure (Cherniak, 1986; Johnson, 1980; Soliman, 1982; Wilson, 1985). Currently registered organophosphate pesticides found to cause PIDN in hens (the experimental animal used for testing) include EPN, trichlorfon (Dipterex), DDVP (Vapona), DEF, and isofenphos (Oftanol).

PIDN is thought to be the cause of severe neurological disease in 12 workers at a pesticide plant in Texas that manufactured leptophos (Phosvel) for export from 1971 to 1976. Four employees were diagnosed with multiple sclerosis, two with psychiatric disorders, and three with encephalitis, encephalomyelitis, and postinfectious encephalomyelitis. The National Institute for Occupational Safety and Health (NIOSH) investigated the plant in 1976 when the company applied to the EPA to market the product in the U.S. for use on cotton. NIOSH determined that the workers' neurological disease was work-related (Xintaras, 1978). Leptophos had caused paralysis and death in thousands of water buffalo in Egypt, where it was being used on cotton.

Two case reports in the literature of suicidal ingestions of organophosphates indicate that humans may be more susceptible to PIDN than the hen. Chlorpyrifos (Lorsban, Dursban) may be implicated in PIDN in a 20-year-old man in Italy (Lotti, 1986). Since chlorpyrifos is negative in the hen assay, is coming into increasingly wider use, and persists in body tissues longer than other organophosphates, it should be reevaluated in this regard.

Amendments to federal and state pesticide laws and regulations that would protect farmworkers and better their working conditions are resisted in the agricultural and agrichemical industries.

Neurobehavioral Effects

Several early case reports document that organophosphate pesticides can cause profound mental and psychological changes in human beings. In one of the earliest studies, mental patients were used as research subjects; administration of the pesticide resulted in an apparently permanent exacerbation of acute psychosis in one previously stable patient (Rowntree, 1950). This was before the days of human rights research committees.

Several other cases reports of mental illness or severe psychological disturbances in pesticide applicators have been reported. Behavioral changes such as anxiety, difficulties in concentration, memory deficits, and other more subtle effects have also been widely reported (Bowers, 1964; Brown, 1971; Dille, 1964; Duffy, 1979; Levin, 1976; Rodnitzky, 1975). Neurobehavioral effects of pesticides were discussed in a recent review of delayed effects of pesticides (Sharp, 1986).

Few follow-up studies have been done in people poisoned with pesticides to determine if any long-term or delayed effects were present. One such study examined 117 of 235 individuals three years after they had been reported by California physicians as occupationally poisoned by organophosphate pesticides, mainly parathion and Phosdrin (Tabershaw, 1966). Thirty-three still had complaints three years later, in ten of whom the central nervous system was affected—mainly visual disturbances. No major psychiatric or neurological sequelae were found.

A recent study investigated neuropsychological status of 100 people who had been poisoned by organophosphate pesticides (mainly parathion) an average of nine years prior. Their scores on a battery of four tests were compared to the same number of nonpoisoned controls. The poisoned subjects had significant differences in measures of memory, abstraction and mood; twice as many had scores consistent with cerebral damage or dysfunction (24% compared to 12% of controls). MMPI (Minnesota Multiphasic Personality Inventory) scores showed greater distress and complaints of disability in the poisoned subjects (Savage, 1988).

CHRONIC EFFECTS OF N-METHYL CARBAMATE PESTICIDES

The N-methyl carbamates such as aldicarb (Temik), carbaryl (Sevin), methomyl (Lannate, Nudrin), and carbofuran (Furadan), are similar to the organophosphates in their acute toxicity, and like them are inhibitors of the enzyme cholinesterase. Except for an aldicarb-related tractor accident death of a young farmworker (Lee, 1984), no occupational deaths have been reported from these compounds in the U.S.

Several episodes of consumer poi-

soning from food contaminated with aldicarb have occurred, however. Two episodes of poisoning from aldicarb residues in hydroponic cucumbers have been reported (Goes, 1980); and in July, 1985, over 1,000 consumers became ill from eating aldicarb contaminated watermelon (Centers for Disease Control, 1986). The pesticide intermediate, methyl isocyanate (MIC), which caused the deaths and illnesses in Bhopal, India, is used in the manufacture of N-methyl carbamates.

The N-methyl carbamates have not been thought to pose chronic problems. However, a study from Wisconsin found adverse effects on the immune system in women who drank water contaminated with low levels of aldicarb (Fiore, 1986). Animal experimental data supports the findings in humans in that immune system effects were seen at very low levels (Olson, 1987). Aldicarb is a low-level groundwater contaminant in Wisconsin, California, and other states (Cohen, 1984; Zaki, 1982).

EFFECTS OF FUMIGANTS

Fumigants are the most highly toxic of all pesticide chemicals used in agriculture. They are highly biologically reactive compounds. Many are alkylating agents, mutagens, carcinogens, neurotoxins, and hepatotoxins.

These chemicals are gases, penetrating readily into the lungs where they enter the blood and are rapidly distributed throughout the body. Full respiratory protection is mandatory when working with these pesticides and death can occur rapidly if the fumes are inhaled, even for a short period of time. However, skin absorption can be a significant worker hazard as well (van den Oever, 1982, 1984; Zwaveling, 1987).

Fumigants, as a class, have caused severe human illness and death (Behrens, 1986; Hine, 1969; Letz, 1984; Radimer, 1974). Methyl bromide, a widely used soil sterilant and post-harvest fumigant in agriculture, as well as a structural fumigant, has been responsible for more occupational deaths in California than any other pesticide (Hine, 1969). Toxic psychosis and irreversible neurological and neurobehavioral sequelae after recovery from acute poisoning, as well as more subtle effects from chronic exposures, have been reported (Anger, 1986; Greenberg, 1971; Hine, 1969; Prockop, 1986).

The highly toxic fumigants DBCP and ethylene dibromide, chemically similar to methyl bromide and D-D (Telone) which has replaced them, were discussed in relation to sterility in male workers.

Workers in agriculture are at a four times greater risk of skin disease than workers in other industries.

EFFECTS OF FUNGICIDES

Fungicides are not acutely toxic compounds, with acute median lethal dose (LD 50) being 5,000 mg/kg or more for the most widely used ones. However, they pose the greatest risk of cancer, and several widely used fungicides are teratogens as well. The case of limb-reduction defect in a child whose mother was exposed to Captan and Benomyl was previously discussed. A recent report made some risk estimates for cancer in consumers who eat contaminated food (National Academy of Science, 1987); however, no studies on exposed workers have been done.

Several of the fungicides cause allergic contact dermatitis as well as primary contact dermatitis, with Captafol (Difolatan), Maneb, Mancozeb, and Benomyl being responsible for many of the reported cases (Adams, 1983).

EFFECTS OF HERBICIDES

Herbicides are the most frequently applied agricultural pesticide product. Although most herbicides are not acutely toxic, chronic toxicity and environmental contamination and drift are serious concerns.

Paraquat (Gramoxone) is one of the most widely used herbicides in the world. It is also the most toxic, and has been responsible for thousands of deaths. While many of the fatalities are due to suicidal ingestions (especially in Japan where it is estimated that over 1,300 suicides a year involve Paraquat), a large number have occurred from accidentally drinking the herbicide from unlabeled beverage containers or food jars, especially among children. Paraquat poisoning has no antidote or effective treatment if a sufficient amount of the chemical has been absorbed.

Acute poisoning with Paraquat can cause severe injury to the eyes, skin, nose and throat, as well as damage to the liver, kidneys, and myocardium. These effects, though severe, are reversible, with death being from asphyxiation due to pulmonary fibrosis. It was initially thought that death from Paraquat could not occur from dermal absorption. However deaths have been reported in farmers spraying dilute mixtures whose only exposure was through the skin (Fitzgerald, 1978) and from use as a scabicide, or to kill lice (Crome, 1986). Paraquat is an epithelial toxin and a powerful irritant that can cause epistaxis and severe dystrophy or complete loss of the fingernails (Howard, 1979).

The mechanism of toxicity of Paraquat is believed to be reaction with molecular oxygen in the lung to form superoxide ion. How this causes the acute alveolitis that leads to progressive pulmonary fibrosis and deaths is not known.

MPP is the metabolite of a street drug MPTP (1-methy-4-phenyl-1,2,3,6-tetrahydropyridine), which has been shown to cause Parkinson's

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Minority Workers
IN SUMMARY

Pesticide-Related Health Problems and Farmworkers. Moses, M. *AAOHN Journal* 1989; 37(3):115-130.

1. Migrant and seasonal farmworkers are primarily ethnic minorities who are excluded from federal laws that protect other workers. Farmworkers live and work under substandard conditions that place them at increased risk of pesticide-related illness.

2. Agriculture uses 80% of all pesticides in the U.S. Handlers who mix, load and apply pesticides as well as workers cultivating and harvesting crops sprayed with them are at risk of acute poisoning or even death from their exposures. Drift and run-off of agricultural pesticides pollute the air, soil and water, creating additional hazards to workers' families, community residents, and the environment.

3. Chronic effects, including cancer in adults and children, adverse reproductive outcomes, delayed neuropathy and neurobehavioral effects, are also associated with occupational and environmental exposure to pesticides.

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Adapted from materials prepared for the Hispanic Health Status Symposium (November 6, 1987). The University of Texas Health Science Center, San Antonio, Texas.

Results of the 1997 survey administered during the seminar "Conducting a Clinical Skin Exam"

Of the 109 nurses who participated in the seminar "Conducting a Clinical Skin Exam":

On a Likert scale, with "1" being "not at all confident" and "7" being "very confident":
3.7% rated themselves as a "4", or "fairly confident" that "**skin cancer is a serious health issue**".
6.4% rated themselves as a "5".
9.2% rated themselves as a "6".
80.7% rated themselves as a "7", or "very confident".

On the Likert scale, with "1" being "not at all confident" and "7" being "very confident":
2.8% rated themselves as a "1", or "not at all confident" in "**knowledge about the causes of skin cancer".**
2.8% rated themselves as a"2", or "very slightly confident".
8.3% rated themselves as a "3", or "slightly confident".
9.2% rated themselves as a "4", or "somewhat confident".
17.4% rated themselves as a "5", or "fairly confident".
22% rated themselves as a "6", "or rather confident".
37.6% rated themselves as a "7", or "very confident".

On the Likert scale, with "1" being "not at all confident" and "7" being "very confident":
14.7% of the 109 nurses rated themselves as a "1", or "not at all confident" in "**ability to inform others about the causes of skin cancer**".
6.4% rated themselves as a "2".
8.3% rated themselves as a "3".
18.3% rated themselves as a "4".
26.6% rated themselves as a "5".
15.6% rated themselves as a "6".
10.1% rated themselves as a "7", or "very confident".

In response to the open-ended question "**What are the causes of skin cancer?**":
89% cited "sun exposure".
3.7% cited "heredity".
.9% cited "chemicals".
.9% cited "abnormal skin change".
.9% cited "skin type".
.9% cited "cigarette smoke or tobacco".
.9% cited "skin exposure".
2.8% did not answer the question.

On the same scale as above, with "1" being "not at all confident" and "7" being "very confident":
6.4% of the nurses rated themselves as a "1", or "not at all confident" in "**ability to identify problem areas on the skin**":
3.7% rated themselves as a "2".
8.3% rated themselves as a "3".
17.4% rated themselves as a "4".
27.5% rated themselves as a "5".
22.9% rated themselves as a "6".
13.8% rated themselves as a "7", or "very confident".

On the Likert scale, with "1" being "not at all confident" and "7" being "very confident":
6.4% rated themselves as a "1", or "not at all confident" in "**ability to inform others about how to recognize problem areas on the skin**."
9.2% rated themselves as a "2".
6.4% rated themselves as a "3".
12.8% rated themselves as a "4".
27.5% rated themselves as a "5".
20.2% rated themselves as a "6".
17.4% rated themselves as a "7", or "very confident".

On a Likert Scale of 1 to 7, with "1" being "not at all confident" and "7" being "very confident":
20.2% of the nurses rated themselves as a "1", or "not at all confident" in "**ability to identify and diagnose skin cancer**".
4.6% rated themselves as a "2".
11.9% rated themselves as a "3".
29.4% rated themselves as a "4".
18.3% rated themselves as a "5".
8.3% rated themselves as a "6".
7.3% rated themselves as a "7", or "very confident".

On the Likert scale, with "1" being "not at all confident" and "7" being "very confident":
6.4% of the 109 nurses rated themselves as a "1", or "not at all confident" in "**ability to inform others about how to identify skin cancer**".
2.8% rated themselves as a "2".
7.3% rated themselves as a "3".
5.5% rated themselves as a "4".
22% rated themselves as a "5".
25.7% rated themselves as a "6".
29.4% rated themselves as a "7", or "very confident".
.9% did not answer the question.

In response to the open-ended question "**What are the three different types of skin cancer?**":
13.8% of the nurses knew none of the types.
3.7% knew one type.
5.5 knew two types.
76.1% knew all three types

In response to the open-ended question "**What are the ABCD's of moles and melanomas?**":
67.9% knew all four of the "ABCD's" of moles and melanoma.
2.8% knew three of the ABCD's.
2.8 % knew two of the ABCD's.
22% knew none of the ABCD's.

On the Likert scale, with "1" being "not at all confident" and "7" being "very confident":
3.7% of the nurses rated themselves as a "1", or "not at all confident" in "**ability to remember measures that can be taken to prevent skin cancer**".
1.8% rated themselves as a "2".
5.5% rated themselves as a "3".
16.5% rated themselves as a "4".
20.2% rated themselves as a "5".
26.6% rated themselves as a "6".
25.7% rated themselves as a "7", or "very confident".

On the Likert scale, with "1" being "not at all confident" and "7" being "very confident":
3.7% of the nurses rated themselves as a "1", or "not at all confident" in "**ability to persuade others to follow prescribed preventative measures**".
6.4% rated themselves as a "2".
9.2% rated themselves as a "3".
24.8% rated themselves as a "4".
28.4% rated themselves as a "5".
16.5% rated themselves as a "6".
10.1% rated themselves as a "7", or "very confident".
.9% did not answer the question.

In response to the open-ended question "**What are some ways to prevent skin cancer?**":
82.6% of the nurses cited " using sunscreen".
76.1% cited "wearing a hat".
73.4% cited "avoiding the sun".

In response to the open-ended question, "**What are some ways to prevent skin cancer?**":
4.6% of the nurses knew no ways to prevent skin cancer.
.9% knew one way.
7.3% knew two ways.
11% knew three ways.
13.8% knew four ways.
23.9% knew five ways.
20.2% knew six ways.
5.5% knew seven ways.
12.8% knew eight ways.

In answering if "**self-exam was mentioned as a way to detect skin cancer**":
78.9% mentioned skin self-exams.
18.3% did not.
1.8% did not answer the question.

On the Likert scale, with "1" being "not at all confident" and "7" being "very confident":
5.5% of the nurses rated themselves as a "1", or "not at all confident" in "**ability to promote skin cancer prevention and detection.**"
4.6% rated themselves as a "2".
6.4% rated themselves as a "3".
14.7% rated themselves as a "4".
28.4% rated themselves as a "5".
27.5% rated themselves as a "6".
11.9% rated themselves as a "7", or "very confident".
.9% did not answer the question

On a Likert Scale of 1 to 7, with "1" being "not at all confident" and "7" being "very confident":
11%of the 109 nurses rated themselves as a "1", or "not at all confident" in "**ability to assess a client's risk factors for skin cancer** ".
3.7% rated themselves as a "2", or "very slightly confident" in assessing ability.
6.4% rated themselves as a "3", or "slightly confident".
11% rated themselves as a "4", or "somewhat confident".
32.1% rated themselves as a "5", or "fairly confident".
19.3% rated themselves as a "6", or "rather confident".
6.4% rated themselves as a "7", or "very confident".
10.1% did not answer the question.

In response to the open-ended question "**List risk factors that should be assessed (when assessing a client for skin cancer)**":
24.8% named no factors.
3.7% named one factor.
7.3% named two factors.
10.1% named three factors.
10.1% named four factors.
8.3% named five factors.
6.4% named six factors.
7.3% named seven factors.
21.1% named eight factors.
.9% named more than eight factors.

On the same scale as above, with "1" being "not at all confident" and "7" being "very confident":
11% of the nurses rated themselves as a "1", or "not at all confident" in "**ability to perform a clinical skin exam**".
5.5% rated themselves as "2".
10.1% rated themselves as "3".
11% rated themselves as "4".
22.9% rated themselves as "5".
21.1% rated themselves as "6".
9.2% rated themselves as "7", or "very confident".
9.2% did not answer the question.

On the Likert scale, with "1" being "not at all confident" and "7" being "very confident":
10.1% rated themselves as a "1", or "not at all confident" in "**ability to perform a skin self-examination**".
3.7% rated themselves as a "2".
4.6% rated themselves as a "3".
11% rated themselves as a "4".
26.6% rated themselves as a "5".
23.9% rated themselves as a "6".
13.8% rated themselves as a "7", or "very confident".
6.4% did not answer the question.

On the same Likert scale, with "1" being "not at all confident" and "7" being "very confident":
8.3% of the nurses rated themselves as a "1", or "not at all confident" in "**ability to inform others about how to perform a skin self-exam**".
7.3% rated themselves as a "2".
7.3% rated themselves as a "3".
13.8% rated themselves as a "4".
26.6% rated themselves as a "5".
17.4% rated themselves as a "6".
11.9% rated themselves as a "7", or "very confident".
7.3% did not answer the question.

In response to the open-ended question "**How often should a skin self-examination be performed?**":
48.6% responded "monthly by a client".
12.8% responded "annually by a physician".
6.4% responded "every six months".
5.5% responded "weekly".
3.7% responded "daily".
1.8% responded "when a problems arises".
.9% responded "often".
20.2% did not answer the question.

The 109 nurses were from the following counties:
12.8%, Coffee
11.9%, Cook
11.0%, Early
8.3%, Irwin
8.3%, Worth
7.3%, Ben Hill
7.3%, Bemer
6.4%, Miller
5.5%, Seminole
4.6%, Calhoun
3.7%, Atkinson
1.8%, Charlton
.9, Pierce
3.7%, County Unknown
6.4%, No County Listed

disease in drug abusers. MPP is similar in structure to Paraquat, which raises the issue of the herbicide as a possible etiologic agent or risk factor for the disease. Cases of Parkinson's disease in pesticide applicators (Bocchetta, 1986; Sanchez-Ramos, 1987), as well as higher prevalence in agricultural areas of Quebec where there is pesticide use, have been reported (Barbeau, 1987).

Dinoseb, another highly toxic herbicide from the dinitrophenol family, was suspended for most uses by the EPA in October, 1986. In 1983, a young Texas farmworker, spraying Dinoseb and wearing a leaking backpack sprayer, died of acute poisoning from the pesticide three days after he began spraying.

Several widely used herbicides in the U.S. are oncogens and groundwater contaminants, such as alachlor (Lasso), 2,4-D, glyphosate (Roundup), and Simazine (Princep).

CONCLUSION

The realities of agricultural practice, the lack of legal protections, and ere weaknesses in the existing ws, combined with the toxic pesticides that are ubiquitous in the farmworkers' environment, make agricultural work especially hazardous. Farmworkers are exposed to toxic pesticides from many sources—the crops they cultivate and harvest, the soil in which the crops are grown, drift in the air and water from pesticides applied to adjacent fields or to the very field in which they are working.

Farmworkers live in homes surrounded by fields that are heavily and repeatedly sprayed. Pesticides are likely to be in the irrigation water, which many farmworkers must use for bathing and drinking due to the substandard living quarters provided by some employers. Pesticides may contaminate the groundwater from which they get their drinking water. Farmworkers are more likely to consume produce very soon after harvesting and thus may get more pesticide residues in their food than the general public.

gic occupational exposures start at a very young age, since agriculture is the only industry in which children comprise a significant part of the work force. Infants and very young children are often taken to the fields with their parents.

Amendments to federal and state pesticide laws and regulations that would protect farmworkers and improve their working conditions are resisted in the agricultural and agrichemical industries. In this regard, it is of interest that the first ban on DDT in the U.S. was not by the EPA in 1972, but in a 1967 United Farm Workers' union contract with a California grape grower.

The public health task is clear. Not only must more resources and priority be given to biological monitoring and epidemiological studies of farmworkers, but also support given to the efforts of farmworkers and their unions to make their workplaces safe for themselves and their children.

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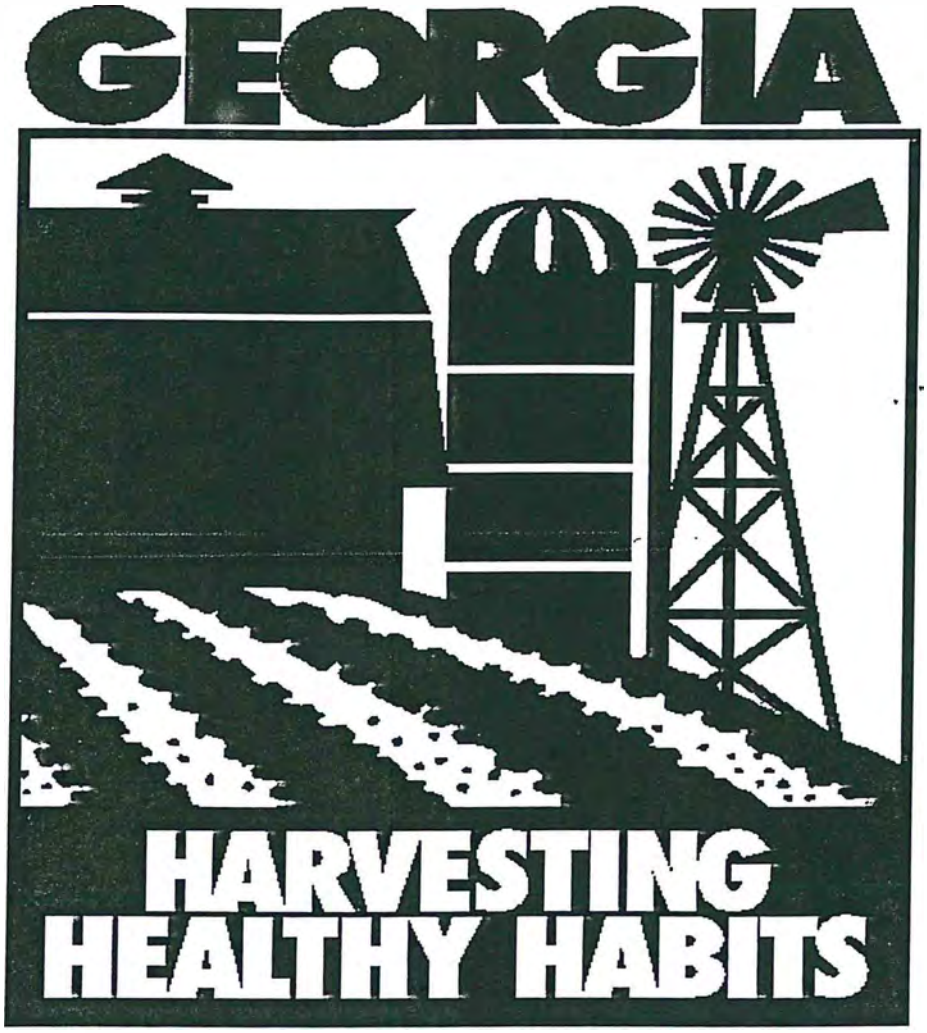
Final Report



1995 Year End Report

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Highlights of 1995

Year-end Report

Overview

The Georgia Harvesting Healthy Habits Campaign is a three year research demonstration project designed to improve access to cancer prevention and detection information, education, and screening for agricultural workers and their families. The GHHH is a collaborative effort sponsored by the Georgia Department of Human Resources Cancer Control Program and the University of Georgia's Health Communication Center with funding from the National Institute of Occupational Safety and Health.

Goals

To demonstrate through a systematic process and summative evaluation that innovative communication techniques regarding cancer prevention, and are effective.

Accomplishments

1. Education of farmers regarding skin cancer prevention.
The Georgia Harvesting Healthy Habits Campaign began by surveying farmers in the control and treatment counties. The survey was a 21-page survey which covered skin cancer prevention practices, general health prevention practices, and general farm related information. The survey was conducted by phone through the University of Georgia. In general, most farmers do not seek preventative health care and do not use local health departments. In return for completing the survey, the farmer would receive a coupon good for a skin cancer prevention hat. The hat was developed after field testing several types of hats with local farmers. We then ordered the hats and worked with local feed and seed stores to distribute the hats. We used the feed and seed stores to distribute our skin cancer prevention messages. When the farmer picked up the hat, the display with cancer prevention messages and brochures was located in the store for the farmer to obtain further information about skin cancer prevention. This is a unique way to bring the GA Dept. Of Human Resources - Division of Public Health Division to the public. The brochures

were available not just to the farmers but to anyone who in the feed and seed store. Approximately 10,000 brochures were picked up while the displays were out. We also distributed approximately 500 hats. This intervention will begin again in the Spring of 1996.
GHHH also surveyed farm wives. The wives were asked general questions about skin, breast, and cervical cancer prevention practices and general farm-related information. The wives received a long-sleeved t-shirt with skin cancer prevention messages on it. This survey was conducted by mail. Over 400 responded.

2. Adoption of the skin cancer prevention hat and the educational boards by private corporation for distribution to the public.
As a result of this effort John Deere Equipment Co. is going to distribute the hats to their customers along with copies of our brochures. This will be a nationwide effort. John Deere is the largest farm equipment manufacturer in the United States. Gold Kist, Inc., a feed and seed company, has also agreed to distribute the hats and put up a similar display to ours in 27,000 stores nationwide.

3. Education of Farm Youth about skin cancer prevention.
We also taught a skin cancer prevention course for Farm Kids at the Georgia Healthy Farmers Farm Safety Camp. The camp was for farm children ages 10 - 15. The curriculum covered skin self-exam, sun protection clothing, and sunscreens. There were approximately 133 in attendance.

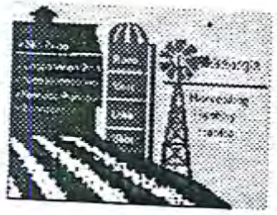
4. Adoption of the Skin Cancer Education module by other organizations.
Progressive Farmer magazine published our course outline nationally for all farm safety camps to use. It was included in their notebook for Farm Safety Camps. Also the University of Georgia Extension Service requested a training for their employees to teach the class. 127 agents state-wide are now trained to teach this class.

5. Education of Public Health Nurses.
A Nursing Seminar was conducted in May for Public Health Nurses. The seminar was on cancer prevention and early detection in farming communities. It also provided nurses with information on Migrant Health Care and Pesticides in the farming community. The training will be available as a brown bag/ lunch and learn series in 1996. All day seminars are often impossible to attend. This seminar will allow the nurses to receive the training on the job site in 1-hour increments.

6. Creations of a demand for Skin Cancer Prevention Education.
The Campaign also developed a display board to use at various agricultural events. The display board has skin cancer prevention messages on it and displays pictures of farmers wearing appropriate clothing for skin cancer prevention. The display board has been exhibited at a University of Georgia Extension Service Meeting, Georgia Young Farmers Conference, and Sunbelt Agricultural Exposition.

We also appeared on 2 television shows discussing skin cancer prevention and the project. The actual viewership of the two programs was approximately 50,000. If we had purchased the T.V. segments, it would have cost $2,570. Due to the television appearances, we received several requests to do programs for various groups. Programs were conducted for a Rotary Club, University of Georgia Cotton Scout School, Migrant Outreach Worker Training, Farm Wife Conference, and a pulp mill. We had a total of 393 contacts with these trainings.

6. Education of Migrant Families about early detection and skin cancer prevention. Nurse practitioners in two migrant clinics were provided with brochures in Spanish, videos, and breast modules to utilize. We also provided training in breast and cervical cancer screening and skin cancer prevention. This was done so nurses could provide cancer prevention, early detection messages and screening servers to their clients when they came in for other primary care/ acute services. We have also participated in local Migrant Health Fairs. The brochures we use are also in Spanish. The total contacts for these fairs are approximately 1675.



Published by Harvesting Healthy Habits. This cooperative project, sponsored by Georgia's Department of Human Resources and the University of Georgia, is aimed at preventing skin cancer among Georgia farmers. For more information call
(706) 542-3351 or
(912) 383-7709.
(1995)

(Funded by the National Institute for Occupational Safety and Health {Cooperative Agreement Number U03/CCU410103}).

Sun Exposure Diary Instructions

KEEP CAREFUL RECORDS of your sun exposure activity and pattern FOR THE NEXT WEEK, even if you do not practice sun exposure self management strategies. The diary lets you follow your progress. BEFORE GOING TO BED, record your exposure time, dress and sunscreen usage for the past day.

Do not be discouraged by occasional lapses. Remember, it takes time and perseverance to learn healthy new habits. Daily stresses may temporarily interrupt your progress toward developing a new routine.

Today did you wear?

DAY	Sun-Screen? Y= Yes N= No	Shirt? 0= No Shirt 1= Short Sleeved 2= Long Sleeved	Pants? 1 = Short 2 = Long	Hat? 0 = None, 1= Ball Cap, 2= Hat w/ flap, 3= Wide - brimmed
1				
2				
3				
4				
5				
6				
7				

Mark the hours you were outside:

No. of Hours Out-side	10:00 to 11:00	11:00 to 12:00	12:00 to 1:00	1:00 to 2:00	2:00 to 3:00
	Put an "X" in each row if you were outside during the indicated hour for more than 15 minutes.				

Protect Your Skin

- ✓ Sunscreen
- ✓ Wide-Brimmed Hat
- ✓ Long-Sleeved Shirt
- ✓ Pesticide Protection

Coge Tu Sombrero
Y Póntelo
Vamos a Trabajar
Calienta El Sol....
Shiribibiri, Borom Po Pom

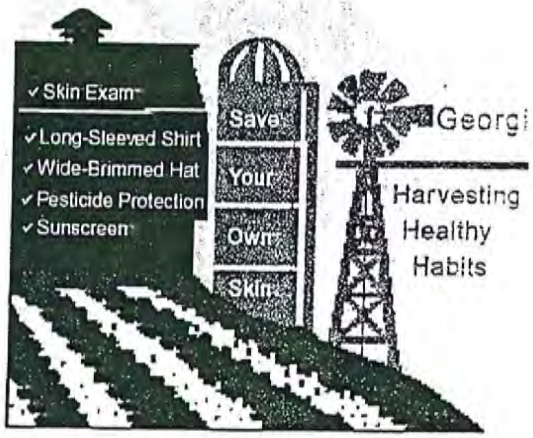
Georgia
Cultivando
Buenos
Hábitos

Protect yourself today to ensu

prosperous tommorrow.

FARM SAFETY A
SUN SAFETY

SKIN SELF-EXA

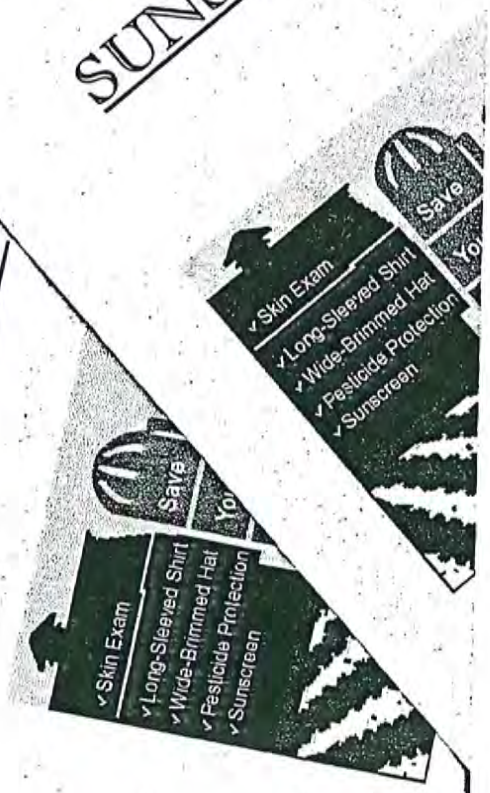


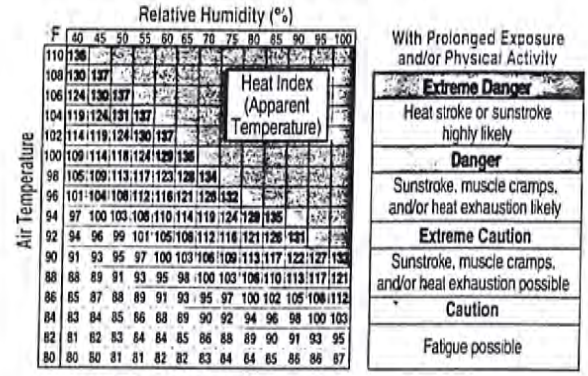
Important information pertaining to skin self-exa
and farmers. How to detect skin cancer.

Protect yourself today to ensure a prosperous tommorrow.

FARM SAFETY AND SUN SAFETY SUNSCREENS

FARM SAFETY AND SUN SAFETY SUN-PROTECTIVE CLOTHING





World Meteorological Organization

National Oceanic and Atmospheric Administration

HEAT INDEX

Atlanta 1996

SAVE YOUR OWN SKIN!

SUN SAFETY

Always wear:
* Sun protection hat

* SPF 15 or higher sunscreen

*Long Sleeved Shirt

And Don't forget to do a Monthly Skin Exam

GEORGIA
HARVESTING HEALTHY HABITS

707 East Ward Street
Douglas, Georgia
31533

Phone: (912) 389-4009

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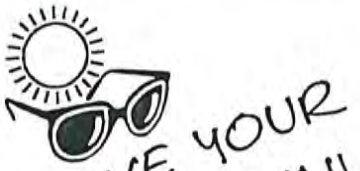

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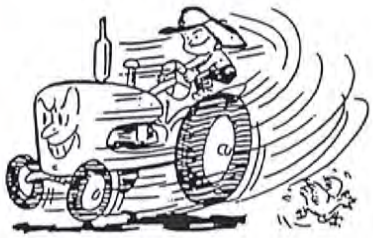

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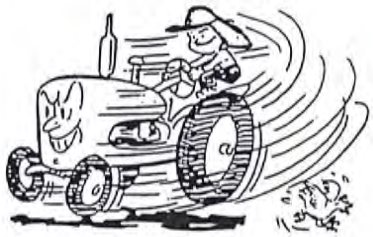

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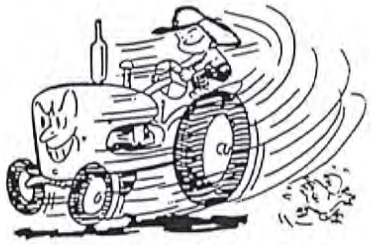

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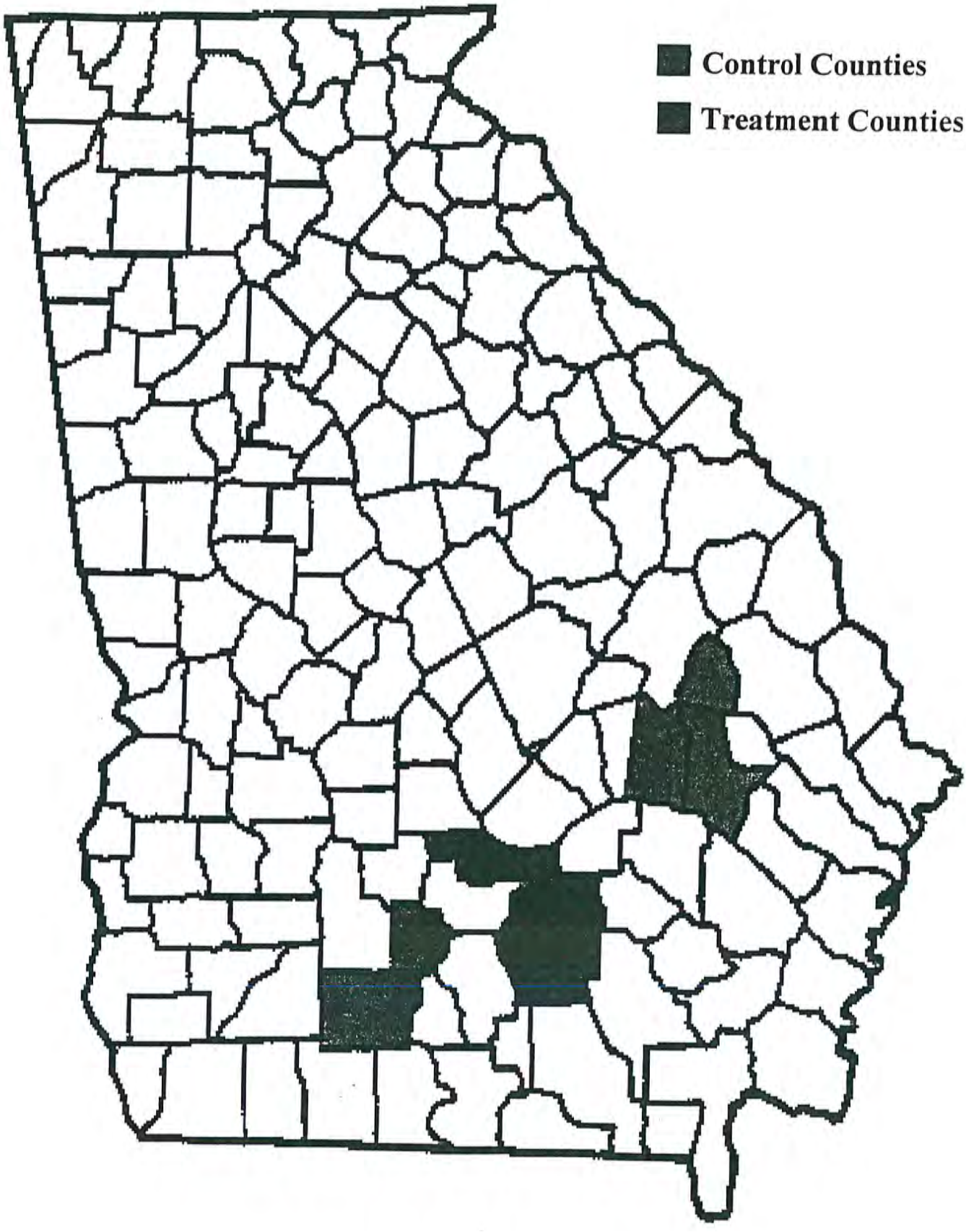
Project Sites

PROJECT SITES



Communicating to Farm Youth About Safe Sun Practices: A Model and Field Test of a Proposed Curriculum

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Running Head: Adolescent Sun Safety

The authors acknowledge Linda Goldenhar, Ph.D., the Project Officer for this research, which was supported by Cooperative Agreement No. U03/CCU410103 from the National Institute for Occupational Safety and Health, and a fellowship to the second author from the Institute of Behavioral Research at the University of Georgia.

Communicating to Farm Youth About Safe Sun Practices: A Model and Field Test of a Proposed Curriculum

ABSTRACT

The Georgia Harvesting Healthy Habits Campaign developed and evaluated a skin cancer prevention curriculum using Social Cognitive Theory (Bandura, 1986) as a framework. The curriculum was designed to enable farm youth to experience sun protection and skin cancer prevention behaviors, building positive outcome expectancies and self-efficacy about performance. It also provided the opportunity for participants to observe peers performing these promoted practices-- a method of facilitating the formation of outcome expectancies. It was hypothesized and supported that outcome expectancies would positively correlate with behavioral intentions to wear and negatively correlate with intentions to not wear particular sunscreens and hats while in the sun.

Communicating to Farm Youth About Safe Sun Practices: A Model and Field Test of a Proposed Curriculum

Programs designed to promote health and well-being consistently find long term cost savings and decreased mortality associated with prevention and detection activities. Despite the positive impact that these programs have had on health-related behaviors, too few exist, with rural areas in particular being underserved (Bender & Hart, 1986; Hendryx, 1993). One way to serve rural residents is to provide programs that may be integrated within school health and/or science curricula, or youth activities such as 4-H or Future Farmers of America. The Georgia Harvesting Healthy Habits campaign (GHHH) designed and field-tested such a program using the theoretical basis of social cognitive theory (Bandura, 1986).

Within the framework of social cognitive theory, children's sun protection behavior depends upon the reciprocal influence of personal variables such as knowledge, self-efficacy, and outcome expectancies; and persuasive communication, observational models and access/availability of opportunities for personal experiences in the environment. Building on the findings of previous sun protection projects, GHHH designed and tested a curriculum for adolescent farm kids.

Georgia's Farm Youth as a Priority in Skin Cancer Prevention

Research has previously established the higher incidence of some types of cancer among agricultural populations as compared to other occupational groups (Blair & Zahm, 1991). Increased risk for skin cancer has been observed in farmers, and by extension, owing to the nature of farming as a "family business," --farm kids are also at risk for skin cancers due to overexposure to the sun while working on the farm. The results of formative research conducted during the first year of the GHHH campaign indicated that many farmers began working on the farm at a relatively young age, a tradition passed on to their own children (Parrott, Steiner, & Goldenhar, 1996). This in turn, increases their exposure to the sun and risk for skin cancer.

Some estimates say that one child in one hundred born today will develop skin cancer during her or his lifetime (Findlay, 1986). The most significant risk factor for non-melanoma skin cancer is exposure to chronic ultraviolet radiation (Robbins, 1990). Moreover, excessive exposure to sunlight poses a risk factor for malignant melanoma, particularly when the exposure occurs in the first 15 years of life (Holman, Armstrong, Heenan, Blackwell, Cumming, English, Holland, Kelsall, & Matz, 1986). For farm adolescents these risks are particularly significant. In recognition of the cumulative and

irreversible effects of sun exposure early in life, a number of researchers have examined ways to increase the sun protective behaviors of adolescents, including wearing both sunscreen and sun protective clothing (hats, long-sleeved shirts, and long pants). Despite such research, very little is known about farm kids' specific prevention and detection behaviors, or their preferences toward protective items such as hats and sunscreens.

Although there have been a variety of studies that examine the effects of curricula on adolescent attitudes and behaviors in relation to the sun, none of these focus specifically on youth's perceptions of the behaviors they are asked to perform. Previous sun protection projects targeting adolescents have generally taken one of three directions: (1) a focus on understanding such factors as which fashion adolescent sun protection behaviors; (2) a focus on the development and evaluation of health education curricula skin cancer prevention, and/or (3) a focus on the use of models for appropriate sun protective behavior. One study of 543 children recruited from seven schools in different parts of England, for example, assessed the use of a video and workbooks to educate youth about skin cancer prevention and detection and found an increase in the children's use of sunscreen (Hughes, Altman & Newton, 1993). In another project, an education package developed for 12-16

year olds, including a poster, workbook, and video to target adolescent beach and pool behaviors found that knowledge and attitudes about sun exposure changed, but protective behavior did not (Hughes, et al., 1993). The goal of this project was to build on past efforts, while utilizing two principles from social cognitive theory to guide the design and development of a skin cancer prevention curriculum for farm kids.

Enable Behavioral Trials to Enhance Perceptions of Self-Efficacy

An important but too often neglected part of successful health promotion program activities is the design and implementation of opportunities for target audience members to experience and practice recommended behaviors. Such opportunities provide information that generates new knowledge and understanding. These generally defined experiences provide the means, according to social cognitive theory, for individuals to increase their feelings of self efficacy. Self-efficacy is the relationship of people's confidence that they have the ability and can exert control over their motivation to behave in a recommended fashion (Bandura, 1986, 22).

Previous research has demonstrated that individuals who were confident they could comply with an exercise program actually exercised more days each week than those who lacked such confidence (Dzewaltowski, 1989;

Dzewaltowski, Noble, & Shaw, 1990). Self-efficacy is an integral aspect of invoking behavior changes in a population. Otherwise, when people have the knowledge and the skills to perform a behavior, they may lack the confidence to do so. Perhaps this explains why one study of 220 adolescents found that 81% of the youth reported spending time in the sun, although 33% reported never using sunscreen, 73% reported use half of the time or less, and 9% report using sunscreen whenever they are in the sun (Banks, Silverman, Schwartz, & Tunnessen, 1992).

One report (Jemmott, Jemmott, Spears, Hewitt, & Cruz-Collins, 1992) demonstrated that social cognitive interventions which focus on shaping participants' positive hedonistic outcome expectancies relating to condom use garnered greater perceptions of confidence about ability to initiate condom use. This supports the vital link between shaping outcome expectancies and individuals' confidence in their ability to act.

Use Peer Models and Cognitive Rehearsal to Promote Formation of Outcome Expectancies

The use of others as role models grants the opportunity to promote learning through example (Gauvain, 1993; Goldstein, 1988). Observational learning from behavioral modeling has long been a mainstay of social learning

approaches, the predecessor to social cognitive theory (Bandura, 1986; Goldestien). "Peer interactions are considered highly influential contexts for módeling and enforcing gender norms for social interaction" (Leaper, 1991). To examine the impact of various sources as models for sun protective behaviors, one study used lifeguards acting as peer leaders modeling appropriate sun protective behaviors for children 1 to 17 years of age, and found an increased use of such behaviors from a baseline of 6.5% to 26.9% during the intervention, particularly in terms of protective clothing and use of shade as a sun barrier (Lombard, Neubauer, Canfield, & Winett, 1991). Banks et al. found greater use of sunscreen when a friend used it or parents insisted that the youth use it (1992).

A published study about nutrition behaviors in the elderly utilized social cognitive expectancies as a significant predictor of both self-efficacy and the health behavior being promoted [number of dietary changes] (Matheson, Woolcott, Matthew, & Roth, 1991). Elders who perceived greater social support for making prescribed dietary changes were more confident about making and sustaining dietary changes-- a direct positive relationship to self-efficacy (Matheson et al.).

In sum, a skin cancer prevention curriculum was developed using social

cognitive theory as a framework. Two goals guided curriculum development: enable farm youth to experience the desired behaviors, so that they would build their confidence about performance; provide participants with opportunities to observe peers performing the promoted practices to facilitate the formation of outcome expectancies. It is hypothesized that:

H1: Positive outcome expectancies are directly related to intentions to perform sun protective behaviors.

H2: Negative outcome expectancies are inversely related to intentions to perform sun protective behaviors.

H3: Behavioral intentions and response efficacy of an action will interact such that: (a) the most positive expectancies will be associated with intent to perform the most efficacious action; and (b) the most negative expectancies will be associated with intent to avoid the least efficacious action.

METHOD

Participants and Procedures

The data were collected from two samples of adolescents participating in the 1994 and 1995 Georgia Healthy Farmers "Farm Kids" Safety Camp. The data collected during the 1994 camp was used as a pilot sample. In the pilot

sample there were 76 (21 female and 55 male) prepubescent/adolescent children of Georgia Farmers. The pilot participants ranged in age from eight to fourteen years old (M = 11.5, SD = 1.3). The pilot sample had as its primary goal to determine how much time it took the youth to perform the behaviors they were trying. In Year One, 12 different styles of hats were provided for the youth to try; and 8 different sunscreens were used. This proved to be too much for the youth to do in a 60 minute class, failing to allow sufficient time for them to model hats for one another and to interact about the opinions they formed about hats and sunscreens. As a result, adjustments were made in the planned intervention, providing the content for Year Two's field test and evaluation.

The participants in the 1995 field study were 82 (47 female and 35 male) prepubescent/adolescent children of Georgia farmers. As were the pilot participants, these children were taking part in the Sun Safety Program at the Georgia Healthy Farmers' "Farm Kids" Safety Camp. The children ranged in age from eight to fifteen years old (M = 11.5; SD = 1.4). Of the 82 children, 81 provided usable data. The data from one child was discarded because a majority of the measures were not completed.

Eight Sun Safety classes were held over the course of two days; thus, average class size was ten youth. Three instructors supervised the activities of

the Sun Safety classes. Participants were seated in a large conference room where they received a packet of materials which included a workbook to be used to rate various skin cancer prevention/detection materials and behaviors staged at centers around the room.

Participants read three fact sheets comprised of statements relating to one of three subject areas: "Skin", "Cancer" or "Skin Cancer". After the youth were finished reading, the fact sheets were reread aloud and explained by the researchers, who probed participants about the meanings of various words and phrases. The youth who verbalized correct answers first were rewarded with small tubes of sunscreen. Participants completed surveys to assess their comprehension of and involvement with the messages (Turk & Parrott, in progress). Moreover, the information provided participants with content to evoke discussion and thought about varying sun protection qualities of hats and sunscreens. The youth then participated in activities at a sun protection hat station and a sunblock station.

Hat Evaluation Station

As a result of the pilot year findings which demonstrated how much time it takes to evaluate a hat's qualities, the youth evaluated five different sun protection hats during the field evaluation. The hats varied according to the sun

protection qualities (e.g., width of brim, tightness of the fabric weave, neck and ear coverage, color, etc.). The subjects were asked to examine the hat's material, put the hat on, and look at themselves in a full length mirror. Additionally, they were encouraged to talk among themselves about their experiences, which they did.

Following each trial, the youth completed a survey to assess the qualities they liked and disliked about each hat. The measure asked youth, "What are the things that you **DO** like about this hat?" The subjects circled as many of the following quality options they felt applied to each hat: "the color, the material, I like how it looks, it is comfortable, it's affordable, I just like it, I like to wear hats, and it makes me feel protected from the sun." The subjects were also given an open-ended "other" option and were parenthetically instructed to "please specify" other possibly unlisted qualities they liked about each hat.

After evaluating the positive qualities of the hats, the adolescents then responded to an item which asked, "What are the things that you **DON'T** like about this hat?" The following were the available options for this question: "the color, the material, it's embarrassing, it's uncomfortable, it would cost too much, it's too big, it's too small, I just don't like it, and, I don't like to wear hats". The "other (please specify)" option was also available for the list of

negative qualities. In addition to providing their positive and negative evaluations of each hat, the youth responded to a yes/no question which asked, "Would you wear this hat when you are in the sun?"

Sunblock Evaluation Station

As a result of the findings from the pilot year, five different sunscreens were used for the field test. The adolescents applied a small portion of each of five different sunblocks, using one at a time, and wiping any excess from their skin with the use of a paper towel. The youth were also coached to apply each sunscreen to a different part of their exposed arms. The sunblocks were over-the-counter brand name screens ranging in SPF factors from 4 to 45, and in qualities such as whether they were waterproof, sweat proof, and so on.

After applying each sunscreen, the youth were instructed to smell the product and note the qualities distinguishing one sunscreen from another (e.g. thickness, greasiness, etc.). Following each application, the sunscreens were evaluated in the same fashion as the hats. The subjects were asked, "What are the things that you **DO** like about this sunblock", and "What **DON'T** you like about this sunblock?" The listed positive qualities were: "not too thick, not too thin, easy to spread, smells good, not sticky, not greasy, doctors recommend it, I want to protect my skin, and I just like it". The negative qualities were: "too

thick, too thin/runny, hard to spread, smells bad, I want to tan, I'm allergic to it, too sticky, too greasy, irritates my skin, and, I just don't like sunblock". Like the hats, both the positive and negative list included an "other (please specify)" open-ended option.

Once they had responded to the questions about sunscreen qualities, the youth also responded to a yes/no item reading, "Would you wear this sunblock when you are in the sun?" The brand name and manufacturer of the products were covered during the application activity to minimize the chance that the subject evaluations would be influenced by a familiarity factor. However, the SPF rating was visible.

Independent Variables

Positive and negative outcome expectations were measured by the survey items which asked, "What are the things you like about this hat/sunblock?"; and "What are the things you dislike about this hat/sunblock." The youth were provided with a list of eight positive and negative options for the hat, with nine positive and ten negative options for the sunblock. A summative scale was used to calculate positive and negative outcome expectancies scores for all hats and sunblocks. Thus a youth could achieve a score of 0 to 8 for both positive and negative outcome expectations for each hat.

The youth could achieve a score of 0 to 9 for positive and 0 to 10 for negative outcome expectancies for each sunblock.

Dépendent Variable

Behavioral intention was operationalized as whether the subjects reported that they would or would not wear the particular hat or sunblock while in the sun. Behavioral intentions were measured by a yes/no question asking subjects, "Would you wear this hat/sunblock when you are in the sun?"

Additionally, the researchers judged and ranked the sun protection qualities of the hats and sunscreens creating protection-value categories for each. The categories for the hats were: "inadequate protection," "low protection," and "optimal protection." A black standard baseball cap and a loose weave straw hat comprised the "inadequate protection" category. The "low protection" category consisted of a tightly woven straw hat with a green-tinted sun filter sewn into the brim, and a floppy, white, narrow-brimmed (less than two inches) hat resembling the one worn by Gilligan on "Gilligan's Island". The "optimal protection" hat was the GHHH campaign sun protection cap, a blue, tightly woven, wide brimmed cap with a grey ear and neck protection cloth sewn into the back of it.

Protection-value categories for sunscreen were created by simply ranking

them in order of the degree of SPFpossessed by each. Once ranked, the sunscreens were collapsed into the three categories. One brand of SPF 4 comprised the inadequate protection category. The "adequate protection" category also consisted of one sunscreen with an SPF 15 rating. The "optimal protection" category included a sunscreen with SPF 29, one with SPF 30, and an SPF 45 sunblock.

Data Analysis

Frequencies of response were conducted to provide the average positive and negative outcome expectancies' scores earned by each hat and sunscreen. To test the hypotheses, *t*-tests were conducted comparing the outcome expectancy scores for individuals who reported that they would wear the particular hat or sunscreen with outcome expectancy scores for individuals who reported that they would not wear the particular hat or sunscreen. The confidence intervals around the evaluations' mean scores were used to examine differences between ratings in terms of the protection scores afforded each hat and sunscreen.

RESULTS

Frequencies analyses revealed that five to 12 of the participating youth did not provide a rating on one or more of the hats; nine to 15 youth did not

rate one or more sunscreens. This suggests that there may have been too many activities for the youth to complete in the 60 minute class period. Adjustments were made in the number of activities planned based on results of the pilot study; still, the youth were unable to complete all planned activities. On the other hand, to achieve the intended spirt of the intervention, too many activities may be better than too few, as youth could become bored with too little to do.

One unexpected outcome of the evaluation was that youth who rated the hats and sunscreens were sometimes ambivalent with regard to whether or not they would wear a particular hat or use a specific sunscreen, with some writing on their forms that they did not know if they would or would not wear the hat, and some stating this impression out loud. Thus, although 82 youth participated in the study, the ratings usually involved 52 to 53 of the attending farm kids (see Tables 1 - 2). The first hypothesis, which states that positive outcome expectancies are directly related to intentions to perform sun protective behaviors, receives substantial support as illustrated by three of the five hats being evaluated, and three of the sunscreens which youth assessed. Youth who indicated that they would wear the black baseball cap, the GHHH legionnaire style hat, and the straw hat with visor all rated these hats more positively than youth whom indicated they did not intend to wear the hats. The sunscreen with

an SPF values of 15, 30, and 29 [for sensitive skin] all received more positive ratings by the youth whom indicated that they would wear the sunscreen than they received by youth who did not hold these intentions.

Insert Tables 1 - 2 about here

The black baseball ball cap achieved the most positive ratings by the youth, an average of about three and one-half positive qualities out of a possible eight. This poses a concern for campaigners hoping to find youth with less formed opinions about this hat style, which is so popular in the southeastern area where the study took place. The 'Gilligan' style cap earned the next most favorable ratings, followed by the broad-brimmed, legionnaire style cap being promoted, which ranked close to the two different styles of wide-brimmed straw hats. The sunscreens achieved between two and three positive judgements by youth whom intended to wear the screens, and closer to one in the cases where significant differences were found in the rated intentions to wear a product. The least protective screen received the most positive ratings when one examines the standard deviation and the 95% confidence interval for the youth's judgments, which ranged then from two and one-half to more than four positive qualities.

Perhaps this realtes to the 'waterproof' part of the label which was exposed with the SPF rating.

The second hypothesis, which states that negative outcome expectancies are inversely related to intentions to perform sun protective behaviors, receives substantial support as illustrated by four of the five hats being evaluated, but only one of the sunscreens which youth assessed. Youth who indicated that they would not wear the plain straw hat had the highest average score of negative outcome expectancies. The ball cap, GHHH legionaire style hat, and the staw hat with visor all earned about two and one-half negative ratings on average. The Gilligan hat earned, on average, a slightly less negative impression. Every hat but the Gilligan cap scored more negative ratings by those youth whom indicated that they would not wear the hats than by those whom indicated they would wear the hats.

Only the sunscreen with the SPF 30, a generic brand screen, earned more negative ratings--an average of two and one-half negative judgments--by those whom indicated they would not wear the sunscreen than by those whom indicated that they would wear it, finding on average only one negative quality. The other sunscreens all earned average ratings of one to two negative qualities as the youth tried them out and ranked their perceptions.

The third hypothesis posited that behavioral intentions and response efficacy of an action will interact such that the most positive expectancies will be associated with intent to perform the most efficacious action, while the most negative expectancies will be associated with intent to avoid the least efficacious action. This hypothesis received no support, as indicated by the fact that the least protective sun hat received the most positive evaluations, and scored no worse on negative judgements than any other cap--a conclusion to be drawn by reviewing the overlapping confidence intervals. In relation to the sunscreens, from the least to the most protective screens, the negative evaluations reveal overlapping confidence intervals, illustrating the youth's failure to discriminate according to the protection value.

DISCUSSION

Many of the behaviors that health promoters aim for audiences to adopt require investments in time and money. Although individuals may be persuaded by particular message content and even believe that recommended actions will increase their well-being, the investment is likely to be one too easily put off. This may especially be the case when choice is involved. The opportunity to experience behaviors which are being promoted, however, may increase the likelihood that individuals elect to adopt a recommended practice.

The findings of this study support the need to provide opportunities for youth to experience behaviors promoted to reduce the risk of skin cancer. Parents, teachers, coaches, pediatricians, and other role models for youth should teach safe sun behaviors and set a good example for youth by practicing the behaviors they preach. However, youth may need opportunities to try the behaviors being promoted. The choice of clothing relates to fashion and identity, especially during the age of adolescence. Youth also experience many problems with their skin which are more likely to be more immediately relevant than the possible future risk of skin cancer. If use of sunscreen seems likely to contribute to skin outbreaks, then youth appear likely to avoid use. However, given the opportunity to try several products, youth may be able to find a product which appeals to them and which seems to work with their skin type. Providing these opportunities for youth to rehearse the actions promoted to protect them from the sun, and to think and talk about those experiences with others, may help them to form appropriate positive outcome expectancies in relation to the actions. Additionally, the youth's experiences should promote feelings of confidence in their ability to perform the recommended practices and increase actual performance, contributing to a reduction in risk for skin cancer.

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TABLE 1

Mean Responses on Positive Outcome Expectancy / Behavioral Intention

Hats Surveyed	Behavioral Intention	Positive Outcome Expectancy		
		Mean	SD	95% Confidence Interval
Baseball Cap	"would wear" = 33	3.51	2.50	2.65 - 4.37*
	"would not" = 23	1.04	.83	.71 - 1.37
Straw Hat	"would wear" = 24	2.58	2.26	1.68 - 3.48

	"would not" = 31	1.52	1.69	.93 - 2.11
Gilligan Cap	"would wear" = 17	3.18	2.65	1.93 - 4.43
	"would not" = 34	1.62	1.65	1.07 - 2.17
GHHH Hat	"would wear" = 26	2.77	2.01	2.01 - 3.53*
	"would not" = 35		1.14	1.48 .65 - 1.63
Straw Hat	"would wear" = 22	2.45	1.41	1.86 - 3.04*
w/ Visor	"would not" = 38	1.21	1.55	.72 - 1.70

Note: Asterisks indicate means that are significantly different ($p < .05$).

TABLE 1 continued

Mean Responses on Positive Outcome Expectancy / Behavioral Intention

Sunscreen	Behavioral Intention	Positive Outcome Expectancy		
		Mean	SD	95% Confidence Interval
SPF 4/	"would wear" = 31	3.32	2.46	2.46 -

4.18					
Waterproof	"would not"	= 21	2.00	1.95	1.18 - 2.82
SPF 15	"would wear"	= 23	3.09	2.52	2.05 - 4.13*
	"would not"	= 29	1.45	1.40	.94 - 1.96
SPF 30	"would wear"	= 36	3.14	2.54	2.32 - 3.96*
	"would not"	= 16	1.25	1.00	.76 - 1.74
SPF 29/	"would wear"	= 29	2.45	1.66	1.84 - 3.06*
Sensitive Skin	"would not"	= 24	1.04	1.08	.61 - 1.47
SPF 45	"would wear"	= 32	2.59	1.72	2.00 - 3.18
w/ Visor	"would not"	= 21	1.71	1.79	.95 - 2.47

Note: Asterisks indicate means that are significantly different ($p < .05$).

TABLE 2

Mean Responses on Negative Outcome Expectancy / Behavioral Intention

Hats Surveyed	Behavioral Intention	Positive Outcome Expectancy

		Mean	SD	95% Confidence Interval
Baseball Cap	"would wear" = 35	.97	1.07	.62 - 1.32*
	"would not" = 23	2.43	2.57	1.37 - 3.49
Straw Hat	"would wear" = 24	1.08	.89	.73 - 1.43*
	"would not" = 31	3.06	2.22	2.28 - 3.84
Gilligan Cap	"would wear" = 17	1.35	1.98	.41 - 2.29
	"would not" = 36	1.97	1.92	1.34 - 2.60
GHHH Hat	"would wear" = 27	.89	.89	.56 - 1.22*
	"would not" = 34		2.62	1.92 1.97 - 3.27
Straw Hat	"would wear" = 22	.77	.69	.48 - 1.06*
w/ Visor	"would not" = 36	2.64	2.05	1.97 - 3.31

Note: Asterisks indicate means that are significantly different ($p < .05$).

TABLE 2 continued

Mean Responses on Negative Outcome Expectancy / Behavioral Intention

Sunscreen	Behavioral Intention	Positive Outcome Expectancy		
		Mean	SD	95% Confidence Interval
SPF 4/	"would wear" = 31	1.13	.81	.84 - 1.42
Waterproof	"would not" = 21	1.77	1.45	1.16 - 2.38
SPF 15	"would wear" = 23	1.30	1.30	.77 - 1.83
	"would not" = 29	2.03	1.48	1.50 - 2.56
SPF 30	"would wear" = 36	1.14	.99	.81 - 1.47*
	"would not" = 17	2.41	1.94	1.49 - 3.33
SPF 29/	"would wear" = 29	1.66	1.57	1.09 - 2.23
Sensitive Skin	"would not" = 24	1.92	1.25	1.41 - 2.43
SPF 45	"would wear" = 32	1.38	1.68	.79 - 1.97
w/ Visor	"would not" = 21	2.00	1.34	1.43 - 2.57

Note: Asterisks indicate means that are significantly different ($p < .05$).

Appendices

Table 1

Results of Pilot Sun Safety Program, 1994

n = 76 (21 female and 55 male), Age = 8-14 yrs (M = 11.5, SD = 1.3)

* After a skin safety seminar, 25% of the participants believed that a skin self-exam gave them information they needed.

* 11.8% found the information in a skin cancer prevention and self-exam brochure easy to remember.

* 35.5% found the skin cancer prevention and self-exam brochure easy to understand.

* 11.8% believed they could share the information regarding skin cancer prevention with friends.

* 19.7% believed they could share the information regarding skin cancer prevention with family.

* 20% reported finding the skin self-exam information boring.

* Partipants favored wearing baseball caps which did not protect their ears from exposure to the sun.

* Of the surveyed wide-brimmed hats, participants favored a straw hat with a clear green visor the most in terms of willingness to wear the hat while in the sun.

* At the most, 47% of the participants said they would wear any particular hat while in

the sun.

* In the sunblock surveys, 14.5% of the participants reported that they wanted to protect
their skin from the sun.

* 11.8 % of the participants reported liking at least one of the surveyed sunblocks.

* 7.8% indicated that doctors recommend wearing sunblocks

Communicating to Farmers about Skin Cancer:

The Behavior Adaptation Model

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This research was supported by Cooperative Agreement No. U03/CCU410103 from the National Institute for Occupational Safety and Health and a fellowship from the University of Georgia's Institute of Behavioral Research. We are grateful to the editors and three anonymous reviewers for their comments on an earlier version of this manuscript.

Communicating to Farmers about Skin Cancer:

The Behavior Adaptation Model

While health campaigns often promote avoidance of behaviors that put an individual's health at risk, often these behaviors cannot be avoided, and campaign messages designed to encourage behavior adaptation afford greater likelihood of success. With that in mind, a model of health risk behavior adaptation is proposed and tested using four different behaviors in a communication campaign aimed at reducing farmers' risk for skin cancer. Farmers and farm wives (N = 654) answered a series of questions about their skin cancer prevention and detection behaviors and attitudes. Interpersonal expectancies, social resources, and actual procedural knowledge predict perceived procedural knowledge and public commitment, which, in turn, predict behavior adaptation. Implications for communication campaigns are discussed.

Communicating to Farmers about Skin Cancer:

The Behavior Adaptation Model

Health campaigners often address ways to motivate individuals to avoid behaviors which put their health at risk. These efforts include, for example, campaigns designed to get people to avoid drug use (Dukes, Ullman, & Stein, 1995) and to resist smoking (Pfau, Van Bockern, & Kang, 1992). Although frequently successful, these efforts at times fail, especially in situations where the behavior that puts an individual's health at risk is, quite simply, one that cannot be avoided. For example, the oft heard dictum in relation to skin cancer prevention, "Avoid the sun between the hours of 10 am and 3 pm," (American Academy of Dermatology [AAD], 1990) is likely to engender little support from farmers who cannot avoid the sun between the hours of 10 am and 3 pm, and still maintain their livelihood. On such occasions, campaign messages designed to encourage behavior adaptation afford greater likelihood of involving individuals in actions to reduce a particular health risk.

Behavior Adaptation Defined

Behavior adaptation refers to situations where people engage in a behavior that threatens their health, but with the adoption of specific prevention and detection practices, the probability of harm associated with the risky behavior is reduced. For example, most people drive to work, and a certain number of accidents, injuries, and even death result from this action. The use of seat belts, however, has been found to be an effective adaptation behavior likely to reduce the possibility of harm associated with driving to work in rush hour traffic. Similarly, campaigns aimed at reducing drunk driving incidence can take either an avoidance or adaptation approach.

Rather than emphasizing the avoidance of this activity through messages such as, "Don't drink and drive," a behavior adaptation approach would instead encompass an explicit acknowledgment of the risky practice together with a prescription to lessen potential harm. The designated driver campaign illustrates a behavior adaptation strategy through reference to identifying someone who will abstain from drinking in order to take the responsibility for driving. The emphasis is qualitatively different from behavior avoidance messages, in that individuals are not being told to avoid drinking; rather, they receive advice about how to lessen the likelihood of harm associated with the practice.

Whereas behavior adaptation relies on building habitual practices, behavior avoidance strives to break or avoid particular habits. For example, one may learn the signs associated with having consumed too much alcohol as a method of detecting "when to say when," and/or designate a driver who will not consume alcohol when one is going to imbibe. Neither of these practices, however relates to stopping alcohol consumption. Instead, one is developing habits associated with the performance of a practice which could cause harm to one's health. The application and use of the behavior adaptation model to develop health communication campaigns is appropriate in situations where there are efficacious behaviors which may be performed to prevent and/or detect negative outcomes, as early detection, in many situations, affords the greatest likelihood of efficacious treatment. An individual may use sunscreen as a method to prevent skin cancer, but the performance of regular skin self-exams affords an avenue of detecting changes in the skin which could foreshadow skin cancer at a stage when the disease is generally curable.

Consideration of both prevention and detection methods of adapting to health risk also suggests that behavior adaptation may be best represented as a continuum of responses to a particular health risk behavior. One person who forms a practice to *prevent* a negative outcome differs from another person who adopts an action to *detect* the negative outcome, although each person is adapting to the situation, and these individual responses differ from the person who adopts *both* prevention and detection behaviors. The person who wears sunscreen, for example, should be considered to be adapting to sun exposure, as should the person who practices regular skin self-exams. Both differ, however, from the individual who wears sunscreen and conducts monthly self-exams, with the latter being someone whom appears to be adapting more to the risk posed by sun exposure than either of the former individuals. To examine why some people more effectively adapt to situations in which a behavior puts their health at risk, an initial attempt to model adaptation behavior is proposed. The model depicted in Figure 1 illustrates several processes likely to affect communication with individuals about adaptation behavior.

Communicating to Facilitate Adaptation Behavior

The basic premise of the behavior adaptation model is that efforts to communicate with individuals about behavior adaptation should markedly differ from efforts to communicate with individuals about behavior avoidance or cessation. Communicating about behavior adaptation, for example, requires disseminating specific information regarding ways to reduce the negative outcomes associated with particular behavior, while acknowledging that the individual will continue the activity that exposes him or her to risk. Communicating about behavior avoidance and cessation, on the other hand, utilizes messages dependent upon staying out of situations that

encourage a particular behavior, and/or gaining control over cognitive, affective, and social drives to behave in ways that lead to negative outcomes. "Just say no" campaign messages in reference to drug use exemplify the latter, while "needle exchange" campaign messages illustrate a behavior adaptation approach.

To derive and test a model of behavior adaptation, the present research examines farmers and their risk for skin cancer. Research has previously established the higher incidence of some types of cancer among agricultural populations as compared to other occupational groups, with essentially every study of nonmelanoma skin cancer (NMSC) death in farmers, for example, finding farmers to have an elevated relative risk (Blair, Maler, Cantor, Burmeister, & Wilklund, 1985; Delzell & Grufferman, 1985; Weinstock, Bogaars, Ashley, Little, Bilodeau, & Kimmel 1991). The increased risk for crop growing farmers' exposure to known causes of skin cancer is obvious. Far less is understood, however, about ways to involve farmers with specific skin cancer prevention and detection behaviors.

The primary prevention behaviors for reducing skin cancer risk include regular and appropriate use of sunscreen and protective clothing, such as wide-brimmed hats and long-sleeved shirts (AAD, 1990). Primary detection behaviors include monthly skin self-exams and annual clinical skin exams for skin cancer (Berwich, Begg, Fine, Roush, & Barnhill, 1996). Farmers seldom practice either prevention (Gilmore, 1989; Lee, Marlenga, & Miech, 1992; Parrott, Steiner, & Goldenhar, 1996) or detection (Marlenga, 1995; Parrott et al., 1996) behaviors relating to sun exposure. These findings affirm the need to motivate farmers to practice prevention and detection adaptation behaviors. Interpersonal expectancies, social resources, and actual

procedural knowledge are hypothesized to influence farmers' perceived procedural knowledge and public commitment, which, in turn, are hypothesized to predict farmers' adaptation behaviors.

Interpersonal Expectancies

Interpersonal expectancies, defined as one person's beliefs about how another person will behave, often predict the belief holder's behavior. Interpersonal expectancies research consistently finds that what an individual expects another to do may be more predictive of behavior than the person's own beliefs or skills (Rosenthal & Rubin, 1978). Numerous studies demonstrate that when experimenters expect particular responses from research subjects, they are more likely to get those results; moreover, teachers who expect better intellectual performance from students are significantly more likely to obtain those actions (Darley & Fazio, 1980; Rosenthal, 1976; Swann & Ely, 1984). Thus, when significant others expect one to adapt one's behavior to reduce the health threat associated with a particular action, one may be more likely to do so. The relationship between interpersonal expectancies and adaptation behavior has been well-documented. For example, research shows that the significant others' beliefs about the importance of following a diabetic regiment was more predictive of the patient's behavioral intention than the patient's own beliefs (Shenkel, Rogers, Perfetto, & Levin, 1985). Mothers' expectations for children to behave as responsible individuals are "associated with positive health behavior in children (tooth brushing, sleep habits, exercise, nutritional practices, and refraining from smoking)" (Tinsley , 1992, p. 1052). Finally, sunscreen use among adolescents has also been found to be greater when parents expect the youth to use it (Banks, Silverman, Schwartz, & Tunnessen, 1992).

Interpersonal expectancies differ from an individual's observations of the normative behavior of significant others, which is often times used to guide one's own behavior. Interpersonal expectancies relate to an individual's beliefs about what significant others believe the individual will do, although the significant others may not behave that way, and/or may not actually hold the belief, nor ever intend to communicate the expectancy. Even in situations where individuals misperceive the social norm, cases of "pluralistic ignorance," individuals have been found to behave according to the misguided perception, with college students having been found to consume more alcohol as a result of their perception of the norm regarding quantity consumed (Prentice & Miller, 1993). Similarly, it is predicted that in situations where an individual misperceives another's interpersonal expectancy, the perception still guides behavior, with interpersonal expectancies being communicated through "praise, criticism, and frequency of interaction" (Marshall & Weinstein, 1986).

When one's own behavior confirms another's expectation, the expectation is more likely to be internalized when the behavior occurs in a situation in which the behavior may be viewed as representing an underlying trait or disposition (Snyder, 1984). The agricultural community highly values family, with family sociologists maintaining that "farm families are closely knit" (Rogers et al., 1988, p. 178). Because farmers have been found to view themselves as self-reliant, responsible, and independent (Merchant, Kross, Donham, & Pratt, 1988), family members may expect farmers to be self-reliant, responsible, and independent. If farmers' adaptation to sun exposure confirms family members' views of farmers as self-reliant, responsible, and independent, the relationship between family members' interpersonal expectancies and farmers' adaptation

behaviors is likely to endure. In sum, previous theory and research suggest that in situations where one's action creates a health threat, significant others' expectations regarding an individual's adaptation behavior predict the performance of prevention and detection practices.

Social Resources

Social resources have been defined as including role models' and others' provision of information or assistance, either vicariously through observation or directly through communication, in order to promote the assumption of a personal practice for a particular function (Clark & Zimmerman, 1990). It has long been recognized that role models provide a significant mode of teaching values and behaviors, as well as contributing to rule learning, skill development, and perceptions of ability in many health settings (Driggers, Nussbaum, & Haddock, 1993; Rosenthal, 1980; Rosenthal & McSweeney, 1979). Media afford one avenue to use in having role models demonstrate how to perform adaptation behavior. Other people who face the same threat to well-being caused by the performance of an action and with whom a target audience is often likely to interact may also build, maintain, and reinforce the habitual patterns of behavior necessary to adapt to the situation and health risk. As Rofe, Lewin, and Hoffman (1987) observe, "Being with others in similar straits may indeed give one insight into appropriate response" (p. 423). This may occur through the modeling of adaptation behavior and/or communication of information about ways to adapt to the risk posed by a behavior.

With regard to skin cancer prevention, one study using lifeguards acting as peer leaders to model appropriate sun protective behaviors for children 1 to 17 years of age found an increase in such behaviors from a baseline of 6.5% to 26.9% following the intervention, particularly in terms

of protective clothing and shade as a sun barrier (Lombard, Neubauer, Canfield, & Winett, 1991). For farmers, however, an absence of role models and information about sun exposure adaptation behaviors has been observed in previous research. Farmers report that their physicians do not discuss skin cancer prevention and detection with them, nor do other farmers or agricultural extension agents practice skin cancer prevention and detection (Marlenga, 1995; Parrott et al., 1996; Rosenman, Gardiner, Swanson, Mullan, & Zhu, 1995). To the extent that individuals have access to role models and information about how to adapt to a health risk, however, they are more likely to adopt adaptation behaviors.

Actual Procedural Knowledge

Procedural knowledge is one's awareness of the specific details about how to perform a behavior. In health settings, campaign messages are more often general than specific, and factual rather than procedural (Bandura, 1997). This emphasis on factual knowledge (e.g., skin cancer is the most common form of cancer) over procedural knowledge (e.g., one should apply sunscreen 20 minutes before going into the sun) can be problematic because the former may heighten awareness of an illness or disease but not tell you what to do about it. For example, women score better on factual knowledge about breast self exams than they do on procedural knowledge (Champion & Miller, 1992), suggesting that they lack understanding about the actual steps involved in conducting the adaptation behavior. Formative research assessing the farming population's understanding of procedures to protect from sun exposure found that nearly three-fourths of the participants erroneously selected a wide-brimmed straw hat as being more protective than a tightly woven cap with neck flap (Parrott et al., 1996). This affirms the fact that

farmers lack specific knowledge about procedures to use to adapt to sun exposure. The less awareness one has about specific procedures to be performed to adapt to a health risk situation, the less likely one is to enact adaptation behavior.

Perceived Procedural Knowledge

Perceived procedural knowledge, or what one thinks one knows about the behaviors which may be used to prevent and detect illness and/or disease, may differ from actual procedural knowledge, as demonstrated through one's ability to answer questions about a topic. This may occur in any context, with the two types of knowledge expected to be directly related. However, perceived procedural knowledge is predicted to have a more direct impact on behavior adaptation than actual procedural knowledge, an extension of findings that perceived social support has been found to differ from actual support, with the former having a greater impact on adjustment to cardiac disease than did the latter (Helgeson, 1993).

The effects of perceived procedural knowledge on adaptation behavior may be considered as one dimension of the multidimensional construct of self-efficacy,[1] which is defined as those expectancies associated with one's belief that he or she is able to perform the behavior necessary required to achieve particular outcomes (Bandura, 1977). Garcia (1995) observes that, "Previous personal experience, observations of others, information and other symbolic knowledge, and physiological states are all weighted and combined to produce the efficacy expectation" (p. 260). Consideration of perceived procedural knowledge emphasizes the individual's perceptions of their level of information and other symbolic knowledge regarding ways to adapt to a health risk situation.

Research across a number of contexts demonstrates that individuals' self-referent thought about their capabilities to address a health threat significantly impacts their likelihood of initiating efforts to deal with the threat (Ewart, Taylor, Reese, & DeBusk, 1983; Kaplan, Atkin, & Reinsch, 1984; Maibach, Flora, & Nass, 1991; Strecher, DeVellis, Becker, & Rosenstock, 1986). Such thought also strongly influences the maintenance of preventive health behaviors constituting the habitual practice so necessary in situations of behavior adaptation (Bandura, 1991; Strecher, DeVellis, Becker, & Rosenstock, 1986). Thus, perceived procedural knowledge is deemed to increase the likelihood of behavior adaptation.

Public Commitment

Public commitment to, or advocacy for, an issue or action contributes to an individual's motivation to act, due to anticipated personal and social disapproval and penalties for failure to follow-through with verbal support, pledge, and/or promised activities (e.g., Cooper & Fazio, 1984; Frey, 1986). Indeed, hypocrisy has been defined as "advocating a position one supports and being made mindful of one's failure to act in accordance with that advocacy" (Fried & Aronson, 1995, p. 925). This provides a framework for understanding why the use of written and verbal pledges, promises, and contracts has increased compliance with various health care routines, including diet, exercise, administration of medication to children, and, recently, the use of condoms (Becker & Maiman, 1980; Franzini & Grimes, 1980; Mann, 1972; Molteni & Garske, 1983; Rosen, 1978; Stone, Aronson, Crain, Winslow, & Fried, 1994). As previously noted, farmers have strong traditional values, including attachment to the local community, and high regard for their verbal pledges and the ability to be taken "at their word" (Bartlett, 1986). Their

act of verbally pledging commitment to adapt to sun exposure should increase the likelihood of use of sun exposure adaptation behaviors.

Figure 1 illustrates the proposed model of behavior adaptation. Farmers' perceived procedural knowledge about skin cancer prevention and detection behaviors is predicted by their interpersonal expectancies, social resources, and actual procedural knowledge. Their public commitment is predicted by their interpersonal expectancies, social resources, and perceived procedural knowledge. Behavior adaptation is predicted by perceived procedural knowledge and public commitment. In addition, based on a voluminous literature regarding the influence of interpersonal expectancies on behavior, interpersonal expectancies are also expected to predict adaptation behaviors independent of the influence of either perceived procedural knowledge or public commitment. This study assesses this theoretical approach to behavior adaptation through an initial test of the proposed model with a farming population and their skin cancer prevention and detection behaviors.

Method

Setting

Farming contributes significantly to economic activity in the state of Georgia, with Georgia farmers receiving $4.1 billion for their farm products in 1989, a record that was twice that received 15 years earlier (Miller & Givan, 1991). Georgia ranked 15th among all states in total farm production value and third among Southeastern states for the year, pointing to the importance of farming in this state, as well as suggesting the amount of time likely to be spent in the sun towards the goal of crop production. This exposure increases the likelihood of an

elevated incidence of skin cancer, particularly in regard to the lips and ears, which may too often go unprotected while working outdoors.

Participants and Procedures

A random sample (N = 654) of farmers from eight counties in south Georgia (n=448) and their wives (n = 206) comprise the participants. To satisfy the conditions of the upcoming campaign with regard to the implementation and evaluation, three areas were defined in the target region, such that they were noncontiguous geographically, and had a similar number of farm operators. The three farming areas were then randomly assigned to one of three conditions [intervention A, intervention B, and control], and farmers' names were randomly selected, using a simple random selection method, from a list of farm operators provided by the University of Georgia's Cooperative Extension Service and county agricultural extension field agents. There was an approximately equal distribution of 150 participants from each of the three geographic areas to satisfy the conditions of a larger omnibus study (see Parrott, Steiner, & Goldenhar, 1996). Initial analysis of the data revealed no significant differences between groups in their responses owing to geographic locale.

Farmers responded to a telephone survey addressing skin cancer prevention and detection.[2] Of the 777 farmers contacted, 461 were interviewed, a 59% response rate; subsequently, 13 surveys were deemed to be incomplete, with an effective response rate of 58%. Additionally, since in Georgia, farming is a family business (Bartlett, 1986), wives are often as involved in outdoor farming activities as their husbands, putting them at risk for skin cancer as well. Wives of all participating farmers were, therefore, contacted for participation as well,

receiving a substantially lengthier version of the phone interview via mail. The length was due to efforts to assess the wives' responses with regard not only to skin cancer, but to breast and cervical cancers as well. Despite the length of the survey, 206 of the 403 wives receiving surveys returned them, a 51% response rate.

The average age of farmers, all of whom were white, was 50 years old (SD=12.66); most were married (90.2%), and the average age of the farm wives was 48 (SD= 11.79). Their farming experience ranged from 1 to 81 years, with average being 37.5 years (SD=16.14). Just over one-third (36.4%) of the participants operated their own farms, reporting themselves as the only workers. Approximately half (42.6%) indicated that farming comprised 75% or more of their incomes. Most (84.5%) respondents indicated that they had never had skin cancer. Less than half (43.6%), however, had ever had their skin examined by a physician to check for signs of skin cancer.

Instrumentation

The hypotheses and research questions proposed required the measurement of six variables. Moreover, the proposed model was tested using four categories of sun protection practices: (1) wearing sunscreen; (2) wearing sun protective hats; (3) wearing long-sleeved shirts; and (4) practicing skin exams. All variables were measured using five-point scales, with higher numbers indicating greater agreement with Likert-type statements, or greater frequency of behavioral performance.

Confirmatory factor analysis was selected to analyze the measurement model, as it is viewed as the more appropriate technique when a priori specification of item clustering is possible

(Fink & Monge, 1985). The items used to measure the six constructs were examined using LISREL 7. Several indicators of fit were used to examine the measurement models, with the following standards being employed: squared multiple correlations greater than .25, t-values greater than 2; and coefficient of determination (COD) greater than .80. The chi-square, goodness of fit index (GFI), adjusted goodness of fit (AGFI), and root mean square residuals (RMSR) were also examined for each construct, with items being eliminated until the GFI was above .98, the AGFI above .93, and the RMSR below .05. Due to the absence of research addressing the constructs of interest, the scales were pilot-tested before use in the present project. Although several items included in the original pilot testing had to be dropped, internally consistent and reliable measures were confirmed for all scales. Each scale was constructed by summing and then dividing by the total number of items.

Sun protection behaviors. With regard to sunscreen behavior, farmers and their wives were asked how often they (1) purchase sunscreen to wear while working in the sun; and (2) wear sunscreen while working in the sun. For the behavior relating to sun protective hats, participants were asked how often they (3) purchased a hat that blocks the sun from your neck and ears to wear to work in the sun, and (4) wear a hat that blocks the sun from the neck and ears while working in the sun. With regard to wearing a long-sleeved shirt as protection from the sun, participants were asked how often they (5) purchased a long-sleeve shirt to wear while working in the sun and (6) wear a long-sleeved shirt while working in the sun. With regard to skin exam practices, participants were asked how often they (7) perform monthly self-exams of their skin; (8) show someone how to conduct an exam of their skin to help detect skin cancer; (9) ask

someone to conduct an exam of the skin to help detect skin cancer; and (10) get a medical professional such as a doctor or nurse to perform an annual clinical exam of their skin. The scores from these ten measures of sun protective behaviors were summed together to create a composite "Sun Protective Behaviors" measure [Cronbach's α = .80, Coefficient of Determination/COD = .90]. The prevention behaviors' items were drawn from Marlenga (1995). Additional items were developed to assess detection.

Familial interpersonal expectancies. Interpersonal expectancies were measured via three statements: (1) my family expects me to conduct an exam of my skin to help detect skin cancer; (2) my family expects me to wear a hat that blocks the sun from my neck and ears to work in the sun; and (3) my family expects me to get an annual clinical exam of my skin to help detect skin cancer [Cronbach α = .80; COD = .82]. These items were based on extending Marshall and Weinstein's (1986) approach to measuring students' perceptions of teacher behavior, including whether he or she has high expectations for the student, provides opportunity, or affords choices. The Marshall and Weinstein (1986) measurement instrument for students' expectancies regarding their teachers was developed and validated in a series of studies, which they review; internal consistency coefficient was .81, with 2-week retest reliability correlation of .80 (Marshall & Weinstein, 1986, p. 443).

Social resources. With regard to social resources, participants were asked: (1) how often do members of your family get clinical exams of their skin; (2) how often have you asked someone to help you find a medical professional such as a doctor or nurse to examine your skin for signs of skin cancer; (3) how often have you asked someone to help you select a sunscreen to

wear while working in the sun: and (4) how often have you seen members of your family conduct an exam of their own skin [Cronbach α = .64; COD = .75].[3] This approach to the measurement of social resources was developed as a result of finding that research on role modeling generally focuses on the models' perceptions of their own behavior (e.g., Dalton & Swenson, 1986), rather than the observer's experience with regard to the role model's behavior. Maibach and Flora (1993) evaluate the effectiveness of symbolic modeling via the use of videotaped presentations of role-modeling and information [social resources], with participants being asked to assess whether the video presented relevant information, provided them with useful skills, had a knowledgeable narrator, and could help reduce risk of exposure to AIDS. Extrapolating from these items, and focusing on the observer's experience of the availability of social resources, the scales for social resources were constructed.

Actual procedural knowledge. The measurement of skin cancer knowledge has generally been operationalized at a global level, including such questions as, "What is the most serious form of skin cancer" and "What is the most common form of cancer" (Marlenga, 1995). Because of the behavior adaptation model's specific focus on procedural information, seven questions were developed: (1) how often should you conduct an exam of your skin to help detect skin cancer; (2) how long before going out in the sun should you apply sunscreen for it to be most effective; (3) which of the following types of hats provides the best protection from the sun; (4) how often should you get a clinical exam of your skin to help detect skin cancer; (5) what type of material should you look for when selecting a protective shirt to wear while working in the sun; (6) what tools do you need to conduct an exam of your skin; and (7) what does the SPF number on

sunscreen mean. These items were reviewed for content validity by three experts, including the director of a large southeastern university's melanoma center, the director of a southeastern state's public health cancer control section, and a health educator. Correct responses were summed, creating a 0 - 7 measure, with a mean of 2.43 (SD = 1.48); clearly, there is a wide range for improvement in understanding.

Perceived procedural knowledge. In relation to farmers' perceptions of procedural knowledge relating to sun exposure adaptation behavior, five questions were used, with two questions relating to detection, and three relating to prevention. Participants were asked "how knowledgeable are you about" (1) skin self-exams; (2) clinical skin exams; (3) sunscreen; (4) sun protective hats; and (5) sun protective shirts [Cronbach α = .81; COD = .82], an adaptation of Champion and Miller's (1992) instrument to assess women's self-efficacy with regard to performing breast self-exams. Champion (1984) developed instruments to measure the constructs associated with the Health Belief Model, including the scale used by Champion and Miller (1992). The instruments Champion developed had been evaluated for validity and reliability, with content validity being determined by a professional review panel; construct validity tested through factor analysis and multiple regression; and internal consistency reliability using Cronbach's alpha ranging from .64 to .89.

Public commitment. To operationalize participants' public commitment to sun exposure adaptation behavior, they responded to five items beginning with the stem "how often do you recommend to others that they," with detection being assessed via two items: (1) conduct regular exams of their own skin to help detect skin cancer; and (2) get an annual clinical exam of their

skin. Prevention behaviors were assessed via three items: (3) wear sunscreen when working in the sun; (4) wear a hat that blocks the sun from the neck and ears when working in the sun; and (5) wear a long-sleeved shirt when working in the sun [Cronbach α = .87; COD = .90]. This approach to the measurement of public commitment stems from prior research relating to the construct. In Stone et al. (1994), participants were asked to develop a speech about AIDS prevention from a list of statements about AIDS and to videotape the speech, with the belief that what they said would be used *to recommend* AIDS prevention practices to other students. Fried and Aronson (1995) videotaped participants' presentations relating to their recommendations for recyling.

Results

Structural equation modeling (LISREL7) was used to determine the extent to which the behavior adaptation model presented in Figure 1 provided a good fit for the data. First, macro-level analyses were performed on the overall hypothesized model. Second, micro-level analyses were performed on predicted paths within the model. A covariance matrix was computed through PRELIS (Joreskog & Sorbom, 1989) and serves as the input data for the structural equation model. Table 1 includes the descriptive statistics for the model indicators, together with the correlation coefficients to identify the zero-order relationships among the indicators.

The structural analysis of the hypothesized model as illustrated in figure 2 indicates that the model represented a poor fit for the data. The χ^2 value was significant (χ^2 (3) = 65.09, $p <$ .001) suggesting a significant departure from the data. The goodness-of-fit (GFI) and adjusted goodness-of-fit (AGFI) indexes of .969 and .786, respectively, also suggest a poor fit. The

overall coefficient of determination for the three equations was .406, with the equations for perceived procedural knowledge, public commitment, and behavior adaptation having squared multiple correlations of .233, .240 and .406 respectively. Figure 2 contains the maximum likelihood coefficients and their associated standard errors; there was no missing data, so the results are based on 654 participants. All indicators have significant t values (ranging from 4.59 to 10.29) and their weights range from .146 to .361.

Attention to the modification indices indicated that the fit of the model could be significantly improved with the addition of a path from social resources to behavior adaptation. Thus, the availability of models and sources to seek information from, which was earlier defined as the direct and indirect resources used to support behavior adaptation, was found to impact behavior adaptation not only through the infuence of perceived procedural knowledge and public comitment, but on its own as well. This relationship is consistent with much research that examines observational learning (Bandura, 1986). Although it was proposed that behavior adaptation would be a circumstance in which an individual's perceptual and communication processes would persistently mediate the impact, the finding that social resources have an even more substantial relationship to behavior adaptation clarifies the importance of this construct within the theoretical framework of the behavior adaptation model.

Structural analysis was performed with the additional path from social resources to behavior adaptation added to the theoretical model, indicating that the model now presented a good fit to the data. The χ^2 value did not indicate any significant departures from the data (χ^2 (2) = 5.68, p = .087),[4] and GFI and AGFI were .996 and .980 respectively. The root mean square

residual was low (.02) with no large residuals. The overall coefficient of determination for the three equations was .456, such that the model accounts for nearly half of the variance in participants' adaptation behaviors; the equations for self efficacy, public commitment and behavior adaptation had squared multiple correlations of .233, .240 and .456 respectively. Figure 3 contains the maximum likelihood coefficients and their associated standard errors for this analysis. All path coefficients are significant ($p < .05$, t-values ranging from 4.59 to 8.29) and their weights range from .146 to .353.

In sum, the dervied behavior adaptation model illustrated in Figure 3 demonstrates that as perceived procedural knowledge increased, farmers' public commitment to perform adaptation behavior was enhanced ($t = 4.59$). Moreover, the more perceived procedural knowledge a farmer had in relation to adapting to sun exposure, the more adaptation behaviors were performed ($t = 8.29$). The act of making a public commitment to the performance of adaptation behavior increased the probability that one would display prevention and detection practices ($t = 6.16$). Beyond these direct predictors of behavior adaptation, the interpersonal expectancies of farming family members was related to farmers' perceptions that they have the knowledge to practice prevention and detection behaviors ($t = 4.75$), their public commitment to the performance of prevention and detection behaviors ($t = 7.84$), and the performance of these practices ($t = 6.16$). The availability of social resources predicted farmers' perceptions that they have the knowledge to display behavior adaptation ($t = 7.41$), their public commitment to performance of such practices ($t = 4.46$), and behavior adaptation ($t = 7.76$). Farmers' actual procedural knowledge predicted their perceived procedural knowledge ($t = 7.23$).

These analyses used a composite measure of behavior adaptation, as the theoretical argument was made that in the performance of a behavior which leads to a health risk, more than one behavior may be identified as a method to adapt to risk, with any one person's response to the health threat being pictured on a continuum of behavior adaptation. The proposed model was also tested by using each of four sun protective behaviors (sunhat, long-sleeved shirt, sunscreen, skin exams) individually as dependent measures, rather than as one composite measure, to examine the patterns of prevention and detection. The structural analyses suggest that the model presented a very good fit to the data for the skin exam, sun hat, and long-sleeved shirt behaviors. In addition, the path coefficients for the skin exam, sunhat, and long sleeved shirt behavior models were all significant. However, as compared to the results for the composite sun protective behaviors, the model was not as good of a fit for the sunscreen behavior data (χ^2 (2) = 21.85, p > .01, GFI and AGFI of .989 and .886 respectively; the root mean square residual was acceptable at .048 with no large residuals). All links were significant except for the link between interpersonal expectancies and the behavior of wearing the sunscreen. Thus, the expectancies of family members did not predict sunscreen use, with these results suggesting that the behavior adaptation model was significantly better at predicting farmers' skin exam, sunhat, and long-sleeved shirt behaviors than their use of sunscreen. This may be due to the fact that so few farmers and farm wives used sunscreen; they simply held no expectancies in this regard for other family members.

Discussion

Individuals often find themselves in the midst of situations that pose a risk to their health and well-being. The mandate to avoid these situations is too often one that cannot practically be

employed, and so, health communicators should focus on adaptation rather than avoidance messages. This project presents a model of behavior adaptation, emphasizing the role of interpersonal communication in the process of forming, maintaining, and sustaining healthy habits. The behavior adaptation model provides a framework for understanding why efforts to promote prevention and detection practices are more or less likely to succeed. Application of this approach to the planning, implementation, and evaluation of health campaigns may afford insights about the failure of some campaign messages in the past, as well as guide the design of future efforts.

The tenets of the behavior adaptation model were applied to the context of sun exposure and farming, supporting the proposed model with regard to the role of interpersonal expectancies, actual procedural knowledge, perceived procedural knowledge, and public commitment on behavior adaptation, while clarifying the relationship of social resources to individuals' prevention and detection practices. Farmers cannot realistically be expected to avoid the sun between the hours of 10 am and 3 pm, a primary message of many skin cancer prevention campaigns. Farmers can adapt to sun exposure in ways that reduce their risk for skin cancer, including the use of four primary prevention and detection behaviors. The findings of this study may be used to guide the design of health campaign messages aimed at reducing farmers' skin cancer risk.

The Relationship of Perceived Procedural Knowledge to Behavior Adaptation

The proposed behavior adaptation model posited that individuals' perceptions that they know how to adapt to a health risk increases the likelihood that they will adapt. Perceived procedural knowledge was found to have a direct impact on behavior adaptation, suggesting that

emphasizing to individuals that they know how to adapt, may enhance performance. A message such as, "You know how to protect yourself from overexposure to the sun" could facilitate farmers' performance of skin cancer prevention and detection behaviors. This may occur due to the verbal immediacy of such a statement, with more immediate language functioning as a cognitive trigger to thought and action (Parrott, 1995). In addition, perceived procedural knowledge predicted public commitment, which may also indicate that belief in one's knowledge appears to function as a motivator, while lack of confidence in one's knowledge may contribute to reticence to speak or to act.

Public Commitment's Relationship to Behavior Adaptation

The proposed behavior adaptation model emphasized research which has found that a verbal statement in support of an action or issue, in conflict with one's actual behavior, contributes to feelings of hypocrisy (Fried & Aronson, 1995). It was posited that public commitment would predict behavior adaptation, a relationship that was also supported. Health communication campaign messages designed to gain verbal statements in support of practices to prevent and detect skin cancer may be as simple as, "Recommend to your friends and family that they wear long-sleeved shirts to protect their skin while working in the sun." In other behavior adaptation situations, similar construction of messages may evoke this commitment. Moreover, when a farmer recommends skin cancer prevention and detection practices, this may influence not only the farmer's own behavior adaptation, but other farmers behavior adaptation as well. The action of recommending the practice, in other words, has been shown to increase one's behavior adaptation via a sense of personal commitment to behave in the prescribed fashion to avoid

feelings of hypocrisy. The act of verbally committing to behavior adaptation may, at the same time, function as a social resource for others, so that they are able to observe someone behaving in the prescribed practice, recommending the practice, and acting as a source of information about the practice.

Interpersonal Expectancies and Behavior Adaptation

Significant others' expectancies with regard to behavior adaptation were found to predict the performance of prevention and detection practices, as well as to directly predict perceived knowledge about the performance of behavior adaptation and public commitment to such practices. These findings demonstrate the importance of identifying who the significant others are that will be likely to influence a target audience's adaptation behaviors. When these individuals praise the performance of prevention and detection behaviors, criticize the neglect of such practices, and/or regularly talk about their expectancies (Marshall & Weinstein, 1986), behavior adaptation is more likely to occur. A profile of the significant others' expectancies regarding the risk behavior and ways to adapt to it may provide insights about an appropriate way to enlarge the audience to be addressed through campaign messages.

As a result of the findings that interpersonal expectancies contribute significantly to adaptation behavior, health campaigners may design messages aimed at a target audience's significant others. The messages may focus on informing them about the risk the target audience faces, the options available to reduce harm, and the influence their own actions have on the likelihood that behavior adaptation will occur. "Don't let your loved one be a 'red neck' from working in the sun"; "Today, the farmers in your family will spend eight hours working in the sun.

Show how much you care by reminding them to use sunscreen, wear a sun protective hat, and wear a long-sleeved shirt" illustrate how farm family members' awareness of their role in promoting behavior adaptation might be heightened.

The target audience's beliefs about significant others' expectations regarding the behavior adaptation need also to be assessed, with results being used to guide the design of campaign messages to reinforce appropriate expectancies and to reframe inappropriate expectancies. The reframing may become one objective of enlarging a campaign's audience to include members of the target audience's interpersonal expectancy network. In sum, the present study's findings support the conclusion that health campaigners may invoke interpersonal expectancies in support of behavior adaptation as one method to facilitate the adoption of prevention and detection practices.

Social Resources and Behavior Adaptation

The behavior adaptation model proposed that social resources would predict individuals' perceived knowledge about behavior adaptation and public commitment to perform the practice. While these relationships were supported, it was also found that the availability of social resources directly predicted behavior adaptation as well. The proposed model was modified to add this link, clarifying the impact of social resources on adaptation behavior. Prior theory and research supports both the logic of the importance of social resources in contributing to adaptation behavior (Bandura, 1986), and the logic of its effects being mediated by an audience's perceived procedural knowledge (Champion & Miller, 1992) and public commitment (Fried & Aronson, 1995).

That social resources, such as family role models, are an important predictor of behavior adaptation, perceived knowledge, and public commitment suggests an alternative method of affecting adaptation without reliance on professionals and institutions. Significant others' interpersonal expectancies may bolster the provision of social resources minimally or maximumly, as significant others may themselves not be faced with the performance of the behavior which puts an individual at risk. They may hold expectations that an individual will adopt adaptation behaviors but fail to act in the expected fashion themselves, and/or be unable to provide information to facilitate such behavior. On the other hand, significant others may communicate supportive expectations and provide social resources to facilitate the confirmation of the expectations, including action as appropriate role models and/or provision of information relevant to the practice of adaptation behavior. Health campaigners may evaluate this connection with the intention of designing messages to strengthen naturally occurring positive connections and to weaken the presence or effects of inappropriate social resources, including the bad role models and the uninformed sources of information.

Actual Procedural Knowledge and Behavior Adaptation

An individual's actual procedural knowledge with regard to prevention and detection behaviors was proposed to be related to perceived procedural knowledge, a relationship which was supported. This, too, becomes an important area for campaigners to focus their message design efforts, identifying the specific procedures associated with an adaptation behavior and providing these guidelines to a group who faces a health risk. The messages relating to sunscreen use for farmers might include information about how soon to apply sunscreen before going into

the sun in order for it to be effective, how much to use, how often to reapply, and so on. Similarly, farmers need to be aware of the best type of hat to wear to protect their ears and neck from the sun. There has clearly been too much neglect of these specific procedural guidelines in the development of many previous campaign messages, leading individuals to have a general factual understanding about many health issues but too little specific procedural understanding (Champion & Miller, 1992). However, exclusive emphasis on this area of message design, to the neglect of significant others' interpersonal expectancies and attaining public commitment to the performance of adaptation behavior may doom campaigners' efforts. The weakest link in the behavior adaptation model when applied to the case of farmers and sun exposure was the one from actual procedural knowledge to perceived procedural knowledge, highlighting the importance of its inclusion in the conception of health campaign activities, but suggesting that its role is contingent, and so campaigners' efforts must reflect this contingency.

Strengths, Limitations, and Future Research

The findings that interpersonal expectancies, social resources, and actual procedural knowledge, together with perceived procedural knowledge and public commitment, predict behavior adaptation affords important insights about the design of health messages in efforts to communicate with individuals unable to avoid behaviors which put their health at risk. The current study did not, however, consider the interactions among the variables, which may provide the means to explain more of the variance in prevention and detection practices among a population. At present, the conclusions of this research are also practically limited by the application of the model to a single population in a single study. However, there is some

anecdotal evidence to support the validity of the behavior adaptation model, including the "Weight Watchers" program which relies on providing people with guidelines about how to eat the foods they love and still lose weight, involving rules relating to frequency and size of portions. Moreover, the program utilizes social resources in the form of other members, past and present, acting as role models and sources of information for current members (see Matheson, Woolcott, Matthews, & Roth, 1991). The program meetings convey the importance of evaluating others' expectations regarding one's own weight and eating behavior. Members begin to perceive themselves as having the knowledge to adopt practices which help them to adapt to the health risk associated with previous eating behaviors, while still indulging their love for creamy sauces, rich desserts, or whatever food the individual loves which is unhealthy. In addition, members consistently make public commitments to one another and others about their eating habits.

The current research is also limited by the fact that farmers self-report their behavior adaptation, as well as the available social resources and familial interpersonal expectancies, so, farmers' actual behavior, access to social resources, and/or familial expectancies may be quite different. Future studies could examine ways to triangulate data collection. Parrott et al. (1996) did formative research, finding through observation of farmers working in the field, that they performed even fewer of the practices related to sun exposure than they said they did, and that there was even less availability of products, services, and information about skin cancer than farmers perceived there to be. Thus, future efforts to validate the behavior adaptation model may want to include the use of observational methods to evaluate a group's actual adaptation behavior, together with the availability of social resources to support the behavior, and significant

others' interpersonal expectancies regarding the group's practices.

The behavior adaptation model should be examined for its ability to predict adaptation behaviors across a variety of contexts and situations. Consider work sites where employees must behave in ways that put their health at risk, yet only some employees heed the adaptation strategies recommended by their employers. The behavior adaptation model suggests additional strategies, including a focus on the expectancies of significant others and/or getting employees to make a public commitment about the behavior. Efforts to communicate about contraceptive use (e.g., Gilchrist & Schinke, 1983) also depend upon the promotion of the faithful performance of specific habits to support long term health aims, constituting an appropriate situation to apply the behavior adaptation model. Communication campaigns designed to address diet and nutrition (e.g., Bernier & Avard, 1986) may also be appropriate avenues for use of the behavior adaptation model, with interpersonal expectancies providing an important consideration in evaluating the audiences and activities to be included in such efforts, together with precise procedural information about diet and nutrition. In each of these settings, the behavior adaptation model advises health campaigners to focus not on change (which seems so hard and unpleasant), nor on stopping a particular practice (which often seems impossible), but rather to acknowledge a practice, and advise one that, "When you do that, also do this."

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1. Bandura (1997) reviews the voluminous work in the area of self-efficacy, which is beyond the scope of the current project. However, he distinguishes self-efficacy from such constructs as locus of control (see p. 48) and emphasizes its multidimensional and situational nature (p. 48-49). Chapters 6 (pp. 212-258) and 7 (pp. 259-318) deal with cognitive function and health function respectively, suggesting that perceived cognitive ability, which strongly impacts academic performance, is also likely to impact health. Self-efficacy differs from one's internal-external expectancies, or locus of control, with the latter constituting an individual's perceptions about whether what happens to him is the result of his own behavior or dependent on luck, change, fate, and/or powerful others (Rotter, 1966; Strickland, 1978), rather than one's belief that they have the cognitive and behavioral skills, together with the motivation to act.

2. To develop the phone survey, two pilot tests were conducted, with 16 of 50 farmers contacted completing one version and taking 30 to 45 minutes. Many complained of the length, with lengthy surveys contributing to fatigue and hang-ups. The length of the phone survey was reduced, largely by eliminating items with little to no variance in response, particularly when respondents all reported knowing something, performing some practice, or not perceiving some barrier previously reported in the literature with regard to skin cancer prevention and detection. A second pilot version of the survey was completed by five additional farmers randomly selected from the target region, primarily to demonstrate that the revised phone survey took no longer than 30 minutes to complete; the average length of time was 20 minutes.

3. The reliability of the social resources measure was low and the coefficient of determination was lower than .80. In the original measurement instrument, several additional items were included to assess social resources, including observation of other farmers wearing long-sleeved shirts and sun protective hats. However, the addition of these items to the measurement model did not improve model fit. We speculate that these items did not effectively assess social resources because farmers reported so seldom observing other farmers practicing these behaviors.

4. The analysis was re-run using Hoetler's critical N, obtaining $\chi^2 = 2.67$; $p = .263$.

Table 1

Means, Standard Deviations, and Intercorrelations between Measures for Farmers and Farm Wives (N=654).

	Mean (SD)	1	2	3	4	5	6
1. Interpersonal Expectancies	3.154 (.838)	--	.391**	.031	.293**	.413**	.469**
2. Social Resources	1.854 (.766)		--	.147**	.385**	.355**	.514**
3. Actual Procedural Knowledge	2.425 (1.483)			--	.297**	.097*	.218**
4. Perceived Procedural Knowledge	2.828 (.689)				--	.326**	.493**
5. Public Commitment	1.973 (.995)					--	.467**
6. Adaptation Behaviors	2.182 (.744)						--

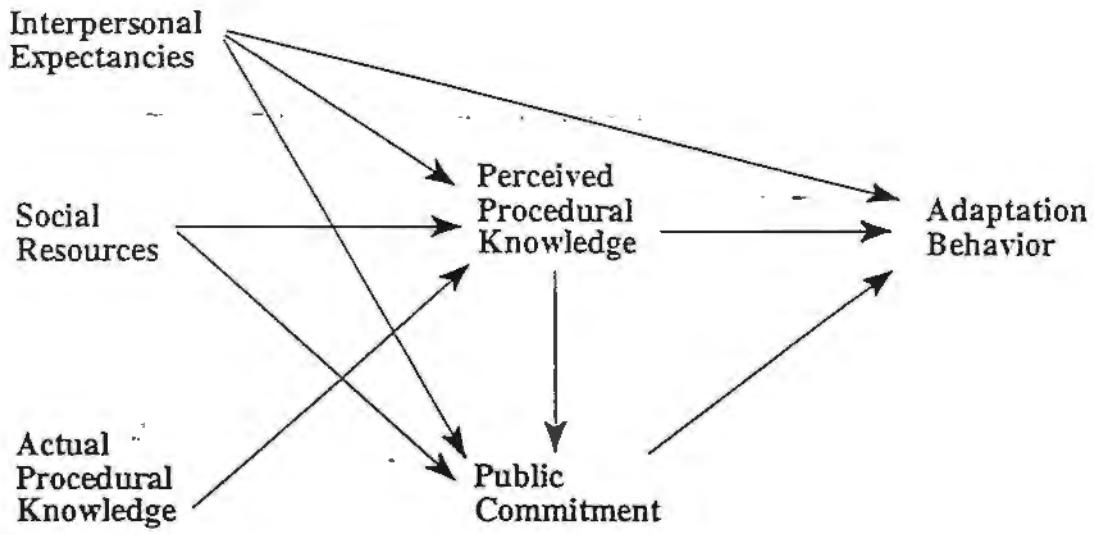
*$p<.05$;** $p<.01$

Figure Captions

Figure 1. Hypothesized Behavior Adaptation Model

Figure 2. Hypothesized Behavior Adaptation Model With Path Coefficients (Associated Standard Errors in Parentheses).

Figure 3. Derived Behavior Adaptation Model With Path Coefficients (Associated Standard Errors in Parentheses).


Interpersonal Expectancies
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Public Commitment
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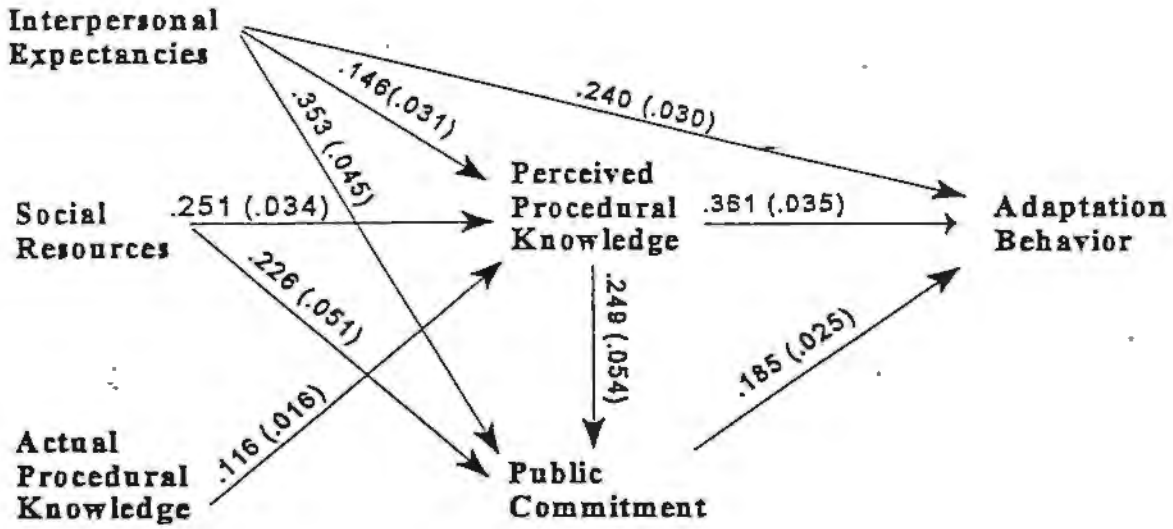
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Social Resources
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Public Commitment

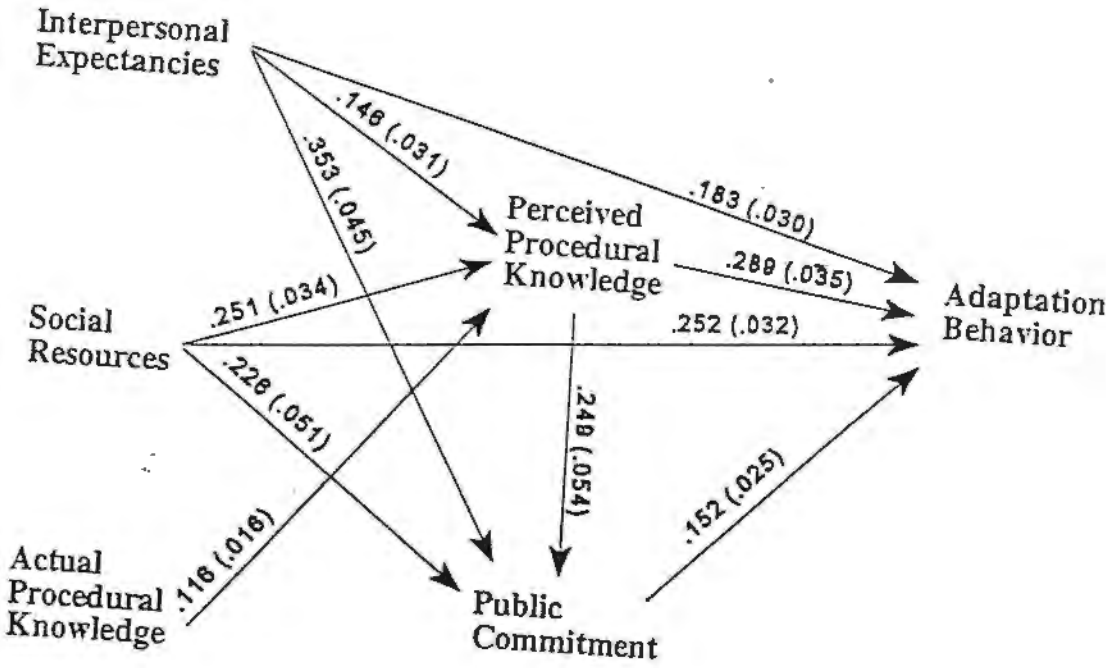
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Figure Captions

Figure 1. Hypothesized Behavior Adaptation Model

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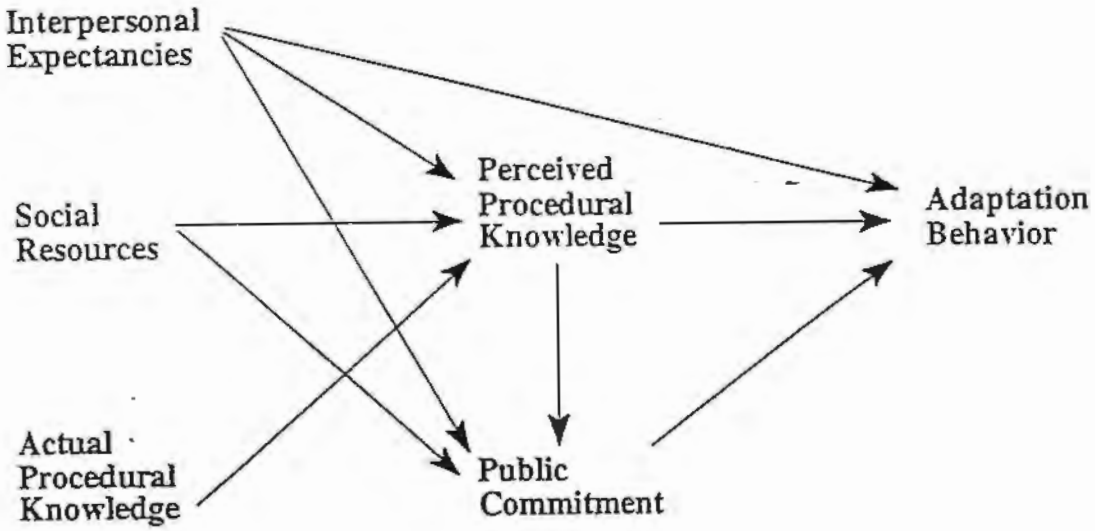
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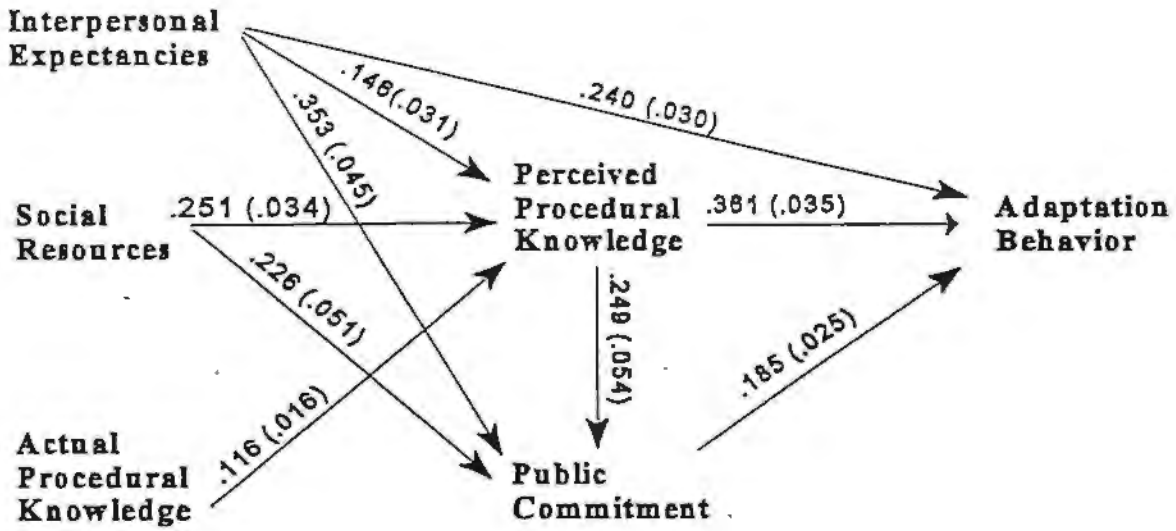
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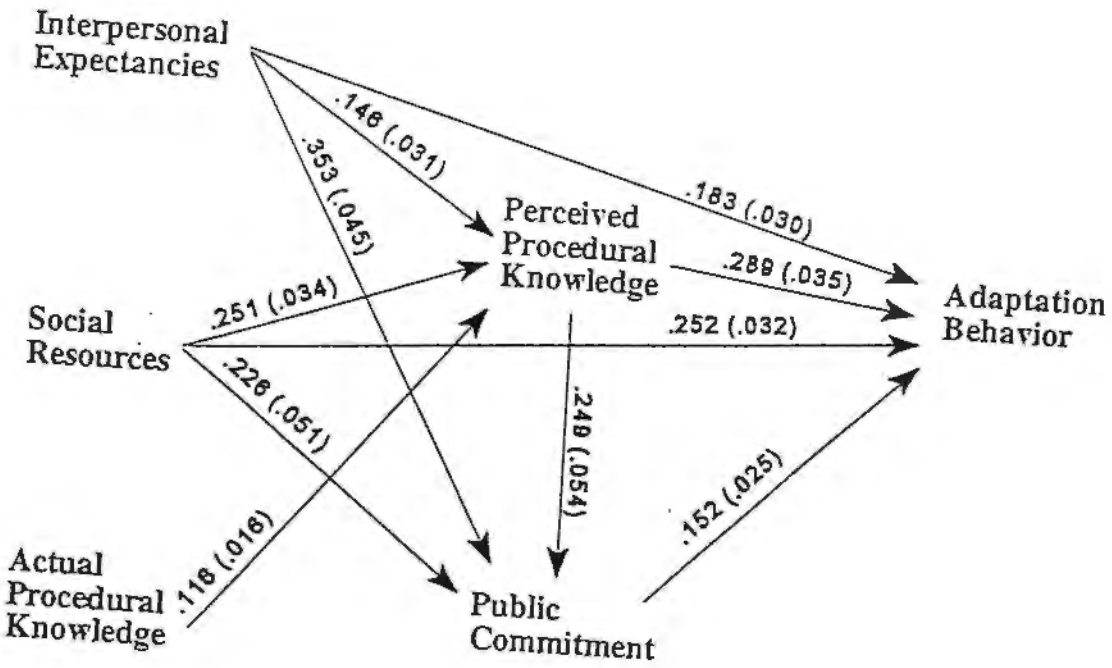
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.252 (.032)
.226 (.051)
.249 (.054)
.118 (.016)
.152 (.025)

When the Worlds of Work and Wellness Collide:

Communicating Skin Cancer Prevention and Detection to Farming Families

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RUNNING HEAD: Work and Wellness

This research was supported by Cooperative Agreement No. U03/CCU410103 from the National Institute for Occupational Safety and Health and a fellowship from the University of Georgia's Institute of Behavioral Research.

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ABSTRACT

This project was undertaken to investigate the impact of farmers' knowledge, familial social support, and farm families' information-giving on farmers' sun protective behavior with results used to guide the development of a health campaign. Farm families' expectancies significantly predicted farmers' use of sunscreen and protective clothing while working in the sun. Farmers whose families expected them to protect themselves while working in the sun were more likely to protect themselves. Additionally, farmers' knowledge and families' information-giving about skin cancer prevention and detection contributed to farmers' sunscreen use. Farmers' knowledge about skin cancer also affected the likelihood that farmers wear long-sleeved shirts or sun-protective hats while working in the sun. Familial expectations and information-giving, and farmers' knowledge significantly predict farmers' use of skin exams (self and clinical) to detect skin cancer as well, but in this case, knowledge is the most important predictor. Implications for designing campaign interventions aimed at involving family members as a means to motivate farmers' to comply with recommended sun protection practices are discussed.

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> ...educating a farmer or rancher about positive health behaviors is the delicate task of telling people to reduce consumption of the products they produce. The message can quickly become: 'The work in which you are engaged results in a product that is dangerous to health'... (Rowley, 1990, p. 444)

Rural families are typically considered to be a hardy folk in the face of many hazardous situations, including significant health risks which employment in agriculture poses for many of them (Lee, 1991). Epidemiologic studies have indicated that agricultural workers are more susceptible than other occupational groups to a variety of chronic illnesses including heart disease, respiratory disease, cancer (Blair & Zahm, 1991), and mental disorders (Schulman & Armstrong, 1990). One health risk which is greater for agricultural workers owing to their occupation is skin cancer (Blair & Zahm, 1991), the most frequently diagnosed and preventable cancer (Robbins, 1990). In recognition of both the increased risk and incidence of skin cancer among farmers and their families, this research was

undertaken to evaluate farming families' support for members' skin cancer prevention and detection behaviors. Implications of findings for the development of programs to promote skin cancer prevention to farming families are discussed.

Farming Families' Self-Reliance and Health Promotion

Developing health campaigns that promote healthy behavior requires an understanding of the barriers within social situations that prevent implementation of these recommended behaviors (Bandura, 1986). Farming families have consistently been shown to have one of the lowest rates of physician visits when compared to other occupations (Donham & Mutel, 1982). Their failure to seek medical treatment may stem from several sources, including lack of health insurance (Merchant, Kross, Dunham, & Pratt, 1988). Even families with adequate medical insurance coverage, however, seek fewer services, suggesting that other variables significantly contribute to the failure to seek medical care (Donham & Mutel). One of these is the farming family's sense of self-reliance.

During the farm economic crisis of the 1980s, farming families from Iowa and Pennsylvania indicated that they felt they did not require financial assistance from the government (Martinez-Brawley & Blundall, 1991). The families revealed reluctance to seek help from many organized service providers including psychiatric services, job retraining, and medical care. In addition, farmers have

high levels of satisfaction with their occupation and life in general (Wozniak, Draughn & Knaub, 1993), which may reinforce feelings of independence and self-reliance.

Rural families tend to define health in terms of ability to work, with illness being tolerated as long as it does not interfere with daily productivity (Lee, 1991; Long, 1993; Weinert & Long, 1987). This observation is consistent with the self-reliance of farming families (Martinez-Brawley & Blundall, 1991; Wozniak et al., 1993) and has important implications for health promotions targeting farmers. It suggests that a disease such as skin cancer may be well-advanced before farmers detect or seek care for it. Skin cancer is an easily treatable disease when detected in its early stages, but disfiguring and deadly when left untreated (Girgis, Sanson-Fisher & Watson, 1994). Farmers' likely predisposition to ignore skin cancer until its advanced stages illustrates the importance of determining ways to promote prevention and early detection.

Farm Families' Social Support and Farmers' Understanding about Skin Cancer

Rural families are often described as having well-developed networks of family support (Schulman & Armstrong, 1990). Although there is no universally-accepted definition of social support, many researchers operationalize the definition by measuring group ties (Litwak & Messari, 1988). In the case of the

agricultural family, family support systems are typically deemed by agricultural workers to be better suited to meet their needs than social services provided by governmental agencies (Martinez-Brawley & Blundall, 1991). Thus, although help may be available through churches or other community sources (Young, Giles & Plantz, 1982), farming families often choose not to avail themselves of these resources, in order to refrain from appearing needy (Martinez-Brawley & Blundall, 1991).

Various authors have indicated that social support networks provide a buffer against psychological stress (Schulman & Armstrong, 1990; Wozniak et al., 1993). In addition, social networks may also promote well-being by placing emphasis on illness-prevention behaviors (Litwak & Messari, 1991). Farmers regard family members to be a primary source of information to make health decisions, second only to physicians (Parrott, Steiner & Goldenhar, 1996a). A necessary step to the adoption of a health behavior is the availability of information about the behavior (Humphreys, Rolley & Weinland, 1993). Family members may promote skin cancer prevention and detection by providing information to farmers to help them learn to safeguard their skin while working in the sun. One focus of this project is to assess:

RQ1: Do farm families provide information to farmers about skin cancer prevention and detection?

The relationship between information-giving and knowledge in health campaigns has been shown to be greatest when mass media messages are combined with face-to-face instruction (Maccoby, Farquhar, Wood & Alexander, 1977). Messages about skin cancer prevention and detection have been available in the mass media for some years now, but farmers seldom report use of media as a method to gain information about their health (Parrott et al., 1996a). Additional research demonstrates an inconsistent relationship between knowledge and behavior (see Sivacek & Crano, 1982 for a discussion of this issue), and further confounds planners' efforts to understand the most efficacious approach to health promotion. This project will evaluate:

RQ2: What is the relationship between farm families' information-giving about skin cancer prevention and detection, and farmers' (a) knowledge and (b) behaviors relating to skin cancer prevention and detection?

RQ3: What is the relationship between farm families' knowedge about skin cancer prevention and behavior, and farmers' actual skin cancer prevention and detection behaviors?

Familial Expectations and Farmers' Skin Cancer Prevention and Detection

The relationship of social support to health outcomes is a complex one, but families' involvement has been deemed to be a critical link. Levy (1983) states that, "The family is described as 'crucial' in creating adherence, with their potential of reward for appropriate self-care and extinction of inappropriate behavior" (p. 1329). In particular, wives have been found to make a significant difference in their husbands' adherence to such medical regimens as taking medication to prevent coronary disease (Doherty, Schrott & Metcalf, 1983).

In situations such as promoting sun-protective behaviors among the farming community as a method of skin cancer prevention, the family may provide not only information but motivation to perform protection behaviors. Family members may be able to convince farmers that, although the agricultural population's economic well-being is dependent upon long hours of solar exposure, skin cancer is an avoidable risk (Parrott, Kahl & Maibach, 1995). Exposure to the risk-generating agent (sunlight) may have so sensitized farmers to their inherent risk that they presume skin cancer to be an unavoidable harm associated with making a living (Eiser, Eiser, Sani, Sell, & Casas, 1995). To better understand farmers' skin cancer prevention practices, this project evaluates:

RQ4: Do farm families expect farmers to practice skin cancer prevention and detection behaviors?

Preventative campaigns that utilize farmers' familial social support networks to reinforce behaviors for injury prevention have been found to be effective (Stoskopf & Venn, 1985). Social network members, however, have sometimes been found to reduce the likelihood that pregnant women will attend prenatal care appointments (Parrott & Daniels, 1996) and to impact negatively the mental health effects of some life events (Thoits, 1982). Thus, network members sometimes facilitate, but other times inhibit members' health and the performance of health behaviors. The exact relationship of social support to behavior, therefore, must be examined prior to the development and planning of prevention programs (Dumka, Roosa, Michaels & Suh, 1995). This research considers:

RQ5: What is the relationship between farm families' expectations about farmers' skin cancer prevention and detection behaviors and farmers' (a) knowledge and (b) behaviors?

METHOD

Participants

A cluster sample of farmers from eight counties in south Georgia (N=448) comprise the participants in this study. All respondents were male, with the

average age being 50 years old (SD=12.66); most were married (90.2%). Their farming experience ranged from 1 to 81 years, with average being 37.5 years (SD=16.14). Just over one-third (36.4%) of the participants operated their own farms, reporting themselves to be the only worker. Approximately half (42.6%) of the participants indicated that farming comprised 75% or more of their incomes. Most (84.5%) of the respondents indicated that they had never had skin cancer. Less than half (43.6%), however, had ever had their skin examined by a physician to check for cancer.

Procedures

Using a simple random selection method, farmers' names were selected from a list of farm operators provided by the University of Georgia's Cooperative Extension Service and county agricultural extension field agents. There was an approximately equal distribution of participants across three geographic areas to satisfy the conditions of a larger omnibus study (Parrott, Steiner& Goldenhar, 1996b). Participants responded to a telephone survey during Spring planting season of 1995 as part of an evaluation component for the project, Georgia Harvesting Healthy Habits Campaign, a demonstration designed to promote cancer control among farming populations (Parrott et al., 1996b).

Dependent Measures

The dependent variables under investigation were the farmers' health behaviors, specifically concerning skin cancer prevention and detection. Respondents answered ten five-point Likert-type statements (Never=1, Always=5) to describe their behaviors concerning skin examination and the use of protective clothing.

Sunblock use. The first scale, which deals with the usage of sun block, consists of three items (how often do you wear sunscreen when working; how often do you purchase sunscreen; how often do you ask someone to purchase sunscreen for you). Cronbach coefficient alpha = .76.

Skin exams. A second scale, dealing with skin cancer detection through use of skin exams (clinical and self), includes three items (how often do you have a medical professional examine your skin; how often do you self-examine your skin; how often do you ask someone to examine your skin). Cronbach coefficient alpha = .63.

Long-sleeved shirts. The third scale measured farmers' self-reported use of long-sleeved shirts with two items scale (how often do you wear long-sleeved shirts; how often do you buy long-sleeved shirts). Cronbach coefficient alpha = .82.

Sun protective hats. A fourth scale assessed the use of sun-protective hats with two items (how often do you wear a sun-protective hat; how often do you buy a sun-protective hat). Cronbach coefficient alpha of .77.

For this study, three dependent measures (social outcome expectancies, familial information-giving, perceptual knowledge) were used to evaluate the relationship between the farmers' practice of sun-protective behaviors and the familial support system regarding those behaviors.

Social outcome expectancies. Farmers described familial expectations regarding sun-protective practices by indicating their level of agreement with 5 five-point Likert-type statements (1 = Strongly Disagree, 5 = Strongly Agree). Each statement was behavior-specific regarding the use of sun block, the wearing of a long-sleeved shirt or sun-protective hat, the use of clinical skin exams, and the performance of self skin exams. Cronbach coefficient alpha = .83.

Knowledge. Respondents assessed their own specific sun-protective knowledge, using five Likert items (e.g., how knowledgeable are you concerning skin self-exams). Respondents indicated level of knowledge on a scale of 1 to 5 (1 = Not at all knowledgeable to 5 = Very knowledgeable). Cronbach coefficient alpha = .80. The use of this approach to measure knowledge has been found to have predictive validity in a study designed to assess women's knowledge about

breast cancer (Champion & Miller, 1992). Women's factual and procedural knowledge test scores about breast cancer could be directly predicted from their perceptual reports about their own knowledge levels.

Familial information-giving. Participants also indicated how often family members had given them information about skin cancer. Two statements (1 = never, 5 = always) were used to assess family members' information-giving, attaining a reliability of Cronbach coefficient alpha = .91.

Data Analysis

To assess the research questions on which this project is based, frequencies were run, providing descriptive data about farmers' skin cancer prevention and detection behaviors, and families' support for these behaviors through the provision of information and the conveyance of expectations about sun protection. Pearson product moment correlation coefficients were computed to provide an evaluation of the strength of relationship among the variables being examined. Stepwise multiple regression analyses were used to evaluate the effects of variables which displayed significant relationships to farmers' sun protective behaviors.

RESULTS

The first research question examined whether farm families provide information to farmers about skin cancer prevention and detection. Table 1

summarizes the frequencies of response, which indicate that family members seldom provide information to farmers about skin cancer prevention and detection. Less than half of the respondents indicated that a family member sometimes, frequently, or always provides information about skin cancer prevention. Even fewer indicated receiving information about detection.

Insert Table 1 about here

The second research question evaluated the relationship between farm families' information-giving about skin cancer prevention and detection, and farmers' (a) knowledge and (b) behaviors relating to skin cancer prevention and detection. A positive correlation between farm families' information-giving and farmers' knowledge was found ($r = .27$; $p < .001$). Moreover, farm families' information-giving positively correlated with the farmers' behaviors, both for preventing: wearing sun block ($r = .27$; $p < .001$), sun-protective hats ($r = .16$; $p = .001$), and long-sleeved shirts ($r = .11$; $p < .05$); and detecting through use of skin exams ($r = .33$; $p < .001$) .

Farmers' knowledge positively correlated with behaviors as well: sun block ($r = .35$; $p < .001$), sun-protective hats ($r = .24$; $p < .001$), long-sleeved

shirts ($r = .21$; $p < .001$), and skin exams ($r = .48$; $p < .001$) . This answers the third research question, which focused on the relationship between knowledge and behavior.

The fourth research question assessed farm families' expectations about farmers' skin cancer prevention and detection behaviors. Table 2 summarizes the frequencies of responses. Findings demonstrate significant room for improvement in this regard, as more than half of the participants disagreed or strongly disagreed with the statements that: my family expects me to wear sunscreen, or wear a long-sleeved shirt while I work in the sun; 49% had similar reactions to the statement about obtaining a clinical exam; and approximately one-third responded in similar fashion regarding conducting a skin self-exam and wearing a hat to block the sun.

Insert Table 2 about here

The fifth research question emphasizes the significance of increasing the involvement of families with farmers' skin cancer prevention and detection behaviors, as all of the correlations between familial expectations and farmers' behaviors were significant ($p<.001$). Familial expectations correlated positively with farmers' use of sun block ($r = .41$), performance of skin exams ($r = .36$),

wearing of long-sleeved shirts ($r = .28$), and wearing of sun-protective hats ($r = .38$). Farmers' knowledge was positively related to farm families' expectations ($r = .29$; $p < .001$) and families' information-giving ($r = .35$, $p < .001$) as well.

To further investigate the relative impact of farmers' perceptual knowledge, familial social support, and farm families' information-giving on farmers' sun protective behavior, stepwise multiple regression was utilized (see Table 3). Criteria for model selection were a significant F ($p < .05$) for the overall model and a significant F for the increment in variance accounted for by each new variable entered and retained in the model.

Insert Table 3 about here

Familial expectations, knowledge, and families' information-giving regarding skin cancer prevention and detection significantly predicted farmers' usage of sunscreen, overall $F(3,422) = 43.03$, $p < .001$, adjusted $R^2 = .23$. Most importantly, when farm families expect farmers to wear sunscreen, farmers are more likely to do so. Farmers' knowledge about skin cancer prevention and detection further influences their decision to wear sunscreen, accounting, however, for less than one-third as much variance in use as familial expectations. Families'

informatin-giving to farmers about sunscreen contributes just slightly more to the emergent picture, with farmers whose families expect them to wear sunscreen, whose knowledge is greater, and whose families have given them information about skin cancer prevention and detection exhibiting the greatest likelihood of use of sunscreen.

Farm families' expectancies and farmers' knowledge significantly predicted farmers's usage of long-sleeved shirts, $F(2,413) = 18.94$, $p<.001$, adjusted $R^2=.08$, as well as the use of sun-protective hats, $F(2,415) = 37.18$, $p < .001$, adjusted $R^2 = .15$. In both cases, greater use of protective clothing is primarily related to families' expectations that farmers use such protection and secondarily associated with farmers having more knowledge about skin cancer prevention and detection.

In addition, familial expectations and information-giving, and farmers' knowledge all significantly predict farmers' use of skin exams (self and clinical), overall $F(3,417) = 62.08$, $p < .001$, adjusted $R^2 = .31$. Noteably, farmers' knowledge was the most important predictor in relation to use of skin exams, while families' expectations contributes only about one-fourth as much variance, and families' information-giving accounts for a mere two percent in the variance.

In sum, familial expectations contribute importantly to the likelihood that farmers will practice skin cancer prevention and detection behaviors, accounting

for almost one-fifth of the variance in behaviors among farmers in relation to sunscreen use. Farmers' knowledge levels are vitally important components of gaining adoption of such practices as monthly skin self-exams and annual clinical exams to detect skin cancer in its earliest stages.

DISCUSSION

It has long been observed that, "Effective self-care is far more economical than professional health care" (Birch, 1980, p. 27). In reference to this nation's farmers, such an observation has specific validity, as self-reliance has been found to characterize this occupational group in all aspects of their lives. The challenge for health promoters aiming to reduce the high rates of accidents, injuries, morbidity, and mortality among farmers is to learn ways to convey information farmers need to be effective in their own self-care, and the means to motivate farmers to practice efficacious self-care.

Skin cancer is the most common form of cancer, with hundreds of thousands of new cases each year wrecking personal, social, and economic costs on individuals, organizations, and society. Unlike some cancers for which specific causes are difficult to identify, skin cancer's most direct cause is preventable by the adoption of specific protective practices. For individuals who have already damaged their skin, the disease is most treatable when detected early. Among

populations such as farmers, however, occupation requires them to be exposed to the sun during peak intensity times of day. Health promoters must reckon with the challenge to promote safe sun practices, while acknowledging the group's need to be exposed to risk in order to earn a living.

The results of this study are significant in terms of the insights gained about: (1) ways to convey information to farmers so that they may learn to be effective in their own self-care; (2) means to motivate them to adopt the protective practices promoted to them; and (3) a strategy to promote sun safety while acknowledging the need to continue behavior which creates risk. The study confirms a significant relationship between familial expectations and farmers' performance of sun safe practices. Thus, families must be incorporated in efforts to communicate risk and risk reduction to farmers. When families expect farmers to wear sunscreen and sun protective clothing, farmers are more likely to do so, although there is a wide latitude for improvement in both familial expectations and farmers' adherence with these behaviors. The latter relates to the need for greater awareness and understanding about such practices as conducting skin self-exams.

Farmers' knowledge accounted for nearly one-fourth of the variance among the group in relation to use of skin exams, both clinical and self. Here, too, there is a wide latitude for improvement, suggesting that health campaigners must

include information about the specific procedures to be used in conducting a skin self-exam, for example. Wearing sunscreen and protective clothing may appear to be simple enough. Even in this regard, however, there may be room to improve the information base on which the knowledge for farmers' action rests. Family members may be taught the need to apply sunscreen 20 to 30 minutes before going into the sun, for example, as a method to increase the efficacy of this action.

With such findings as a guide, health promoters may educate farmers' families about farmers' skin cancer risk, behaviors to reduce risk, and the role that families play in farmers' performance of these behaviors. The cooperative extension service has long been a mainstay of education for farmers, with home demonstration agents offering programs to farm wives which parallel in many respects the programs offered to farmers by agricultural extension agents. Moreover, 4-H organizations offer programs to farm youth which may guide the formation of both knowledge and expectations to contribute to their own and their parents' safe sun habits. These established farming community organizations afford a method to communicate about skin cancer prevention and detection to farmers without threatening their sense of self-reliance. These avenues also increase the likelihood of institutionalizing the message. Through such approaches, promoters may be able to overcome social barriers to health.

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TABLE 1

Farmers' Reports of Families' Information-Giving

Situation:	Never	Seldom	Sometimes	Frequently	Always
How often have you received information from a family members about how to prevent skin cancer?	39%	21%	20%	16%	4%
How often have you received information from a family member about how to detect skin cancer?	46%	20%	18%	13%	3%

TABLE 2

Farmers' Reports of Familial Expectations

Situation MY FAMILY EXPECTS ME TO:	Strongly disagree	Disagree	Neither	Agree	Strongly agree
...conduct an exam of my skin to help detect skin cancer.	2%	36%	10%	47%	4%*
...wear sunscreen while I work in the sun.	3%	48%	9%	34%	3%
...wear a hat that blocks the sun from my neck and ears to work in the sun.	1%	32 %	8%	52%	7%
...get an annual clinical exam of my skin to help detect skin cancer.	1%	48%	10%	38%	3%
...wear a long-sleeved shirt when I work in the sun.	1%	53%	9%	30%	5%

TABLE 3

Stepwise Multiple Regression of Farmers' Skin Protection Behaviors on Familial Information-Giving, Expectations, and Farmers' Knowledge

Order of Entry of the Independent Variable	R	R^2	RSQ Change	Beta	*F* Ratio
			On Use of Sun block		
Familial Expectations	.41	.17	.17	.41	83.53**
Knowledge	.47	.22	.05	.26	61.08**
Familial Info-Giving	.48	.23	.01	.11	43.03**
			On Use of Protective Hats		
Familial Expectations	.37	.13	.13	.37	63.99**
Knowledge	.39	.15	.02	.14	37.18**

**: $p < .001$

TABLE 3 continued

Stepwise Multiple Regression of Farmers' Skin Protection Behaviors on Familial Information-Giving, Expectations, and Farmers' Knowledge

		On Use of Skin Exams			
Knowledge	.48	.23	.23	.48	126.45**
Familial Expectancies	.54	.29	.06	.26	86.39**
Familial Info-Giving	.56	.31	.02	.14	62.08**
		On Use of Long-Sleeved Shirt			
Familial Expectancies	.25	.06	.06	.25	28.01**
Knowledge	.29	.08	.02	.15	18.94**

*: $p < .001$

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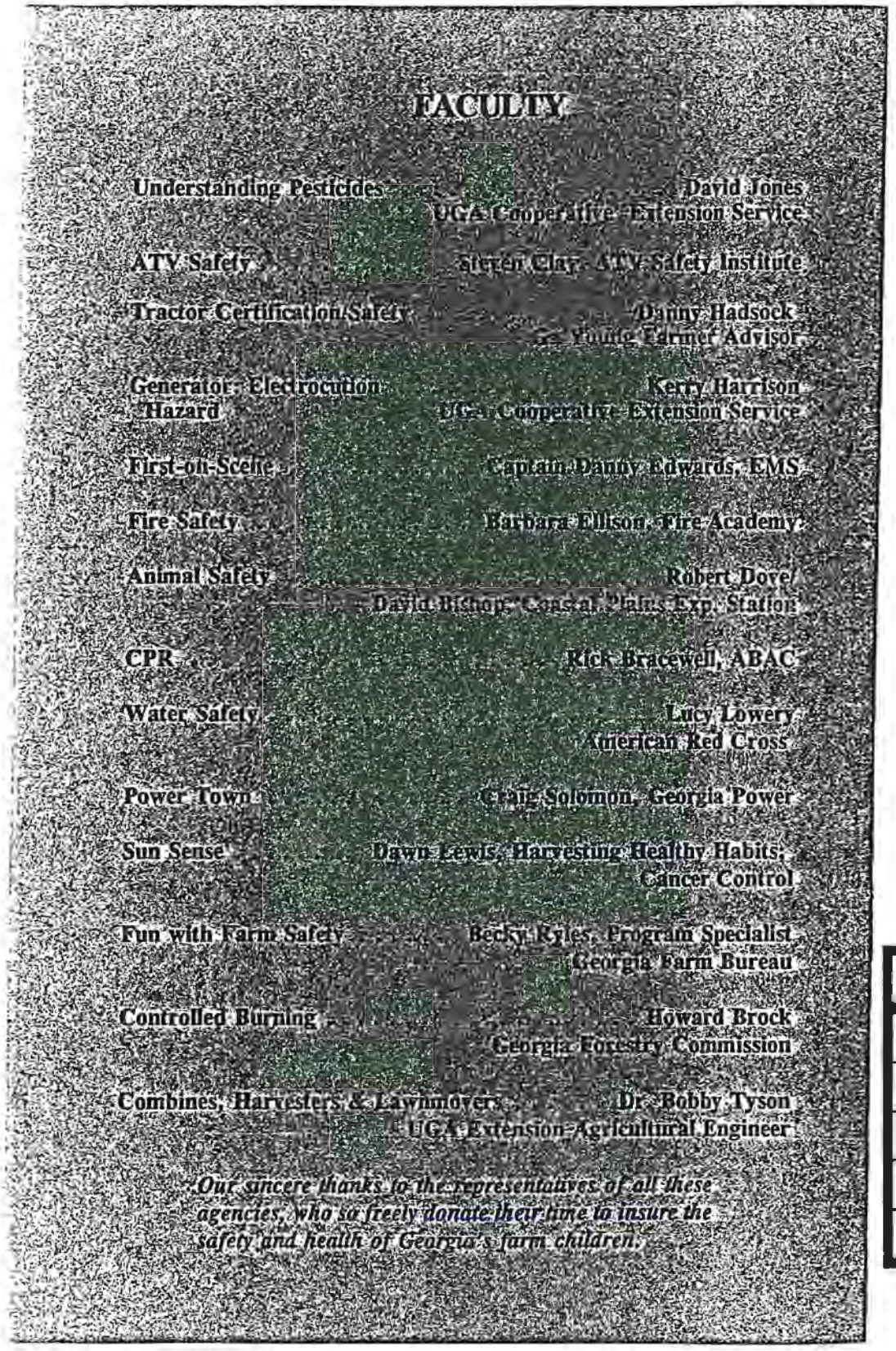
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Georgia Division of Public Health

Speaker

The keynote speaker is Jolene Brown, a Certified Speaking Professional and farm wife from Iowa. She has received rave reviews from all who have heard her. For the past fourteen years, her seeds of laughter and learning have challenged and delighted audiences. She combines cutting edge content, wholesome humor and real life examples. Jolene has taught in the public school system, worked as a management consultant and is an active partner on their family farm. She will help us look at stress and ways of coping with the demands of the many roles farm wives are expected to fill.

Classes

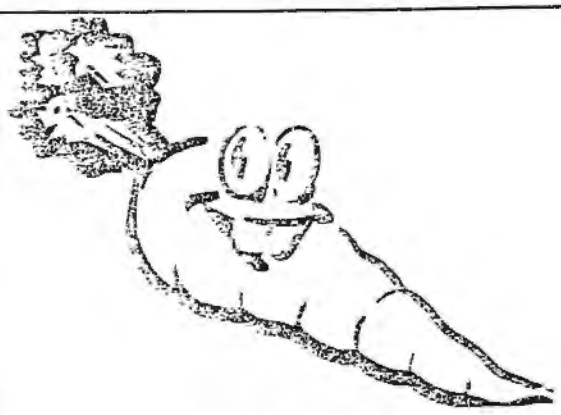
After lunch in the college dining facility, afternoon classes will begin. There will be three class periods in the afternoon but four classes to select from. The choices are:

1. ***Tractor Accidents: What to do with equipment and injured***
   Dr. Bobby Tyson, Extension Lead-Engineer - UGA
   Lee Oliver,Vice President of Strategic Development - Mid-Georgia Ambulance Service

2. ***Skin Cancer Prevention and What is Appropriate Personal Protective Equipment?***
   Dr. Barbara Rock, Emory University Hospital
   Nancy Fussell, RN - Georgia Healthy Farmers

3. ***User Friendly Computer Programs for Farm Families/Operations***
   Keith Kightlinger, Extension Ag Economist - University of Georgia
   Ron Atkinson, Extension Ag Economist - University of Georgia

4. ***Panel of Representatives from Government Agencies To Answer Your Questions*** - *Farm Service Agency (previously ASCS), Consolidation and Georgia Development Authority.*
   Raymond Bryant, Chief of Farm Programs, Farm Service Agency
   David Skinner, Executive Director, Ga. Development Authority
   Buck Johnson, State Director of Farm Service Agency



Coffee County Ag Day '97 Agenda

11:00 - 1:00 Southern-style lunch at Tri-County Tobacco Warehouse

1:15 to 4:30 Tours of Coffee County Ag

4:30 to 5:30 Open time - the Burnham Cottage at General Coffee State Park is open if you'd like to freshen up and relax

6:00 Tour of Heritage Village Farm at General Coffee State Park, followed by reception at Group Shelter

7:00 - 9:00 Dinner

Coffee County Ag Day '97

Coffee County Ag Facts

5th in Georgia for total 1996 Farm Gate Income

Coffee Co. has 500 farms averaging 300 acres each

Diversity is norm

325 Fulltime Farm operators

240 Frost Free Days

Sandy Loam Soil

233,000 acres of forestry land

60,000 acres cropland

35,000 acres of pasture land

Ag Day is a program of the Douglas-Coffee County Chamber of Commerce and Coffee County Ag Council

COLQUITT COUNTY HEALTH DEPARTMENT
MIGRANT HEALTH PROGRAM
214 West Central Ave.
P.O. Box 644 * Phone (912) 891-7100
Moultrie, GA 31776
FAX (912) 891-7106

March 16, 1995

Harvesting Healthy Habits
Attn.: Dawn Lewis
707 East Ward Street
Douglas, GA 31553

Dear Ms. Lewis:

The Migrant Health Staff and I would like to thank you and Harvesting Healthy Habits for your participation in the Health Fair. It was a success because of the support from people like you and we greatly appreciate what you did. My staff told me that at the close of the Health Fair, the people were saying that they enjoyed it and were grateful. We enjoyed it as well and we hope you did too.

Again, I would like to thank you.

Sincerely,

Hui-Ping Chang, MSN, CFNP
Project Coordinator
Migrant Health Program

Moultrie – A City Of Southern Living

The Observer

Serving Colquitt County Since 1894

Vol. 101-No. 307. (c)1995 Observer Publishing A Multimedia Newspaper Monday, March 6, 1995

Lunch plan in partisan warfare

WASHINGTON (AP) — Democrats claim the Republican plan to replace federal nutrition and school lunch programs with block grants to the states would slash funding for such programs in Georgia by $108 million over the next five years.

"The GOP has established a clear principal for apportioning budgetary pain — women and children first," House Democratic Leader Richard Gephardt of Missouri declared last week.

But Georgia Republicans contend that the block grant proposal actually will increase the amount of federal money going to feed poor women and children over the next five years.

"You have got a school lunch program that is going to go up 4.5 percent each year," said Rep. Jack Kingston, a Savannah Republican and member of the House Appropriations Committee.

Kingston said the GOP plan will "cut out bureaucrats. It is going to consolidate programs. It is going to streamline the system so you can feed more hungry children."

So how could funding be slashed by $108 million while increasing 4.5 percent a year?

The answer lies in the special nature of federal entitlement programs. And it gives some insight into the debate now raging in Congress over the GOP effort to shift power from the federal government to the states.

Under the Republican plan, the supplemental feeding program for women, infants and children, or WIC, and the school lunch and breakfast programs, would be consolidated and turned over to the states. And federal spending on the block grants each state would get for those programs actually would rise over the next five years.

See LUNCH, page 10A

Observer photo by Michael Morrison

Jill Bowen, Valdosta State University speech major, checks hearing of migrant child on Saturday.

First Migrant Health Fair offers tests for comeback disease TB

By MICHAEL MORRISON
Observer Staff Writer

Hundreds of migrant workers and other Colquitt County area people attended the first Migrant Health Fair Saturday at Spence Field.

For the children, there were games and goodies and even pinatas, two of which were donated by La Mexicana, 235 Highway 133 South, and three by Migrant Health Program staff.

For the grownups and the children, there were food and soft drinks and a band and, meeting the prime purpose of the fair, medical personnel to offer testing for various medical conditions.

A disease that had almost disappeared is making a comeback: tuberculosis.

Testing for tuberculosis is being urged for all migrant workers. It's a simple test, and the first stage was performed quickly, if not quite painlessly, at the health fair by Colquitt County Health Department personnel.

Sandra Newsome, senior staff nurse for communicable diseases at the department, explained. A needle is used to inject the test serum under the skin of the forearm. The injection point is left unbandaged and uncovered for 72 hours.

What is looked for is a swelling, not a redness. If swelling occurs, that is a positive reading and a chest X-ray is needed.

"You have the germs in your system," Ms. Newsome said. "You may not have the disease."

She said one can have TB germs in any organ "but they seem to like lungs best."

If an X-ray is negative, "you still need to take preventative medication to kill the germs."

If, she emphasized, a lung X-ray does not show a positive reading, but the injection causes swelling,

See FAIR, page 10A

112 systems to profit by school cuts

ATLANTA (AP) — The howls of protest over the governor's plan to slash funding for school administrators have drowned out a key detail: more than half the state's school systems stand to profit from the deal.

In the draft passed by the House last week, 112 of Georgia's 180 school systems would reap more cash from Gov. Zell Miller's proposal to cut central office staffs than they receive now.

LINDA SCHRENKO

"My gosh, that doesn't make much sense," said Senate Minority Leader Skin Edge, R-Newnan, who gets a chance to tinker with the numbers now that the plan has moved to the Senate. "I think that's a good reason why the whole situation needs to be looked at."

While the plan cuts $18.2 million from central office staffs in large school systems, it adds $1.3 million for staffs in small school systems. The state's smallest school system — Taliaferro County with 146 students — would snag the biggest bounty: an extra $26,547 a year.

"I think it goes against the original intention of the bureaucratic cuts," said Rep. Earl Ehrhart, R-Powder Springs. "If you look at the whole picture, it is inconsistent."

Miller, who has said his plan was needed to cut "bloated bureaucracies," defended the addition of $1.3 million for smaller systems because the net result of his plan is still a $16.9 million cut. The savings will be used to hire computer experts for every school.

"The bottom line is that we are now getting technology specialists, and we're getting that by cutting $16 million," Miller said.

Miller originally wanted to slash almost $30 million from central offices over two years. House leaders deemed that too severe and forced Miller to compromise by dropping plans for a second year of cuts and by helping smaller systems financially.

Under the compromise, each system would receive at least $60,549 for a superintendent, accountant and part-time secretary. Beyond that, the money is divvied according to the size of the system.

Smaller systems benefit from that formula because many now receive less than $60,549 for administrators.

"Surely to God, nobody would argue that a system ought not have a superintendent, a secretary and an accountant," Miller said.

State school Superintendent Linda Schrenko said the fact that the plan boosts funding in 112 systems may come back to haunt lawmakers at election time.

"I know if I were sitting out there waiting to run against them, I'd be saying, 'Hey folks, you campaigned on reduction of bureaucracy and you've gone up there and done the opposite,'"

Still, Mrs. Schrenko is backing the plan because "it's the only thing were going to get through right now."

Should client pay when lawyers

Doerun woman

Continued from page 1A

"It's just sort of nuts. Are prosecutors going to say, 'They broke the law, therefore their client is guilty?'"

"It is a specious difference to say, 'Hurt the lawyers, don't hurt the defendant,'" said former Los Angeles County District Attorney Robert Philibosian. The defense's actions hurt the prosecution's case and forced the judge to decide how much he would "level the playing field."

Simpson is accused in the stabbing deaths of ex-wife Nicole Brown Simpson and her friend, Ronald Goldman.

Prosecutor Marcia Clark asked the judge for stiff sanctions.

"They will continue to flout the law unless the court makes them pay," she told Ito. "It's a cost benefit analysis, your honor: If it doesn't hurt badly enough, then they're going to keep doing it."

But Friday's sanctions were $50 short of the threshold to report to the state bar association. And if the defense doesn't use Lopez's testimony, the jury will never even hear about their misconduct.

"Intentional or not, I think the order was just a slap on the wrist — $950 for these guys is just pocket change," Levenson said.

Will Friday's sanctions prevent future defense attorney misconduct? Levenson doubts it.

Cochran already suggested the defense team was already putting the whole thing behind them: "He set the sanction at $950. We'll pay that and move on. Against me, it was imposed only because I'm lead trial counsel. And I accept that. We're big boys, big men and we'll move right on."

"They should tread carefully," Levenson said, "but these lawyers have a lot of chutzpah."

The trial is expected to resume today with the cross-examination of L.A. police detective Tom Lange.

But the plan also would end the federal guarantee that all low-income school children be provided with nutritious breakfasts and lunches each school day. Instead, spending would be fixed and would not be adjusted to reflect economic downturns or increases in need.

Democrats contend that if the federal entitlement continued, it would take $7.3 billion more than the GOP is planning to spend over the next five years to ensure that every poor child gets a nutritious breakfast and lunch.

That number, and an accompanying state-by-state breakdown of the impact, was included in an Agriculture Department analysis that Democrats used extensively last week in a full-court attack on the GOP plan.

Georgia Gov. Zell Miller, a Democrat, and other state officials have cautiously endorsed the GOP plan because they contend they can run the nutrition programs more efficiently than the federal government can.

But children's' advocates in the state, like Claire McLeveighn of Georgians for Children, contend that eliminating the federal entitlement will endanger the health of poor children.

Rep. Cynthia McKinney, a Lithonia Democrat, made it a point to eat lunch at a Washington, D.C., elementary school Wednesday to draw attention to the GOP plan to eliminate the federal school lunch entitlement.

And Rep. Sanford Bishop of Columbus, who represents a portion of Colquitt County, joined a group of Democratic colleagues Thursday night in a series of after-hours speeches on the House floor urging reconsideration of the GOP proposal.

"If these programs can be better managed, fine," Bishop said. "But simply slashing the level of funding or capping it arbitrarily would inevitably lead to increased hunger and all of the suffering and costs that are associated with poor nutrition."

Kingston and Republican Reps. Charlie Norwood of Augusta and Saxby Chambliss of Moultrie followed the Democratic group Thursday night with their own 30-minute floor show.

bank

Continued from page 1A

represented more than twice the bank's capital, estimated at around $560 million.

The 1987 Banking Act prohibits banks from putting more than 25 percent of their money into any single "basket" without authorization from the Bank of England's supervisory committee.

It appears unlikely that Barings sought such permission because Bank of England Governor Eddie George said at the time of Barings' collapse that bank executives told him they had not known they had a problem until Feb. 23.

Investigators in Singapore said Saturday that Barings was warned seven months ago that Leeson held too much power with too little supervision. They also made public a letter showing Barings was told of the potential problem as far back as 1992.

Court-appointed administrators took over the bank on Feb. 27 after the Bank of England couldn't put together a rescue package. Leeson is believed to have lost at least $1 billion by wrongly betting that Tokyo stock prices would rise last month.

The Sunday Mirror quoted an unnamed friend of Leeson's in the banking business as saying "Nick is clear that his losses were nothing like that. He is responsible for around 150 million pounds ($240 million). The rest is not down to him."

"you still have the germs, but not pulmonary tuberculosis."

All who were tested must go to the health department within 48-72 hours for proper evaluation, she said.

Even pregnant women can take the test safely, she added.

Ping Chang, project coordinator of the fair, said, "We do encourage people to come back Monday. We have the mobile X-ray unit at noon. They will get a chest X-ray right away," if the test is positive.

Since TB is spreading, she added, "I would encourage people who have the concern to get a TB test, especially if they've never had a test."

In front of the TB testing table was a glucose monitoring table. Its purpose is diabetes screening.

The procedure is almost painless, even the needle-prick to get a drop of blood for the electronic reader. The drop of blood is placed on the reader, a readout counts down a certain number of seconds, then the sugar level is shown on the readout.

Between 75 and 100 is considered good, and much higher than that means a person should see a doctor.

Jerri Vinson, administering the tests, said of the electronic gizmos, "They're great for home health." She said anybody can learn to use them, even medically-untrained people. Anyone watching blood sugar levels, such as children of diabetics, can do it efficiently with that device, available at pharmacies.

Almost standard for medical anything, fairs or even store waiting areas, is blood pressure monitoring.

Two student practical nurses, Sabra Blanchett and Crystal Crawford, also had a new, hand held — literally hand held — blood pressure monitor. Naturally, the arm cuffs and sphygmomanometers were present and in use, too.

The extra added attraction was the little device a person can hold in his hand, insert an index finger, push a button and, holding the device still and at heart level, wait about two minutes and get a readout of blood pressure and pulse rate.

Ms. Chang said the device is "convenient for general prevention and maintenance," but its accuracy is questionable.

Ms. Crawford said one can use the cuff and sphygmomanometer at home, but it does require a helper.

Ms. Crawford is 17 years old, will graduate from Colquitt County High School in June and in nursing at Moultrie Tech in September, ahead of her contemporaries. She said she was participating in the Migrant Health Fair because "I want to help people." She added "I'm going to pursue my R.N."

Another item of technology perhaps new to the general public measures oxygen levels in the blood. Susan Clark, certified respiratory therapist, said it can detect breathing or blood complications.

It works very simply: an index finger is inserted into a very gentle clamp, held there for a few seconds, and a readout announces the number. A chart, or a CRT, explains whether it's good or bad.

In a separate room from the two main centers of activity, several persons were conducting hearing tests. Their testees were fitted with headphones and told to raise their hands when, or if, they heard a tone.

Their tests were complicated by some rather loud external noises: a band called Los Jaguar de Nuevo Leon was performing some salsa-rock'n'roll crossover music.

Conceivably, by the end of the fair, some more people may have needed their hearing tested.

Sponsors included Migrant Health Program, Georgia Department of Labor, Georgia Public Health, Telamon, Visiting Nurses Association, and farmers and physicians.

Other participating agencies included Department of Family and Children Services, Migrant Education, Early Intervention, Georgia Legal Services, Health Start, Injury Prevention, American Red Cross, Medicaid, Mexican Consulate, Department of Immunization, Kiddie Kastle.

Ms. Chang said Hercedes Beltran Fransisco won a 13-inch color, remote-controlled Sears television; donations from the farmers paid for it.

"People are telling me it's more (attendance) than what we expected. People had fun," Ms. Chang said. "The volunteers all told me they had a great time."

"We will do it again, maybe in July, definitely next year."

Ms. Chang added, "I really appreciate all our volunteers.

"I'm really grateful for everybody's effort. It was a great experience."

Colquitt County, the leading agricultural county in Georgia, has 5,000 to 7,000 Latinos, nearly all of whom came, or come seasonally, to work in agriculture.

Health Director's Meeting

October 26, 1995

Speech Outline

(Slide 1) - Program Title

(Slide 2) - Introduction of the Program

(Slide 3) - Description of control and treatment counties also discussion of others reached

(Slide 4) - Talk about the seminars we have conducted and the upcoming one for extension

(Slide 5) - Talk about the displays in feed and seed stores and the populations we are reaching

(Slide 6) - Display board

(Slide 7) - Talk about farmers, insurance, and unsafe practices

(Slide 8) - Field research and observations

(Slide 9) - Migrant Health Fair & Outreach

(Slide 10) - Working with outher projects to take their messages in the fields

(Slide 11) - Farm Safety Camp with Georgia Healthy Farmers

(Slide 12) - Also worked with manufactoring companies

(Slide 13) - Manufactoring

(Slide 14) - As you can see we are starting to make a difference.

(Slide 15) - Even in farmers

Also mention John Deere and Progressive Farmer

Post-it™ Fax Note 7671	Date 10-5-95	# of pages ▶ 2
To Michelle Killgore	From Dawn Lewis	
Co./Dept. Special Const.	Co. GHHH	
Phone # (706) 542-3351	Phone #	
Fax #	Fax #	

To: Dawn Lewis
Harvesting Healthy Habits
phone:(912) 383-0393
fax:(912) 383-0394

Dawn, thank you so much for helping us out with the training on October 12, 1995. I really appreciate your flexibility and willingness to participate. The training will take place at the Holiday Inn in Cordele, Ga. You are scheduled to present from 11:00 am-12:00 pm in room 218. I have requested that a slide projector be available for your use. I invite you to join us for a lunch buffet from 12 pm- 1 pm before our afternoon session. I look forward to seeing you again and learning from your presentation. If you have any questions or need further information please let me know (404) 657-6614.

Thanks Again,

Corinne Lemal, GMHP Staff Assistant

Post-it® Fax Note 7671	Date 9/28/95	# of pages ▶ 1
To DAWN LEWIS	From CORINNE LEMAL	
Co./Dept.	Co. GMHP	
Phone # (912) 383 0393	Phone # (404) 657 6614	
Fax # (912) 383 0394	Fax #	

Support Letters

The University of Georgia
Cooperative Extension Service
College of Agricultural and Environmental Sciences

1785

Bacon County Extension Service
201 S. Dixon Street
P. O. Drawer 1985
Alma, Georgia 31510-1985
June 7, 1996

Dawn Lewis
Harvesting Healthy Habits
707 E. Ward Street
Douglas, Georgia 31533

Dear Dawn:

Thank you for agreeing to speak on the topic of Skin Cancer at the University of Georgia Cooperative Extension Services's Child Care Providers Seminar. We will hold the seminar Saturday, July 27, in Peterson Hall at South Georgia College. You will be speaking to approximately 125 people at the General Session I, scheduled for 8:45-9:45 a.m. We invite you to join us for lunch in the cafeteria at 12:15 p.m.

I have received your handouts for the seminar. I will call you when I know the type of equipment that is available in the room.

Call me at 632-5601 if you have questions or need assistance. I am looking forward to seeing you there.

Sincerely,

Amy Scott

Amy Scott
County Extension Agent
Bacon County

AS:art
c: Darell Dunn

WALB-TV

[illegible]

July 17, 1995

Dawn Lewis
Project Manager
Department of Human Resources
707 East Ward Street
Douglas, GA 31533

Dear Dawn:

Thank you for your very kind letter about your results from our Today In Georgia Show. It is very pleasing to here the strong response you received from your appearance. Gil and Yvette both work very hard to build the very large audience we enjoy. Gil has been doing it so long that many people do refer to it as his show.

Your letter has been forwarded to Gil so that he might enjoy your comments.

We appreciate your taking the time and trouble to write. We hope you will come back and visit our station often.

Sincerely,

Jere L. Pigue
President and General Manager

Glennie Cox Bench
Certified Public Accountant
P.O. Box 1510
Bainbridge, Georgia 31717
(912) 246-1553

August 30, 1995

Dawn Lewis
Georgia Harvesting Healthy Habits Campaign
707 East Ward Street
Douglas, Georgia 31533

Dear Dawn:

I would like to thank you and Gloria for the wonderful program you presented to the Rotary Club on August 29th. I would also like to thank you both for being so understanding about the joke I tried to pull on Scott.

You presented a very interesting and informative program. There were quite a few positive comments and I feel everyone enjoyed the program.

When I get a copy of next week's Rotary bulletin, I will send a copy to you for your files.

Once again I would like to tell you how much I appreciate you and Gloria taking time out of your busy schedule to speak to the Bainbridge Rotary Club.

Sincerely,

Glennie C. Bench

The University of Georgia
Cooperative Extension Service
College of Agricultural and Environmental Sciences

P.O. Box 47
Cochran, GA 31014
May 27, 1997

Dear Dawn,

Thanks so much for taking time to speak at our Child Care Seminar at Middle Georgia College on Saturday. I realize that Saturdays are "precious" so I especially appreciate your willingness to come. For your records, a list of participants is enclosed.

You did an excellent job! I learned a lot and the evaluations proved that the participants did too. Many of them commented about how "timely" the information was.

I hope your trip on to Warner Robins and Perry were enjoyable. Did you find a goat?

Thanks again!

Sincerely,

Kathy B. Baldwin

Kathy B. Baldwin
County Extension Agent
Bleckley County

The University of Georgia
Cooperative Extension Service
College of Agricultural and Environmental Sciences

1 7 8 5

P. O. Box 827
LaFayette, GA 30728

Phone: 706/638-3892
Fax: 706/638-6884

July 9, 1997

Dawn Lewis
Project Coordinator
Harvesting Healthy Habits
Cancer Control Section
Georgia Department of Human Resource
707 E. Ward Street
Douglas, GA 31533

Dear Dawn:

I didn't forget! Thank you so much for loaning me the slides and sharing the printed materials.

I taught several classes and based on feedback, persuaded some to make positive changes in skin protection.

I appreciate all your help. I think this is an area we need to continue providing programming in. Please let me know if I can ever help you.

Sincerely,

Helen P. Gamble

Helen P. Gamble
County Extension Agent
Walker County

bfc

Enclosures

Surveys

500

GEORGIA HARVESTING HEALTHY HABITS

FARMER SURVEY

GEORGIA HARVESTING HEALTHY HABITS

FARMER SURVEY

As you may recall, the purpose of this study is to help us understand the farming community's health practices relating to the protection of the skin. Your help is very important, and all information will be kept strictly confidential. We are conducting the study in cooperation with the University of Georgia and the Department of Human Resources.

Please answer all questions in the survey. It will take about ten minutes. Then return the survey in the enclosed self-addressed stamped envelope. Upon receiving your completed survey, we will mail you your free sun-protective hat.

And thanks again

GHHH Project Staff
123 Terrell Hall
University of Georgia
Athens, GA 30602

for more information, please contact:

Dawn Lewis, Project Coordinator
Georgia Harvesting Healthy Habits
707 E. Ward St.
Douglas, GA 31533
(912) 389-4009

In this first section, please indicate how often you participate in the listed behaviors:

Never (N), Seldom (Se), Sometimes (So), Frequently (F), or Always (A)

Please circle your response.

During the past year, did you...?

...perform monthly self-exams of your skin?	**N**	**Se**	**So**	**F**	**A**
...wear sunscreen while working in the sun?	**N**	**Se**	**So**	**F**	**A**
...wear a sun-protective hat while working in the sun? (wide-brimmed hat or cap with flap)	**N**	**Se**	**So**	**F**	**A**
...get a doctor/nurse to perform a clinical exam of your skin?	**N**	**Se**	**So**	**F**	**A**
...wear a long-sleeved shirt while working in the sun?	**N**	**Se**	**So**	**F**	**A**
...show someone how to conduct an exam of their skin to help detect skin cancer?	**N**	**Se**	**So**	**F**	**A**
...ask someone to conduct an exam of your skin to help detect skin cancer?	**N**	**Se**	**So**	**F**	**A**

Please turn to the next page and continue.
Thank you.

Never (N), Seldom (Se), Sometimes (So), Frequently (F), or Always (A)

During the past year did you...?

...purchase a sun protective hat to wear while working in the sun?	**N**	**Se**	**So**	**F**	**A**
...ask someone to help you select a sunscreen to wear while working in the sun?	**N**	**Se**	**So**	**F**	**A**
...purchase a long-sleeved shirt to wear while working in the sun?	**N**	**Se**	**So**	**F**	**A**
...purchase sunscreen to wear while working in the sun?	**N**	**Se**	**So**	**F**	**A**
...ask someone to help you find a health care professional to examine your skin for skin cancer?	**N**	**Se**	**So**	**F**	**A**

For the following statements, please indicate how often you see the listed behavior:

Never (N), Seldom (Se), Sometimes (So), Frequently (F), or Always (A)

During the past year,...?

...have you seen any members of your family conduct an exam of their own skin?	**N**	**Se**	**So**	**F**	**A**
...have you seen farmers or their wives put on sunscreen to work in the sun?	**N**	**Se**	**So**	**F**	**A**
...have you seen extension agents put on sunscreen to work in the sun?	**N**	**Se**	**So**	**F**	**A**
...have you seen any members of your family put on sunscreen to work in the sun?	**N**	**Se**	**So**	**F**	**A**
...have you seen farmers or their wives wear a sun protective hat while working in the sun?	**N**	**Se**	**So**	**F**	**A**

(During the past year...? cont'd)

Never (N), Seldom (Se), Sometimes (So), Frequently (F), or Always (A)

...have you seen any members of your family wear a sun protective hat while working in the sun?	**N**	**Se**	**So**	**F**	**A**
...have you seen any extension agents wear a sun protective hat while working in the sun?	**N**	**Se**	**So**	**F**	**A**
...did members of your family get clinical exams of their skin?	**N**	**Se**	**So**	**F**	**A**
...have you seen farmers wear a long-sleeved shirt while working in the sun?	**N**	**Se**	**So**	**F**	**A**
...have you seen extension agents wear a long-sleeved shirt while working in the sun?	**N**	**Se**	**So**	**F**	**A**
...have you seen members of your family wear a long-sleeved shirt while working in the sun?	**N**	**Se**	**So**	**F**	**A**

During the past year, did any of the following sources give you information about how to conduct an exam of your **skin?** *Please circle all that apply.*

Doctor/Nurse	Extension agent	Retailer (e.g., feed & seed stores, WalMart)
Family member	Radio	Television
Newspaper	Book	Magazine
Friend	Home Economist/ Demonstration Agent	Pamphlet/ Brochure

Other [please specify all other sources_____]

During the past year, did any of the following sources tell you to wear sunscreen while working in the sun? *Please circle all that apply.*

Doctor/Nurse	Extension agent	Retailer (e.g., feed & seed stores, WalMart)
Family member	Radio	Television
Newspaper	Book	Magazine
Friend	Home Economist/ Demonstration Agent	Pamphlet/ Brochure

Other [please specify all other sources _____]

During the past year, did any of the following sources tell you to wear a sun protective hat while working in the sun? *Please circle all that apply.*

Doctor/Nurse	Extension agent	Retailer (e.g., feed & seed stores, WalMart)
Family member	Radio	Television
Newspaper	Book	Magazine
Friend	Home Economist/ Demonstration Agent	Pamphlet/ Brochure

Other [please specify all other sources _____]

During the past year, did any of the following sources tell you to get a clinical exam of your skin? *Please circle all that apply.*

Doctor/Nurse	Extension agent	Retailer (e.g., feed & seed stores, WalMart)
Family member	Radio	Television
Newspaper	Book	Magazine
Friend	Home Economist/ Demonstration Agent	Pamphlet/ Brochure

Other [please specify all other sources _____]

During the past year, did any of the following sources tell you to wear a long sleeved shirt while working in the sun? *Please circle all that apply.*

Doctor/Nurse	Extension agent	Retailer (e.g., feed & seed stores, WalMart)
Family member	Radio	Television
Newspaper	Book	Magazine
Friend	Home Economist/ Demonstration Agent	Pamphlet/ Brochure

Other [please specify all other sources _____]

In the following section, indicate how certain you are about each behavior.

Very uncertain (Vu), Uncertain (U), Neither uncertain or certain (N), Certain (C), Very certain (Vc)

How certain are you that...?

...you could recognize unhealthy changes in your skin?	**Vu**	**U**	**N**	**C**	**Vc**
...you could select a sunscreen that would protect you while working in the sun?	**Vu**	**U**	**N**	**C**	**Vc**
...you could select a hat that would protect you while working in the sun?	**Vu**	**U**	**N**	**C**	**Vc**
...you could find a medical doctor/nurse to conduct a clinical exam of your skin?	**Vu**	**U**	**N**	**C**	**Vc**
...you can conduct a skin self-exam to help detect skin cancer?	**Vu**	**U**	**N**	**C**	**Vc**
...you could select a long-sleeved shirt that would protect you while working in the sun?	**Vu**	**U**	**N**	**C**	**Vc**

How easy is it....?

Very difficult (Ve), Difficult (D), Neither difficult nor easy (N), Easy (E), Very easy (Ve)

...to remember to perform a monthly skin exam to look for early signs of skin cancer?	**Vd**	**D**	**N**	**E**	**Ve**
...to wear sunscreen while working in the sun?	**Vd**	**D**	**N**	**E**	**Ve**
...to wear a sun-protective hat while working in the sun?	**Vd**	**D**	**N**	**E**	**Ve**
...to get a clinical exam of your skin?	**Vd**	**D**	**N**	**E**	**Ve**
...to wear a long-sleeved shirt while working in the sun?	**Vd**	**D**	**N**	**E**	**Ve**

During the past year, how often did you recommend to members of your family...?

Never (N), Seldom (Se), Sometimes (S), Frequently (F), or Always (A)

Please circle your response.

...that they wear sunscreen when working in the sun?	**N**	**Se**	**So**	**F**	**A**
...that they wear a sun protective hat when working in the sun?	**N**	**Se**	**So**	**F**	**A**
...that they get an annual clinical exam of their skin?	**N**	**Se**	**So**	**F**	**A**
...that they wear a long-sleeved shirt when working in the sun?	**N**	**Se**	**So**	**F**	**A**
...that they conduct regular exams of their own skin to help detect skin cancer?	**N**	**Se**	**So**	**F**	**A**

In the following section, please indicate to what degree you agree or disagree with the statement. Please circle the letter that best represents your response.

Strongly disagree (SD), Disagree (D), Neither agree nor disagree (N) Agree (A), or Strongly Agree (SA)

Conducting an exam of my own skin is physically uncomfortable.	**SD**	**D**	**N**	**A**	**SA**
Wearing sunscreen when I work in the sun irritates my skin.	**SD**	**D**	**N**	**A**	**SA**
Wearing a sun protective hat when working in the sun makes me feel uncomfortably hot.	**SD**	**D**	**N**	**A**	SA
Getting a clinical exam of my skin causes physical discomfort.	**SD**	**D**	**N**	**A**	**SA**
Wearing a long sleeved shirt to work in the sun makes me feel uncomfortably hot.	**SD**	**D**	**N**	**A**	**SA**

In the next section, please tell us to what degree do you agree with each of the statements.
Strongly Disagree (SD), Disagree (D), Neither agree nor disagree (N) Agree (A), or Strongly Agree (SA)

Please circle your response.

My doctor expects me to....

...conduct an exam of my skin to help detect skin cancer.	SD	D	N	A	SA
...wear a sun protective hat to work in the sun.	SD	D	N	A	SA
...get an annual clinical exam of my skin to help detect skin cancer.	SD	D	N	A	SA
...wear a long-sleeved shirt when I work in the sun.	SD	D	N	A	SA
...wear a sunscreen when I work in the sun.	SD	D	N	A	SA
...protect my skin when I work in the sun.	SD	D	N	A	SA

My family expects me to....

...conduct an exam of my skin to help detect skin cancer.	SD	D	N	A	SA
...wear a sun protective hat to work in the sun.	SD	D	N	A	SA
...get an annual clinical exam of my skin to help detect skin cancer.	SD	D	N	A	SA
...wear a long-sleeved shirt when I work in the sun.	SD	D	N	A	SA
...wear a sunscreen when I work in the sun.	SD	D	N	A	SA
...protect my skin when I work in the sun.	SD	D	N	A	SA

In the next section, indicate how much you know about the listed subject.

1 = Know nothing at all, 2 = Not very knowledgeable,
3 = Somewhat knowledgeable,
4 = Very Knowledgeable, 5 = Know all there is to know

How Knowledgeable are you about:

...skin self exams?	**1**	**2**	**3**	**4**	**5**
...sunscreens?	**1**	**2**	**3**	**4**	**5**
...sun protective hats?	**1**	**2**	**3**	**4**	**5**
...clinical skin exams?	**1**	**2**	**3**	**4**	**5**
...sun protective clothing?	**1**	**2**	**3**	**4**	**5**
...prevention of cancer?	**1**	**2**	**3**	**4**	**5**
...cancer in general?	**1**	**2**	**3**	**4**	**5**

The next set of questions ask you about the frequency of performing various behaviors. Please circle the letter which best reflects your belief.

How often should you conduct an exam of your own skin to help detect skin cancer?

a. Whenever you take a shower. **b. Once a month.**
c. Once a year. **d. don't know/not sure**

How often should you get a clinical exam of your skin to help detect skin cancer?

a. Only if you detect a change in your skin. **b. Once every five years.**
c. Once a year. **d. don't know/not sure**

How long before going out in the sun should you apply sunscreen for it to be most effective?

a. 20 - 30 minutes. **b. Just before going in the sun.**
c. 5 - 10 minutes. **d. don't know/not sure**

What type of material should you look for when selecting a protective shirt to wear while working in the sun?

a. Loosely fitting and tightly woven.
b. Tightly fitting and tightly woven.
c. Loosely fitting and loosely woven.
d. don't know/not sure

Which of the following types of hats provides the best protection from the sun?

a. Wide-brimmed straw hat
b. Baseball cap
c. Tightly woven wide-brimmed cloth hat
d. Don't know/not sure

What tool do you need to conduct an exam of your skin?

a. hand mirror **b. full length mirror** **c. blow dryer**
d. all of the above **e. don't know/not sure**

What does the SPF number on sunscreen mean?

a. How long you are protected from the sun.
b. How many minutes before going into the sun you must apply it.
c. Don't know/not sure

Have you ever had a blemish, mole, or other skin condition checked for cancer by a medical professional?

a. Yes **b. No**

Have you ever had skin cancer?

a. Yes **b. No**

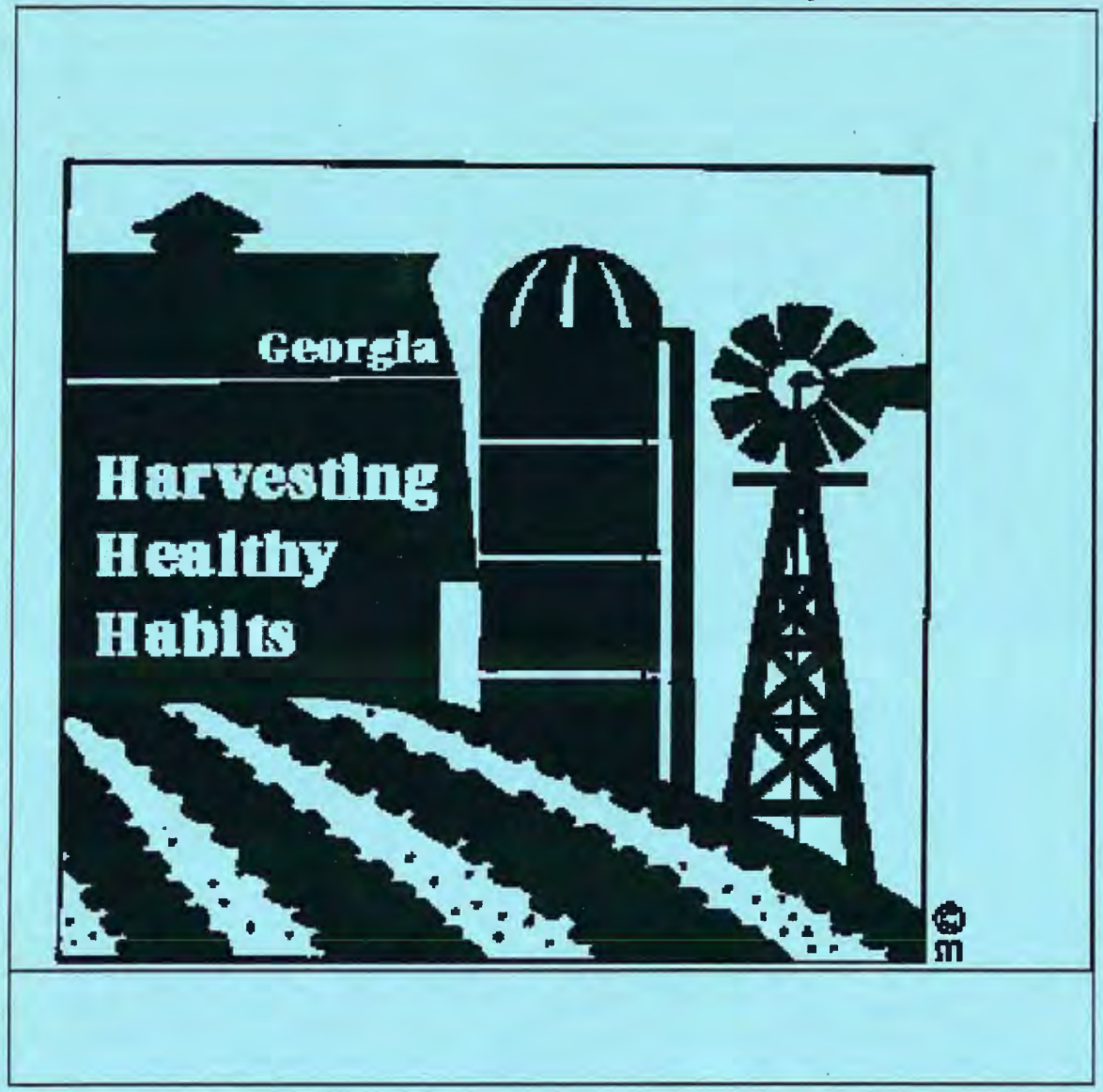
In what county in Georgia do you live? _____

Thank you very much for your help. Please provide your address and phone number so that we may send you a free T-Shirt. Please circle the appropriate size: L XL

_____
_____
_____
_____

Would you like a copy of the study's results? **Yes** **No**

Farm Wives' Survey



Thank you for participating in this very important research. Your answers will be kept strictly confidential, but if you don't feel comfortable answering any questions, please feel free to refuse. If you would like a report of our findings, please indicate so at the end of the survey. Following this page, you will find two copies of a consent form. Please sign both copies. Tear one out to keep for yourself and return the other copy with the survey. Thank you again for your cooperation.

Consent Form

I agree to participate in the research titled "Georgia Harvesting Healthy Habits," which is being conducted by Roxanne Parrott at the University of Georgia and Carol Steiner at Georgia's Department of Human Resources. Dr. Parrott can be contacted at [706] 542-3269. I understand that the research is entirely voluntary; I can withdraw my consent at any time without penalty and have the results of the participation, to the extent that it can be identified as mine, returned to me, removed from the research records, or destroyed.

The following points have been explained to me:

1) The reason for the research is to find out how farm families obtain information about cancer prevention and detection.

2) I understand that I will answer the mail survey and that I will be asked to evaluate the availability of cancer prevention information, products and services.

3) No discomforts or distresses are foreseen.

4) No risks are foreseen.

5) The results of my participation will be confidential and will not be released in any individually verifiable form without prior consent, unless required by law.

6) The investigator will answer any further questions about the research, now or during the course of the project.

Signature of Investigator	Signature of the Participant	Date

PLEASE SIGN BOTH COPIES OF THIS FORM. KEEP ONE AND RETURN THE OTHER TO THE INVESTIGATOR.

Research at the University of Georgia which involves human participants is overseen by the Institutional Review Board. Questions or problems regarding your rights as a participant should be addressed to Heidi L. Roof, M.S.; Institutional Review Board; Office of the V. P. for Research; The University of Georgia, 604A Graduate Studies Research Center; Athens Georgia 30602-7411; Telephone (706) 542-6514.

Consent Form

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3) No discomforts or distresses are foreseen.

4) No risks are foreseen.

5) The results of my participation will be confidential and will not be released in any individually verifiable form without prior consent, unless required by law.

6) The investigator will answer any further questions about the research, now or during the course of the project.

_____ _____ ____

Signature of Investigator Signature of the Participant Date

PLEASE SIGN BOTH COPIES OF THIS FORM. KEEP ONE AND RETURN THE OTHER TO THE INVESTIGATOR.

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Georgia Harvesting Health Habits Farm Wife Health Behavior Questionnaire

This survey contains a number of sections, as you will see from thumbing through the contents. We are interested in your opinions about the availability of several products and services relating to your health. Because this is a long survey, it is fine to fill it out at your leisure, answering some questions at one sitting and others at another time. If you wish to fill it all out at one time, it takes about half an hour to complete.

We have provided a number of things of interest for you throughout the survey, including sewing and decorating ideas. These pages will be specially labeled. Please feel free to tear out and keep them. The rest of the booklet should be returned to us within the next two weeks. Remember, when you return your completed survey, we will send you a Georgia Harvesting Healthy Habits t-shirt. ***Thanks for your help...***

In this first section, please indicate how often you participate in the listed behaviors:

Never (N), Seldom (Se), Sometimes (So), Frequently (F), or Always (A)

Please circle your response.

How often do you...?	**Never**	**Seldom**	**Sometimes**	**Frequently**	**Always**
...perform monthly self-exams of your skin?	**N**	**Se**	**So**	**F**	**A**
...wear sunscreen while working in the sun?	**N**	**Se**	**So**	**F**	**A**
...wear a wide-brimmed hat while working in the sun?	**N**	**Se**	**So**	**F**	**A**
...get a doctor/nurse to perform a clinical exam of your skin?	**N**	**Se**	**So**	**F**	**A**
...wear a long-sleeved shirt while working in the sun?	**N**	**Se**	**So**	**F**	**A**

Never (N), Seldom (Se), Sometimes (So), Frequently (F), or Always (A)

How often do you...?	*Please Circle Your Response*				
	Never	Seldom	Sometimes	Frequently	Always
...show someone how you conduct an exam of your skin to help detect skin cancer?	**N**	**Se**	**So**	**F**	**A**
...ask someone to conduct an exam of your skin to help detect skin cancer?	**N**	**Se**	**So**	**F**	**A**
...show someone how you conduct a breast self-examination to help detect breast cancer?	**N**	**Se**	**So**	**F**	**A**
...perform monthly breast self-examinations?	**N**	**Se**	**So**	**F**	**A**
...receive yearly clinical breast examinations? from a physician or nurse?	**N**	**Se**	**So**	**F**	**A**
...receive clinical exams for a Pap-test?	**N**	**Se**	**So**	**F**	**A**
...receive a yearly mammogram?	**N**	**Se**	**So**	**F**	**A**
How often <u>have</u> you...?					
...purchased sunscreen to wear while working in the sun?	**N**	**Se**	**So**	**F**	**A**
...purchased a wide-brimmed hat to wear while working in the sun?	**N**	**Se**	**So**	**F**	**A**
...asked someone to help you find a health care professional to examine your breasts for signs of cancer?	**N**	**Se**	**So**	**F**	**A**
...asked someone to help you select a sunscreen to wear while working in the sun?	**N**	**Se**	**So**	**F**	**A**

Never (N), Seldom (Se), Sometimes (So), Frequently (F), or Always (A)

How often <u>have</u> you...?	*Please Circle Your Response*				
	Never	Seldom	Sometimes	Frequently	Always
...purchased a long-sleeved shirt to wear while working in the sun?	**N**	**Se**	**So**	**F**	**A**
...asked someone to help you find a health care professional to examine your skin for skin cancer?	**N**	**Se**	**So**	**F**	**A**
...asked someone to help you find a health care	**N**	**Se**	**So**	**F**	**A**
professional in order to get a mammogram to detect breast cancer?	**N**	**Se**	**So**	**F**	**A**
...asked someone to help you find a health care professional to get a pap test?	**N**	**Se**	**So**	**F**	**A**

For each of the following statements, please indicate how far you must travel to obtain the product or service.

How far do you travel, in miles, to obtain a medical check-up?
_____ miles.

How far do you travel, in miles, to the nearest dermatologist?
_____ miles.

How far do you travel, in miles, to get to a store that sells sunscreen?
_____ miles.

How far do you travel, in miles, to get to a store that sells hats that block the sun from your neck and ears?
_____ miles.

For the following statements, please indicate how often you see the listed behavior:

Never (N), Seldom (Se), Sometimes (So), Frequently (F), or Always (A)
Please circle your response.

How often...?

	Never	Seldom	Sometimes	Frequently	Always
...have you seen any members of your family conduct an exam of their own skin?	**N**	**Se**	**So**	**F**	**A**
...have you seen farmers or their wives put on sunscreen to work in the sun?	**N**	**Se**	**So**	**F**	**A**
...have you seen farmers or their wives wear a wide-brimmed hat while working in the sun?	**N**	**Se**	**So**	**F**	**A**
...do members of your family get clinical exams of their skin?	**N**	**Se**	**So**	**F**	**A**
...have you seen farmers wear a long-sleeved shirt while working in the sun?	**N**	**Se**	**So**	**F**	**A**
...do other women in your family conduct breast self-exams?	**N**	**Se**	**So**	**F**	**A**
...do other women in your family receive clinical breast exams?	**N**	**Se**	**So**	**F**	**A**
..do other women in your family receive mammograms?	**N**	**Se**	**So**	**F**	**A**
...do other women in your family receive clinical Pap-tests?	**N**	**Se**	**So**	**F**	**A**
...do other farm wives in your area conduct breast self-exams?	**N**	**Se**	**So**	**F**	**A**

Never (N), Seldom (Se), Sometimes (So), Frequently (F), or Always (A)

Please circle your response.

How often...?	Never	Seldom	Sometimes	Frequently	Always
...do other farm wives in your area receive clinical breast examinations?	**N**	**Se**	**So**	**F**	**A**
...do other farm wives in your area receive mammograms?	**N**	**Se**	**So**	**F**	**A**
...do other farm wives in your area receive clinical Pap-tests?	**N**	**Se**	**So**	**F**	**A**

***********Thanks for staying with us, and filling out this questionnaire. On the next page are some ideas from our staff that you might find fun to try in your home. Please remove the next page and keep it for your use. Then continue the survey on the page following the next one.***********************************

****
Tips Celebrating Kids from the Staff of Georgia Harvesting Healthy Habits*
****

[Remove this sheet from the booklet so that you will have these ideas at hand.]

****

*When your child, grandchild or other elementary age youngster whom you spend time with gives you the gift of a homemade card, a class drawing or painting, or some other piece of artwork that you can frame, once in awhile--frame it! Start a home gallery featuring these 'originals.'

Snack tip for 'independent' preschooler: A cup of Honey Nut Cheerios. Low in fat and doesn't make much of a mess even if it gets spilled.

*Do you have a special small toy--perhaps a little truck, a block, or a small doll--that was a favorite of your child's or grandchild's and so you kept it as a keepsake? Add a ribbon for a hanger and use it as a unique tree ornament during the lidays.

***Frame your child's awards and certificates and place them on their bookshelves or hang them on their bedroom wall. Reinforce these accomplishments and let them know you are proud!**

****
****

Have any of the following sources told you how to conduct an exam of your **skin?**

Please circle all that apply

Doctor/nurse	Extension agent	Retailer
Family member	Radio	Television
Newspaper	Book	Magazine
Friend	Home Economist/ Demonstration Agent	Pamphlet/ Brochure

Other [please specify all other sources_____]

Have any of the following sources told you to wear sunscreen while working in the sun?

Please circle all that apply

Doctor/nurse	Extension agent	Retailer
Family member	Radio	Television
Newspaper	Book	Magazine
Friend	Home Economist/ Demonstration Agent	Pamphlet/ Brochure

Other [please specify all other sources _____]

Have any of the following sources told you to wear a wide-brimmed hat while working in the sun?

Please circle all that apply

Doctor/nurse	Extension agent	Retailer
Family member	Radio	Television
Newspaper	Book	Magazine
Friend	Home Economist/ Demonstration Agent	Pamphlet/ Brochure

Other [please specify all other sources _____]

Have any of the following sources told you to get a clinical exam of your skin?

Please circle all that apply

Doctor/nurse/nurse	Extension agent	Retailer
Family member	Radio	Television
Newspaper	Book	Magazine
Friend	Home Economist/ Demonstration Agent	Pamphlet/ Brochure

Other [please specify all other sources _____]

Have any of the following sources has told you to wear a long sleeved shirt while working in the sun?

Please circle all that apply

Doctor/nurse	Extension agent	Retailer
Family member	Radio	Television
Newspaper	Book	Magazine
Friend	Home Economist/ Demonstration Agent	Pamphlet/ Brochure

Other [please specify all other sources _____]

Have any of the following sources told you how to conduct a breast self-exam?

Circle all that apply

Doctor/nurse	Extension agent	Retailer
Family member	Radio	Television
Newspaper	Book	Magazine
Friend	Home Economist/ Demonstration Agent	Pamphlet/ Brochure

Other [please specify all other sources _____]

Have any of the following sources told you to receive a clinical breast exam?

Please circle all that apply

Doctor/nurse	Extension agent	Retailer
Family member	Radio	Television
Newspaper	Book	Magazine
Friend	Home Economist/ Demonstration Agent	Pamphlet/ Brochure

Other [please specify all other sources _____]

Have any of the following sources told you to receive a yearly mammogram?

Please circle all that apply

Doctor/nurse	Extension agent	Retailer
Family member	Radio	Television
Newspaper	Book	Magazine
Friend	Home Economist/ Demonstration Agent	Pamphlet/ Brochure

Other [please specify all other sources _____]

Have any of the following sources told you to receive a yearly Pap-test?

Please circle all that apply

Doctor/nurse	Extension agent	Retailer
Family member	Radio	Television
Newspaper	Book	Magazine

Other [please specify all other sources _____]

*************Thanks for staying with us, and filling out this questionnaire. On the next page are some ideas from our staff that you might find fun to try in your home. Please remove the next page and keep it for your use. Then continue the survey on the page following the next one.**********************************

****
****
*****Gardening Tips from the Staff of Georgia Harvesting Healthy Habits*****
****

[Remove this sheet from the booklet so that you will have these ideas at hand.]

****

For black spot on your roses, mix one teaspoon of baking soda in one quart of warm water and spray directly onto the areas of your roses that are affected by black spot.

Always wear chemically resistant gloves when handling any type of chemicals [dry or liquid] while gardening to avoid absorption by the skin.

Use a collection of dried floral petals mixed with cinammon sticks to make a fragrant potpourri.

Collect the floral head from a flower such as a pansy, and press it between two clear glass plates [perhaps an odd couple of pieces of Depression glass]. Use as a catch-all valet on the dresser for watches and wedding rings and such...

****

In the following section we want to know how certain you are about some behaviors. Are you:

Very uncertain (Vu),
Uncertain (U),
Neither uncertain nor certain (N),
Certain (C),
Very certain (Vc)

Please circle the letter which best indicates your response.

How certain are you that...	Very Uncertain	Uncertain	Neither	Certain	Very Certain
...you could recognize unhealthy changes in your skin?	**Vu**	**U**	**N**	**C**	**Vc**
...you could select a sunscreen that would protect you while working in the sun?	**Vu**	**U**	**N**	**C**	**Vc**
...you could select a hat that would protect you while working in the sun?	**Vu**	**U**	**N**	**C**	**Vc**
...you could find a medical doctor/nurse to conduct a clinical exam of your skin?	**Vu**	**U**	**N**	**C**	**Vc**
...you could you select a long-sleeved shirt that would protect you while working in the sun?	**Vu**	**U**	**N**	**C**	**Vc**
...you can remember to perform a monthly skin exam to look for early signs of skin cancer?	**Vu**	**U**	**N**	**C**	**Vc**
...you will remember to wear sunscreen while working in the sun?	**Vu**	**U**	**N**	**C**	**Vc**
...you can find a comfortable wide-brimmed hat to wear while working in the sun?	**Vu**	**U**	**N**	**C**	**Vc**

How certain are you that...

	Very Uncertain	Uncertain	Neither	Certain	Very Certain
...you can take time to get a clinical exam of your skin?	**Vu**	**U**	**N**	**C**	**Vc**
...you can find a comfortable long-sleeved shirt to wear while working in the sun?	**Vu**	**U**	**N**	**C**	**Vc**
...you know the steps to follow for doing a skin exam to help detect skin cancer?	**Vu**	**U**	**N**	**C**	**Vc**
...you would recognize unhealthy changes in your breast?	**Vu**	**U**	**N**	**C**	**Vc**
...you could find a medical doctor/nurse to help to learn to conduct breast self-examinations?	**Vu**	**U**	**N**	**C**	**Vc**
...you could find a medical doctor/nurse to conduct breast examinations?	**Vu**	**U**	**N**	**C**	**Vc**
...you could find a medical doctor/nurse to conduct pap tests?	**Vu**	**U**	**N**	**C**	**Vc**
...you could find a medical doctor/nurse to conduct mammograms?	**Vu**	**U**	**N**	**C**	**Vc**
...you will remember to conduct monthly breast self-examinations?	**Vu**	**U**	**N**	**C**	**Vc**
...you can take the time to get a clinical breast examination?	**Vu**	**U**	**N**	**C**	**Vc**
...you can take the time to get a mammogram?	**Vu**	**U**	**N**	**C**	**Vc**
...you can take the time to get a yearly Pap-test?	**Vu**	**U**	**N**	**C**	**Vc**

We are also interested in learning from you how difficult certain behaviors might be. Is the behavior:

Very difficult (Vd),
Difficult (D),
Neither difficult nor easy (N),
Easy (E),
Very easy (Ve)

Please circle the letter which best reflects your response.
How difficult is...?

	Very Difficult	Difficult	Neither	Easy	Very Easy
..wearing sunscreen when working in the sun?	**Vd**	**D**	**N**	**E**	**Ve**
...wearing a wide-brimmed hat to work in the sun?	**Vd**	**D**	**N**	**E**	**Ve**
...getting an annual clinical exam of your skin?	**Vd**	**D**	**N**	**E**	**Ve**
...wearing a long sleeved shirt when working in the sun?	**Vd**	**D**	**N**	**E**	**Ve**
...conducting a breast self-examination?	**Vd**	**D**	**N**	**E**	**Ve**
...getting an annual clinical breast examination?	**Vd**	**D**	**N**	**E**	**Ve**
...getting an annual mammogram?	**Vd**	**D**	**N**	**E**	**Ve**
...getting an annual Pap-test?	**Vd**	**D**	**N**	**E**	**Ve**

Georgia Health Farmers Staff Gardening tip: For black spot on your roses, mix one teaspoon of baking soda in one quart of warm water and spray directly onto the areas of your roses that are affected by black spot. [tip included on Gardening page elsewhere in this booklet]

For the following questions, indicate how often you recommend the listed behaviors.

Never (N), Seldom (Se), Sometimes (So), Frequently (F), or Always (A)

How often do you recommend to other farm wives...? ***Please circle your response.***

	Never	Seldom	Sometimes	Frequently	Always
...that they wear sunscreen when working in the sun?	**N**	**Se**	**So**	**F**	**A**
...that they wear a wide-brimmed hat when working in the sun?	**N**	**Se**	**So**	**F**	**A**
...that they get an annual clinical exam of their skin?	**N**	**Se**	**So**	**F**	**A**
...that they wear a long-sleeved shirt when working in the sun?	**N**	**Se**	**So**	**F**	**A**
...that they conduct regular exams of their own skin to help detect skin cancer?	**N**	**Se**	**So**	**F**	**A**
...that they conduct breast self-examinations?	**N**	**Se**	**So**	**F**	**A**
...that they get yearly clinical breast exams?	**N**	**Se**	**So**	**F**	**A**
...that they get yearly Pap-tests?	**N**	**Se**	**So**	**F**	**A**
...that they get yearly mammograms?	**N**	**Se**	**So**	**F**	**A**

When your child, grandchild or other elementary age youngster whom you spend time with gives you the gift of a homemade card, a class drawing or painting, or some other piece of artwork that you can frame, once in awhile--frame it! Start a home gallery featuring these 'originals.'

****
*****Sewing Tips from the Staff of Georgia Harvesting Healthy Habits*******
****

[Remove this sheet from the booklet so that you will have these ideas at hand.]

****

*Do you have a favorite t-shirt, or does your child have several that they don't want to part with because they remind them of a team they played for? Sew up the neck and stuff the shirt with a bag of polyfill; then sew across the bottom, and you have a one-of-a-kind toss pillow for the bed and bedroom. [It's easily washable, too!]

*Purchase inexpensive kitchen and bath towels and bed linens [watch for clearance specials]. Add a row of lace to enliven them for the bathroom, or in order to always have an extra gift on hand for the unexpected birthday, shower, or wedding.

*If you can make space near the washing machine and dryer, set up the sewing machine so that you can take care of mending on the spot, or grab a moment to work on a favorite project without having to find time to 'set up' and 'take down' your project.

****

Never (N), Seldom (Se), Sometimes (So), Frequently (F), or Always (A)
Please circle your response.

How often do you recommend to <u>members</u> of your family...?

	Never	Seldom	Sometimes	Frequently	Always
...that they wear sunscreen when working in the sun?	**N**	**Se**	**So**	**F**	**A**
...that they wear a wide-brimmed hat when working in the sun?	**N**	**Se**	**So**	**F**	**A**
...that they get an annual clinical exam of their skin?	**N**	**Se**	**So**	**F**	**A**
...that they wear a long-sleeved shirt when working in the sun?	**N**	**Se**	**So**	**F**	**A**
...that they conduct regular exams of their own skin to help detect skin cancer?	**N**	**Se**	**So**	**F**	**A**

Snack tip for 'independent' preschooler: A cup of Honey Nut Cheerios. Low in fat and doesn't make much of a mess even if it gets spilled. ***[Tip from Georgia Harvesting Healthy Habits Staff]***

<u>Please continue survey on next page.</u>

In the following section, please indicate to what degree you agree or disagree with the statement. Please circle the letter that best represents your response.

Strongly disagree (Sd), Disagree (D), Neither agree nor disagree (N) Agree (A), or Agree Strongly (As)

	Please circle your response.				
	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
Conducting an exam of my own skin is physically uncomfortable.	**Sd**	**D**	**N**	**A**	**As**
Wearing sunscreen when I work in the sun irritates my skin.	**Sd**	**D**	**N**	**A**	**As**
Wearing a wide-brimmed hat when working in the sun makes me feel uncomfortably hot.	**Sd**	**D**	**N**	**A**	**As**
Getting a clinical exam of my skin causes physical discomfort.	**Sd**	**D**	**N**	**A**	**As**
Wearing a long sleeved shirt to work in the sun makes me feel uncomfortably hot.	**Sd**	**D**	**N**	**A**	**As**
Conducting a breast self-exam is physically uncomfortable.	**Sd**	**D**	**N**	**A**	**As**
Getting a clinical breast exam causes physical discomfort.	**Sd**	**D**	**N**	**A**	**As**
Getting a Pap-test causes physical discomfort.	**Sd**	**D**	**N**	**A**	**As**
Getting a mammogram causes physical discomfort.	**Sd**	**D**	**N**	**A**	**As**
Getting a mammogram causes me to bruise.	**Sd**	**D**	**N**	**A**	**As**
Getting a pap test causes me to bleed.	**Sd**	**D**	**N**	**A**	**As**

****
Cooking Tips from the Staff of Georgia Harvesting Healthy Habits****
****

[Remove this sheet from the booklet so that you will have these ideas at hand.]

****

Presentation counts! Cloth napkins are not just for special occasions. They make any lunch a little bit special.

With ice tea being such an important thirst quencher during the long summer months, ways to enliven this drink may encourage thirsty workers to consume more liquids. Spear mint and apple mint are just two examples of ways to flavor your summer ice tea. [If you have a bare spot outside your kitchen window, plant your own; these plants are easy to tend and love the summer sun!]

***Langston's Dip** [named after one of the staff's friends who passed the recipe along for sharing]: In a rectangular casserole dish, spread one large can of spicy refried beans; for the next layer spread the paste formed by blending two avocados; add a layer of sour cream; next, add a layer of salsa [select your level of hotness]; chop green onions and spread over the salsa; dice black olives and spread as the next layer on top of the salsa; tear lettuce and spread across the olives; finally, grate enough colby cheese to sprinkle across the top. This makes an outstanding dip with tortilla chips; it may also be used to fill tortilla shells, making a summertime burrito.**

To what degree you agree or disagree with the statement?

Strongly disagree (Sd), Disagree (D), Neither agree nor disagree (N) Agree (A), or Agree Strongly (As) ***Please circle your response.***

	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
Conducting a monthly exam of my skin takes too much time.	**Sd**	**D**	**N**	**A**	**As**
Putting on sunscreen before working in the sun takes too much time	**Sd**	**D**	**N**	**A**	**As**
Putting on a wide-brimmed hat to work in the sun takes too much time.	**Sd**	**D**	**N**	**A**	**As**
Getting a clinical exam of my skin takes too much time.	**Sd**	**D**	**N**	**A**	**As**
Putting on a long sleeved shirt to work in the sun takes too much time.	**Sd**	**D**	**N**	**A**	**As**
Conducting a monthly exam of my skin is an affordable thing to do.	**Sd**	**D**	**N**	**A**	**As**
Wearing sunscreen to work in the sun costs too much.	**Sd**	**D**	**N**	**A**	**As**
Wearing a wide-brimmed hat to work in the sun is an affordable thing to do.	**Sd**	**D**	**N**	**A**	**As**
Getting a clinical exam of my skin costs too much.	**Sd**	**D**	**N**	**A**	**As**
Wearing a long-sleeved shirt to work in the sun is an affordable thing to do.	**Sd**	**D**	**N**	**A**	**As**

To what degree you agree or disagree with the statement?

Strongly disagree (Sd), Disagree (D), Neither agree nor disagree (N) Agree (A), or Agree Strongly (As) *Please circle your response.*

	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
Conducting a monthly breast self-exam takes too much time.	**Sd**	**D**	**N**	**A**	**As**
Getting a clinical breast exam takes too much time.	**Sd**	**D**	**N**	**A**	**As**
Getting a Pap-test takes too much time.	**Sd**	**D**	**N**	**A**	**As**
Getting a mammogram takes too much time.	**Sd**	**D**	**N**	**A**	**As**
Getting a clinical breast exam costs too much.	**Sd**	**D**	**N**	**A**	**As**
Getting a Pap-test costs too much.	**Sd**	**D**	**N**	**A**	**As**
Getting a mammogram costs too much.	**Sd**	**D**	**N**	**A**	**As**
Conducting a monthly breast self-exam is an affordable thing to do.	**Sd**	**D**	**N**	**A**	**As**

For the following questions, please indicate how likely it would be that you would feel embarrassed to do the listed behaviors.

Very unlikely (Vu), Unlikely (U), Neither likely nor unlikely (N), Likely, (L), Very likely (Vl)

Would it make you feel embarrassed to...? ***Please circle your response.***

	Very Unlikely	Unlikely	Neither	Likely	Very Likely
...conduct a monthly exam of your skin?	**Vu**	**U**	**N**	**L**	**Vl**
...wear sunscreen while working in the sun?	**Vu**	**U**	**N**	**L**	**Vl**

Very unlikely (Vu), Unlikely (U), Neither likely nor unlikely (N), Likely, (L), Very likely (Vl)

Would it make you feel embarrassed to...?

	Very Unlikely	Unlikely	Neither	Likely	Very Likely
...wear a wide-brimmed hat while working in the sun?	**Vu**	**U**	**N**	**L**	**Vl**
...get a clinical exam of your skin?	**Vu**	**U**	**N**	**L**	**Vl**
...wear a long-sleeved shirt while working in the sun?	**Vu**	**U**	**N**	**L**	**Vl**
...conduct a monthly breast self-examination?	**Vu**	**U**	**N**	**L**	**Vl**
...get a yearly clinical breast exam?	**Vu**	**U**	**N**	**L**	**Vl**
...get a yearly mammogram?	**Vu**	**U**	**N**	**L**	**Vl**
...get a yearly pap test?	**Vu**	**U**	**N**	**L**	**Vl**

Do you have a special small toy--perhaps a little truck, a block, or a small doll--that was a favorite of your child's or grandchild's and so you kept it as a keepsake? Add a ribbon for a hanger and use it as a unique tree ornament during the holidays. ***[Tip from Georgia Harvesting Healthy Habits Staff].*** **More keepsake tips included on a separate page in this booklet.**

Please continue survey on next page.

In the next section, please tell us to what degree do you agree with each of the statements.

Strongly disagree (Sd), Disagree (D), Neither agree nor disagree (N) Agree (A) or Agree Strongly (As)

My family expects me to.... ***Please circle your response.***

	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
...conduct an exam of my skin to help detect skin cancer.	**Sd**	**D**	**N**	**A**	**As**
...wear a wide-brimmed hat to work in the sun.	**Sd**	**D**	**N**	**A**	**As**
...get an annual clinical exam of my skin to help detect skin cancer.	**Sd**	**D**	**N**	**A**	**As**
...wear a long-sleeved shirt when I work in the sun.	**Sd**	**D**	**N**	**A**	**As**
...conduct monthly breast self-exams.	**Sd**	**D**	**N**	**A**	**As**
...get an annual clinical breast examination.	**Sd**	**D**	**N**	**A**	**As**
...get an annual mammogram.	**Sd**	**D**	**N**	**A**	**As**
...get an annual clinical Pap-test.	**Sd**	**D**	**N**	**A**	**As**

The next section asks questions about your health knowledge. Please circle the letter of the option you select.

If you feel a lump in your breast, do you believe you should get a medical doctor/nurse to check it?

a. **No, everyone has some lumps in their breasts.**
b. **Yes, any lump should be examined by a doctor/nurse.**
c. **Yes, if the lump causes pain.**
d. **don't know/not sure.**

If you feel a lump in your breast, when should you see doctor/nurse?

a. **As soon as possible.**
b. **As soon as the lump causes pain.**
c. **There is no reason to see a doctor/nurse, some lumps are normal.**
d. **don't know/not sure.**

Please circle your response

Why is it important to conduct monthly breast self-examinations (BSE)?

a. **There is no reason to conduct monthly BSE.**
b. **To safeguard against missing breast cancer in an early stage.**
c. **To avoid having to get yearly clinical breast exams.**
d. **don't know/not sure**

Why is it important to get yearly clinical breast examinations?

a. **There is no reason to get yearly clinical breast exams.**
b. **To safeguard against missing breast cancer in an early stage.**
c. **To avoid having to get yearly mammograms.**
d. **don't know/not sure**

Why is it important to get yearly mammograms?

a. **There is no reason to get yearly mammograms.**
b. **To safeguard against missing breast cancer in an early stage.**
c. **To avoid having to perform monthly breast self-exams.**
d. **don't know/not sure**

Why is it important to get yearly Pap-tests?

a. **There is no reason to get yearly Pap-tests.**
b. **To safeguard against missing cervical cancer in an early stage.**
c. **To avoid menstrual problems.**
d. **don't know/not sure.**

Which women are <u>least</u> likely to get breast cancer?

a. **Women with breast cancer in their family.**
b. **Women who have their first child after 34.**
c. **Women who breast-feed their babies for a long period of time.**
d. **don't know/not sure.**

Which of the following should a woman do to prepare for getting a Pap-test?

a. **Douche.**
b. **there is nothing she should do to prepare.**
c. **don't know/not sure.**

Please circle your response

In which area of the breast is breast cancer most frequently found?

a. **The area immediately surrounding the nipple.**
b. **The inner area of the breast.**
c. **The upper-outer area of the breast.**
d. **don't know/not sure**

What factor is strongest when predicting the likelihood of breast cancer?

a. **Size of breasts.**
b. **Family members with breast cancer.**
c. **Number of children.**
d. **don't know/not sure**

If a woman has had cervical cancer....

a. **She is at a lower risk for breast cancer.**
b. **She is at a higher risk for breast cancer.**
c. **She is at lower risk for all kinds of cancer.**
d. **don't know/not sure.**

Which of the following is <u>true</u> about regarding <u>early</u> cervical cancer?

a. **It causes pain.**
b. **It causes problems with urinating.**
c. **It may cause no symptoms.**
d. **don't know/ not sure.**

Please continue survey on next page.

****
*****Household Tips from the Staff of Georgia Harvesting Healthy Habits*****
****

[Remove this sheet from the booklet so that you will have these ideas at hand.]

****

***Spilled candle wax on carpeting or other cloth/fabric/fiber surface may be removed by carefully placing an absorbent cotton terry towel [use a discarded one, as it will be stained by the wax] over the area and then placing a warm iron on the towel to melt the wax and cause it to lift onto the towel.**

****To take Georgia clay stains out of carpeting, pour a small amount of Windex onto the stain and rub it out. To take Georgia clay stains out of clothing, pour a small amount of Windex onto the stain and then launder as you ordinarily would. To get Georgia clay stains off of your flooring, spray Windex on the spot and rub up.***

***Remove the stains caused by the black soles of boots or shoes on your kitchen floor with a dab of whitening toothpaste on a rag applied to the spot.**

****A thin coat of paste wax applied to the surface of your appliances [refrigerator, stove, washer, dryer....] protects them from the formation of rust.***

In the next section, indicate how much you know about the listed subject.

On a scale of one to five, where,

1 = Know nothing at all ,
2 = Not very knowledgeable,
3 = Somewhat knowledgeable,
4 = Very Knowledgeable,
5 = Know all there is to know.

How Knowledgeable are you about:

Please circle the number which best reflects your belief.

	Know Nothing		Somewhat		Know all there is
		Not Very		Very	
...skin self exams?	1	2	3	4	5
...sunscreens?	1	2	3	4	5
...sun protective hats?	1	2	3	4	5
...clinical skin exams?	1	2	3	4	5
...sun protective clothing?	1	2	3	4	5
...breast self-exams?	1	2	3	4	5
...clinical breast exams?	1	2	3	4	5
...mammograms?	1	2	3	4	5
...Pap-tests?	1	2	3	4	5
...breast cancer?	1	2	3	4	5
...cervical cancer?	1	2	3	4	5

The next set of questions ask you about the frequency of performing various behaviors. Please circle the letter which best reflects your belief.

How often should you conduct an exam of your own skin to help detect skin cancer?

a. Whenever you take a shower. **b. Once a month.**
c. Once a year. **d. don't know/not sure**

How often should you get a clinical exam of your skin to help detect skin cancer?

a. Only if you detect a change in your skin. **b. Once every five years.**
c. Once a year. **d. don't know/not sure**

How often should you conduct an exam of your own breasts to help detect breast cancer?

a. Whenever you take a shower or bath. **b. Once a month**
c. Once a year. **d. don't know/not sure.**

How often should you get a clinical exam of your breasts to help detect breast cancer?

a. Only if you detect a change in your breasts **b. Once every five years**
c. Once a year **d. don't know/not sure**

How often should you get a mammogram to help detect breast cancer?

a. Only if you detect a change in your breasts **b. Once every five years**
c. Once a year **d. don't know/not sure**

How often should you get a clinical pap test?

a. Only if there is a change in your menstrual cycle **b. Once every five years**
c. Once a year **d. don't know/not sure**

How long before going out in the sun should you apply sunscreen for it to be most effective?

a. 20 - 30 minutes. **b. Just before going in the sun.**
c. 5 - 10 minutes. **d. don't know/not sure**

What type of material should you look for when selecting a protective shirt to wear while working in the sun?

a. Loosely fitting and tightly woven. **b. Tightly fitting and tightly woven.**
c. Loosely fitting and loosely woven. **d. don't know/not sure**

Which of the following types of hats provides the best protection from the sun

a. wide-brimmed straw hat **b. baseball cap**
c. tightly woven wide-brimmed cloth hat **d. don't know/not sure**

What tool do you need to conduct an exam of your skin?

a. hand mirror **b. full length mirror** **c. blow dryer**
d. all of the above **e. don't know/not sure**

What does the SPF number on sunscreen mean?

a. how long you are protected from the sun.
b. how may minutes before going into the sun you must apply it
c. don't know/not sure

Which of the following is true about getting a pap test?

a. You should douche before getting a pap test.
b. You should not have intercourse before getting a pap test.
c. You should be on your period when having a pap test.
d. don't know/not sure.

When performing a breast self-exam, you should check:

a. Only around the nipple.
b. The entire breast.
c. The entire breast and underarm.
d. don't know/not sure.

For the next few questions, please indicate how often you perform the listed behavior. Please circle the letter that best represents your response.

How often do you...

	Never	Seldom	Sometimes	Frequently	Always
...go to a feed and seed store?	N	Se	So	F	A
...listen to the radio?	N	Se	So	F	A
...make a purchase at a drug store?	N	Se	So	F	A
...attend a cooperative extension service program?	N	Se	So	F	A
...participate in the Farm Kids' Safety Camp? (e.g., taken your child, been a volunteer)	N	Se	So	F	A
...have an appointment with a medical doctor/nurse?	N	Se	So	F	A
...read a farming magazine?	N	Se	So	F	A
...visit the local library?	N	Se	So	F	A
...attend a farming conference?	N	Se	So	F	A
...receive the Georgia Healthy Farmers' newsletter?	N	Se	So	F	A
...visit the local Farm Bureau?	N	Se	So	F	A
...purchase a John Deere product?	N	Se	So	F	A
...attend sunbelt expo'?	N	Se	So	F	A
...perform a breast self-exam?	N	Se	So	F	A
...receive a mammogram?	N	Se	So	F	A
...receive a clinical breast exam?	N	Se	So	F	A
...receive a clinical Pap-test?	N	Se	So	F	A

****
Home Decorating Tips from the Staff of Georgia Harvesting Healthy Habits
****

[Remove this sheet from the booklet so that you will have these ideas at hand.]

****

***Do you have a favorite restaurant you visit often, or perhaps you will be going to a special place for an anniversary or while on vacation? Ask for a copy of the menu...then mat and frame it for your kitchen or dining room wall. What better way to recall a special place!**

***Do you have photographs of your home, the homes of your sisters, brothers, parents, or in-laws? Gather together a collection of photographs of your family's 'homesteads.' Different sizes, black and white, colored--an eclectic collection is preferred...then assemble these in as many types of frames as you have photos and hang them in your family room, living room, or den to provide a one-of-a-kind wall treatment.**

***Before you throw away that old waffle iron, fraying basket, tarnished one-of-a-kind piece of silver, gather them together on the kitchen table and consider how you might arrange them on the kitchen wall for a 'country' look that warms an otherwise blank space.**

****

If you do not regularly perform a breast self-exam , what are the reasons why?
(Circle as many answers as apply.)

a. Procrastinated/put it off
b. Didn't know I should
c. Unnecessary
d. My doctor/nurse never told me to
e. Doctor/nurse said it wasn't needed
f. Too embarrassing
g. Haven't had any problems
h. Fear of what I may find
i. Too busy
j. Other(specify_____)

If you do not regularly obtain a clinical breast exam , what are the reasons why?
(Circle as many answers as apply.)

a. Procrastinated/put it off
b. Didn't know I should
c. Unnecessary
d. My doctor/nurse never told me to
e. Doctor/nurse said it wasn't needed
f. Too embarrassing
g. Haven't had any problems
h. Fear of what I may find
i. Too busy **j. Other(specify_____)**

If you do not regularly receive a mammogram, what are the reasons why?
(Circle as many answers as apply.)

a. Procrastinated/put it off
b. Didn't know I should
c. Unnecessary
d. My doctor/nurse never told me to
e. Doctor/nurse said it wasn't needed
f. Too embarrassing
g. Haven't had any problems
h. Fear of what I may find
i. Too busy
j. Other(specify_____)

If you do not regularly receive a Pap-test what are the reasons why?
(Circle as many answers as apply.)

a. Procrastinated/put it off
b. Didn't know I should
c. Unnecessary
d. My doctor/nurse never told me to
e. Doctor/nurse said it wasn't needed
f. Too embarrassing
g. Haven't had any problems
h. Fear of what I may find
i. Too busy
j. Other(specify_____)

To take Georgia clay stains out of carpeting, pour a small amount of Windex onto the stain and rub it out. To take Georgia clay stains out of clothing, pour a small amount of Windex onto the stain and then launder as you ordinarily would. To get Georgia clay stains off of your flooring, spray Windex on the spot and rub up. [Household tip from Georgia Harvesting Healthy Habits Staff; see more throughout this booklet; this one is included on a list elsewhere so that you may remove it and have it nearby for use.]

THESE FINAL QUESTIONS JUST ASK FOR A BIT OF INFORMATION ABOUT YOURSELF:

1. Have you ever had a blemish, mole, or other skin condition checked for cancer by a medical doctor/nurse? **NO, YES, don't know**

2. Have you ever had skin cancer? **NO , YES, don't know**

3. Have you ever had breast cancer? **NO, YES, don't know**

4. Have you ever had cervical cancer? **NO, YES, don't know**

5. How old are you? **_____years old (optional)**

6. Which of the following categories best describes your total annual household income from all sources AFTER all farm expenses but BEFORE depreciation and taxes? *Circle one response.*

Would you say:

Less than $10,000
$10,000 but less than $20,000
$20,000 but less than $35,000
$35,000 but less than $50,000
$50,000 or more
Don't know/not sure

7. Are you currently covered by any kind of health insurance plan or government provided health care? NO YES don't know/unsure

8. How much is the deductible for visits to a doctor/nurse's office or outpatient clinic?

$_____
No deductible
Don't know/not sure

9. For routine checkups or other preventive care, how much of your expenses does your health insurance plan cover after the deductible has been met?

a. All
b. Most
c. Some
d. None
e. Don't know/not sure

10. Was there a time during the last 12 months when you needed to see a doctor/nurse, but due to cost could not? NO YES don't know/unsure

THANKS SO MUCH FOR YOUR ASSISTANCE AND TIME.

If you would like to receive a copy of our results, please provide your name and where we should send them:

Name: _____

Address: _____

Phone: _____

Any comments:

Thanks for completing our survey. To show our appreciation for you time and cooperation, we will mail you a Georgia Harvesting Healthy Habits t-shirt when we receive your questionnaire. Please circle the t-shirt size you would prefer.

Large

Extra-large

The University of Georgia

Franklin College of Arts and Sciences
Department of Speech Communication

April, 1995

Dear University of Georgia County Extension Agricultural Agent:

The attached survey is part of a project entitled Harvesting Healthy Habits. The project is a three year grant which focuses on issues related to skin protection among Georgia's farmers. As part of our attempts to create an informational campaign, we are surveying farmers, feedstore owners, health care workers, and extension agents directors.

As a director within the University of Georgia's extension service, you would be an excellent source of information as we prepare our informational campaign. The information you provide will remain completely confidential. The survey should take approximately 20 minutes of your time. No discomforts, stresses, or risks are foreseen. In exchange for completing the survey, you will receive a free sun protection hat.

Thank you for your interest and support.

Research at the University of Georgia which involves human participants is carried out under the oversight of the Institutional Review Board. Questions or problems regarding your rights as a participant should be addressed to Heidi L. Roof; Institutional Review Board; Office of Research; UGA; 604 Graduate Studies Research Center; Athens, GA 30602; Phone (706) 542-3250.

We would like to begin our survey by again thanking you for your participation. As briefly explained in the cover letter, we are working with a project called "Georgia Harvesting Healthy Habits" to promote skin cancer prevention and detection to agricultural workers and their families.

Directions: Please indicate your response to each question by circling the number which best reflects your feelings.

1. First, using a scale of 1 - 5, with 1 being "not at all important" and 5 being "very important," what number from 1 to 5 would you say reflects how important maintaining your own health is to you?

Not at all important	Slightly important	Pretty important	Important	Very important
1	2	3	4	5

2. On a scale of 1 - 5, with 1 being "never" and 5 being "always," what number from 1 to 5 reflects how often you do things to improve your health?

Never	Seldom	Sometimes	Frequently	Always
1	2	3	4	5

3. On a scale of 1 - 5, with 1 being "not at all likely" and 5 being "very likely," what number from 1 to 5 reflects how likely you think it is that you will get skin cancer during your lifetime?

Not at all likely	Somewhat likely	Pretty likely	Likely	Very likely
1	2	3	4	5

4. Again, on a scale of 1 - 5, with 1 being "not at all likely" and 5 being "very likely," what number reflects how likely you think agricultural workers in general are to get skin cancer?

Not at all likely	Somewhat likely	Pretty likely	Likely	Very likely
1	2	3	4	5

5. On a scale of 1 - 5, with 1 being "not at all serious" and 5 being "very serious," what number reflects how serious having skin cancer would be for you personally?

Not at all serious	Somewhat serious	Pretty serious	Serious	Very serious
1	2	3	4	5

PLEASE CONTINUE THE SURVEY ON THE BACK OF THIS PAGE.

14. When working with chemical pesticides do you wear a protective apron?

Never	Seldom	Sometimes	Frequently	Always
1	2	3	4	5

15. When working with chemical pesticides do you wear a face shield?

Never	Seldom	Sometimes	Frequently	Always
1	2	3	4	5

The following questions ask you about a few specific things that farmers do to reduce exposure to the sun and pesticides. We would like to get a sense of how often you may have seen farmers doing these things. So, for each of the following questions please indicate whether you NEVER (1), SELDOM (2), SOMETIMES (3), FREQUENTLY (4), or ALWAYS (5) see them doing the behavior. Additionally, there are some questions which ask you to elaborate on your initial answer.

14. How often do you come in contact with farmers?

Never	Seldom	Sometimes	Frequently	Always
1	2	3	4	5

15. How often do you hear farmers express concern about sun exposure?

Never	Seldom	Sometimes	Frequently	Always
1	2	3	4	5

16. How often do you hear farmers express concern about pesticide exposure?

Never	Seldom	Sometimes	Frequently	Always
1	2	3	4	5

17. Do farmers wear wide-brimmed hats while working in the sun?

Never	Seldom	Sometimes	Frequently	Always
1	2	3	4	5

a. What are the reasons that farmers DO wear wide-brimmed hats?

b. What are the reasons that farmers DO NOT wear wide-brimmed hats?

PLEASE CONTINUE THE SURVEY ON THE BACK OF THIS PAGE.

b. What are the reasons that farmers DO NOT wear a face shield?

22. Do farmers wear chemically resistant gloves when handling pesticides?

Never	Seldom	Sometimes	Frequently	Always
1	2	3	4	5

a. What are the reasons that farmers DO wear chemically resistant gloves?

b. What are the reasons that farmers DO NOT wear chemically resistant gloves?

23. Do farmers wear a chemically resistant apron when handling pesticides?

Never	Seldom	Sometimes	Frequently	Always
1	2	3	4	5

a. What are the reasons that farmers DO wear a chemically resistant apron?

b. What are the reasons that farmers DO NOT wear a chemically resistant apron?

24. Do farmers use commercial application services when handling pesticides?

Never	Seldom	Sometimes	Frequently	Always
1	2	3	4	5

a. What are the reasons that farmers DO use commercial application services?

PLEASE CONTINUE THE SURVEY ON THE BACK OF THIS PAGE.

30. How often have you recommended to farmers to get a clinical skin exam to detect skin cancer.?

Never	Seldom	Sometimes	Frequently	Always
1	2	3	4	5

31. How often have you recommended to farmers that they wear chemically resistant gloves?

Never	Seldom	Sometimes	Frequently	Always
1	2	3	4	5

32. How often have you recommended to farmers that they wear a face shield when handling pesticides?

Never	Seldom	Sometimes	Frequently	Always
1	2	3	4	5

33. How often have you recommended to farmers that they wear a chemically resistant apron when handling pesticides?

Never	Seldom	Sometimes	Frequently	Always
1	2	3	4	5

Now we would like you to think about specific information that your doctor or others may have provided about exposure to sun and pesticides, and tell me if this has happened NEVER (1), SELDOM (2), SOMETIMES (3), FREQUENTLY (4), ALWAYS (5).

34. Has your doctor ever recommended that you conduct an exam of your own skin to detect skin cancer?

Never	Seldom	Sometimes	Frequently	Always
1	2	3	4	5

35. Have you received any information about conducting an exam of your own skin to detect skin cancer?

Never	Seldom	Sometimes	Frequently	Always
1	2	3	4	5

36. Has your doctor ever recommended that you wear a wide-brimmed hat when working in the sun?

Never	Seldom	Sometimes	Frequently	Always
1	2	3	4	5

37. Have you received any information about wearing a wide-brimmed hat to prevent skin cancer?

Never	Seldom	Sometimes	Frequently	Always
1	2	3	4	5

PLEASE CONTINUE THE SURVEY ON THE BACK OF THIS PAGE.

47. Have you ever felt fearful about skin cancer?

Never	Seldom	Sometimes	Frequently	Always
1	2	3	4	5

The following questions ask you to describe your ability to reduce your exposure to the sun and pesticides. On a scale from 1 to 5, with 1 being not at all confident and 5 being very confident, what number would you use to answer the following questions.

48. How confident do you feel in your ability to conduct an exam of your own skin to help detect signs of skin cancer?

Not at all confident	Somewhat confident	Pretty confident	Confident	Very confident
1	2	3	4	5

49. How confident do you feel in your ability to wear a wide-brimmed hat while working in the sun?

Not at all confident	Somewhat confident	Pretty confident	Confident	Very confident
1	2	3	4	5

50. How confident do you feel in your ability to wear sunscreen while working in the sun?

Not at all confident	Somewhat confident	Pretty confident	Confident	Very confident
1	2	3	4	5

51. How confident do you feel in your ability to wear a long-sleeved shirt while working in the sun?

Not at all confident	Somewhat confident	Pretty confident	Confident	Very confident
1	2	3	4	5

52. How confident do you feel in you ability to wear protective gloves while working with pesticides?

Not at all confident	Somewhat confident	Pretty confident	Confident	Very confident
1	2	3	4	5

PLEASE CONTINUE THE SURVEY ON THE BACK OF THIS PAGE.

65. What causes skin cancer?

66. What is the most dangerous type of skin cancer?

67. What is the most common type of skin cancer?

Finally, we would like to ask for information about yourself:

68. How would you describe yourself (please circle one)?
    a. almost always sunburn and never tan.
    b. burn easily and it is hard for me to tan.
    c. burn sometimes but always get a tan afterwards.
    d. never get a sunburn and always tan easily.

69. How old are you: _____ (years)

70. In general, is your health excellent, good, fair, or poor (circle one)?

71. Have you ever had any type of cancer? [If yes,] What kind?

72. How long has it been since you last saw a medical doctor or other health care provider about your health?

    What was the reason for that visit?

73. Do you have health insurance?

74. How long have you been an extension agent director?

75. What county are you an extension agent in?

76. What other jobs have you held in the extension service?

If you would like to receive the results of this study, please provide your name and address below.

Name: _____

Address: _____

_____

Do you have any final comments or information you would like to give or request? THANK YOU VERY MUCH FOR YOUR PARTICIPATION.

If I Gave You Something That Would Save Your Life, Would You Use It?

In 1994, there was an estimated 9,200 deaths from Skin Cancer. Skin cancer, which if detected in the early stages and with proper treatment is highly curable. The demonstration hat will protect your face, neck, and ears from the sun. All we ask is that you fill out the survey, agree to be contacted in about 6 months to answer a few more questions, and tell the farmers you come in contact with about the program. If you should encounter a farmer who would like to receive a hat please get in touch with me, I'll need the farmer's name, address, and telephone number. The farmer will receive a survey to fill out, upon completion of the survey the farmer will receive a hat.

Thanks for your help with this project!

Dawn Lewis
Project Manager

Harvesting Healthy Habits
707 East Ward Street
Douglas, GA 31533

Phone (912) 383-7709
FAX (912) 383-0394

Please sign here agreeing to the above state terms._____

Please answer the following questions. Circle one response for each question.

1. How often should you conduct an exam of your own skin to help detect signs of skin cancer?

a. whenever you shower.
b. once a month.
c. once a year.
d. only if you notice changes in your skin.

2. After you apply sunscreen, how long should you wait before going into the sun in order for the sunscreen to be most effective?

a. wait 20 to 30 minutes before going into the sun.
b. put on just before going into the sun.
c. wait 5 to 10 minutes before going into the sun.
d. it is as effective to put it on while in the sun as it is to put it on before going outside.

3. Which of the following types of hats provides the best sun protection?

a. wide-brimmed straw hat.
b. baseball cap.
c. tightly woven wide-brimmed hat or cap with flap.
d. a sun visor.

Are you: FEMALE MALE [circle one]

How old are you? _____ years.

What is your ethnicity? White African-American
Hispanic

Other [please specify]_____

What is the last grade in school that you completed?

When was the last time you had an appointment with a medical doctor? _____

Occupation: _____

Estudio de la Salud de los Trabajadores Migrantes en Georgia - 1995

1. ¿Cuáles horas en el día y la noche escucha Ud. al radio?

2. ¿Qué difusora escucha Ud.?

3. ¿A qué otra difusora escucha Ud.?

4. ¿En qué tiendas va Ud. de compras regularmente?

5. ¿Cuántos años tiene Ud.?

6. ¿Alguna ves ha conducido su médico un examen de su piel?

7. ¿En general, está su salud excelente, bien, regular, o mala?

8. ¿Alguna ves ha tenido Ud. cáncer? [Sí sí] ¿De qué tipo?

9. ¿Hace cuántos años desde que Ud. ha visitado a un médico o un otro proveedor de salud sobre su salud?

10. ¿Hace cuántos años que Ud. Trabaja en la agricultura?

11. ¿Qué Tipos de cosecha se cultivan donde Ud. Trabaja?

MUCHISIMAS GRACIAS POR SU AYUDA!

Nursing Seminar (Brown Bag) Questionnaire

1. Would a 1-hour (on-site) training work for your department?

2. Which 1-hour segments would you be interested in....

   Pesticides & Farmers?

   Overcoming Barriers to Migrant Farm workers & Health Care?

   Skin Cancer Detection & Prevention?

3. What time of day would be best for you?

4. Is there a specific month/day that would be better?

5. Approximately how many staff would attend?

Suggestions:

Return questionnaire to:

Dawn Lewis
Georgia Harvesting Healthy Habits Campaign
707 East Ward Street
Douglas, GA 31533

May, 1995

Dear Cotton Scout,

The attached survey is part of a project entitled Harvesting Healthy Habits. The project is a three year grant which focuses on issues related to skin protection among Georgia's farmers. As skin cancer is the most common site of cancer, particularly for those who work in the sun, **Sun Safety** is an important part of **Farm Safety.**

As part of our attempts to provide resources to be safe when working in the sun, we are interviewing farmers, feedstore owners, health care workers, and agricultural industry workers. As a cotton scout, you would be an excellent source of information about what is needed. The information you provide will remain completely confidential. In appreciation for your participation, you will receive a free sun protective hat.

Thank you for your interest and support. If you have any questions or comments, please feel free to contact our project coordinator, Dawn Lewis, at (912) 383-7709. You can also write or visit our office at 707 East Ward Street, Douglas, GA 31533.

Sincerely,

Georgia Harvesting Healthy Habits Staff

Dr. R.L. Parrott, 127 Terrell Hall, Athens, GA 30602-1725, (706) 542-3269

We would like to begin our survey by again thanking you for your participation. As briefly explained in the cover letter, we are working with a project called "Georgia Harvesting Healthy Habits" to promote skin cancer prevention and detection to agricultural workers and their families.

Directions: Please indicate your response to each question by circling the number which best reflects your feelings.

1. First, using a scale of 1 - 5, with 1 being "not at all important" and 5 being "very important," what number from 1 to 5 would you say reflects how important maintaining your own health is to you?

Not at all important	Slightly important	Pretty important	Important	Very important
1	2	3	4	5

2. On a scale of 1 - 5, with 1 being "never" and 5 being "always," what number from 1 to 5 reflects how often you do things to improve your health?

Never	Seldom	Sometimes	Frequently	Always
1	2	3	4	5

3. On a scale of 1 - 5, with 1 being "not at all likely" and 5 being "very likely," what number from 1 to 5 reflects how likely you think it is that you will get skin cancer during your lifetime?

Not at all likely	Somewhat likely	Pretty likely	Likely	Very likely
1	2	3	4	5

4. Again, on a scale of 1 - 5, with 1 being "not at all likely" and 5 being "very likely," what number reflects how likely you think agricultural workers in general are to get skin cancer?

Not at all likely	Somewhat likely	Pretty likely	Likely	Very likely
1	2	3	4	5

PLEASE CONTINUE THE SURVEY ON THE BACK OF THIS PAGE.

5. On a scale of 1 - 5, with 1 being "not at all serious" and 5 being "very serious," what number reflects how serious having skin cancer would be for you personally?

Not at all serious	Somewhat serious	Pretty serious	Serious	Very serious
1	2	3	4	5

6. On a scale of 1 - 5, with 1 being "not at all serious" and 5 being "very serious," how serious do you believe having skin cancer would affect your ability to work?

Not at all serious	Somewhat serious	Pretty serious	Serious	Very serious
1	2	3	4	5

7. On a scale of 1 - 5, with 1 being "not at all serious" and 5 being "very serious" what number reflects how you believe having skin cancer would affect your overall health?

Not at all serious	Somewhat serious	Pretty serious	Serious	Very serious
1	2	3	4	5

The next few questions ask about your work environment. For the following questions please indicate whether you NEVER (1), SELDOM (2), SOMETIMES (3), FREQUENTLY (4), or ALWAYS (5) perform the behavior.

8. Do your daily work activities involve outdoor work?

Never	Seldom	Sometimes	Frequently	Always
1	2	3	4	5

9. When outdoors, do you wear sunscreen?

Never	Seldom	Sometimes	Frequently	Always
1	2	3	4	5

10. When outdoors, do you wear a wide-brimmed hat?

Never	Seldom	Sometimes	Frequently	Always
1	2	3	4	5

11. When outdoors, do you wear a long-sleeved shirt?

Never	Seldom	Sometimes	Frequently	Always
1	2	3	4	5

The following questions ask you about a few specific things that farmers do to reduce exposure to the sun and pesticides. We would like to get a sense of how often you may have seen farmers doing these things. So, for each of the following questions please indicate whether you NEVER (1), SELDOM (2), SOMETIMES (3), FREQUENTLY (4), or ALWAYS (5) see them doing the behavior. Additionally, there are some questions which ask you to elaborate on your initial answer.

12. How often do you come in contact with farmers?

Never	Seldom	Sometimes	Frequently	Always
1	2	3	4	5

13. How often do you hear farmers express concern about sun exposure?

Never	Seldom	Sometimes	Frequently	Always
1	2	3	4	5

14. How often do you hear farmers express concern about pesticide exposure?

Never	Seldom	Sometimes	Frequently	Always
1	2	3	4	5

15. Do farmers wear wide-brimmed hats while working in the sun?

Never	Seldom	Sometimes	Frequently	Always
1	2	3	4	5

a. What are the reasons that farmers DO wear wide-brimmed hats?

b. What are the reasons that farmers DO NOT wear wide-brimmed hats?

PLEASE CONTINUE THE SURVEY ON THE BACK OF THIS PAGE.

16. Do farmers apply sunscreen when working in the sun?

Never	Seldom	Sometimes	Frequently	Always
1	2	3	4	5

a. What are the reasons that farmers DO apply sunscreen?

b. What are the reasons that farmers DO NOT apply sunscreen?

17. Do farmers wear a long-sleeved shirt while working in the sun?

Never	Seldom	Sometimes	Frequently	Always
1	2	3	4	5

a. What are the reasons that farmers DO wear long-sleeved shirts?

b. What are the reasons that farmers DO NOT wear long-sleeved shirts?

18. Do farmers have cabs or umbrellas on their farm equipment to protect operators from the sun and/or pesticides?

Never	Seldom	Sometimes	Frequently	Always
1	2	3	4	5

a. What are the reasons that farmers DO have cabs or umbrellas?

b. What are their reasons that farmers DO NOT have cabs or umbrellas?

19. Do farmers wear a face shield when handling pesticides?

Never	Seldom	Sometimes	Frequently	Always
1	2	3	4	5

a. What are the reasons that farmers DO wear a face shield?

b. What are the reasons that farmers DO NOT wear a face shield?

20. Do farmers wear chemically resistant gloves when handling pesticides?

Never	Seldom	Sometimes	Frequently	Always
1	2	3	4	5

a. What are the reasons that farmers DO wear chemically resistant gloves?

b. What are the reasons that farmers DO NOT wear chemically resistant gloves?

21. Do farmers wear a chemically resistant apron when handling pesticides?

Never	Seldom	Sometimes	Frequently	Always
1	2	3	4	5

a. What are the reasons that farmers DO wear a chemically resistant apron?

b. What are the reasons that farmers DO NOT wear a chemically resistant apron?

PLEASE CONTINUE THE SURVEY ON THE BACK OF THIS PAGE.

22. Do farmers use commercial application services when handling pesticides?

Never	Seldom	Sometimes	Frequently	Always
1	2	3	4	5

a. What are the reasons that farmers DO use commercial application services?

b. What are the reasons that farmers DO NOT use commercial application services?

Now we would like you to think about specific information that your doctor or others may have provided about exposure to sun and pesticides, and tell me if this has happened NEVER (1), SELDOM (2), SOMETIMES (3), FREQUENTLY (4), ALWAYS (5).

23. Has your doctor ever recommended that you conduct an exam of your own skin to detect skin cancer?

Never	Seldom	Sometimes	Frequently	Always
1	2	3	4	5

24. Have you received any information about conducting an exam of your own skin to detect skin cancer?

Never	Seldom	Sometimes	Frequently	Always
1	2	3	4	5

25. Has your doctor ever recommended that you wear a wide-brimmed hat when working in the sun?

Never	Seldom	Sometimes	Frequently	Always
1	2	3	4	5

26. Have you received any information about wearing a wide-brimmed hat to prevent skin cancer?

Never	Seldom	Sometimes	Frequently	Always
1	2	3	4	5

27. Has your doctor recommended that you wear a long-sleeved shirt when working in the sun?

Never	Seldom	Sometimes	Frequently	Always
1	2	3	4	5

28. Have you ever received information about wearing a long-sleeved shirt to prevent skin cancer?

Never	Seldom	Sometimes	Frequently	Always
1	2	3	4	5

29. Has your doctor ever recommended that you wear sunscreen when working in the sun?

Never	Seldom	Sometimes	Frequently	Always
1	2	3	4	5

30. Have you received any information about wearing sunscreen to prevent skin cancer?

Never	Seldom	Sometimes	Frequently	Always
1	2	3	4	5

31. Has your doctor ever recommended that you get a medical exam of your skin to detect skin cancer?

Never	Seldom	Sometimes	Frequently	Always
1	2	3	4	5

32. Has your doctor ever conducted an exam of your skin?

Never	Seldom	Sometimes	Frequently	Always
1	2	3	4	5

33. Have you received any information about getting a medical exam of your skin to detect skin cancer?

Never	Seldom	Sometimes	Frequently	Always
1	2	3	4	5

PLEASE CONTINUE THE SURVEY ON THE BACK OF THIS PAGE.

34. Do media messages about skin cancer make you feel anxious?

Never	Seldom	Sometimes	Frequently	Always
1	2	3	4	5

35. Does talk about skin cancer make you feel nervous?

Never	Seldom	Sometimes	Frequently	Always
1	2	3	4	5

36. Have you ever felt fearful about skin cancer?

Never	Seldom	Sometimes	Frequently	Always
1	2	3	4	5

The following questions ask you to describe your ability to reduce your exposure to the sun and pesticides. On a scale from 1 to 5, with 1 being not at all confident and 5 being very confident, what number would you use to answer the following questions.

37. How confident do you feel in your ability to conduct an exam of your own skin to help detect signs of skin cancer?

Not at all confident	Somewhat confident	Pretty confident	Confident	Very confident
1	2	3	4	5

38. How confident do you feel in your ability to wear a wide-brimmed hat while working in the sun?

Not at all confident	Somewhat confident	Pretty confident	Confident	Very confident
1	2	3	4	5

39. How confident do you feel in your ability to wear sunscreen while working in the sun?

Not at all confident	Somewhat confident	Pretty confident	Confident	Very confident
1	2	3	4	5

40. How confident do you feel in your ability to wear a long-sleeved shirt while working in the sun?

Not at all confident	Somewhat confident	Pretty confident	Confident	Very confident
1	2	3	4	5

For the next set of questions, please provide your own answer.

41. How often should you conduct an examination of your own skin to help detect skin cancer?

42. How long before going in the sun should you apply sunscreen?

43. How often should one reapply sunscreen when remaining outside all day?

44. How often should you wear a long-sleeved shirt when working in the sun?

45. How often should you wear a wide-brimmed hat when working in the sun?

46. How often should you seek a clinical exam of your own skin to help detect skin cancer?

47. What is the most common type of cancer?

48. What causes skin cancer?

49. What is the most dangerous type of skin cancer?

PLEASE CONTINUE THE SURVEY ON THE BACK OF THIS PAGE.

50. What is the most common type of skin cancer?

Finally, we would like to ask for information about yourself:

51. How would you describe yourself (please circle one)?
    a. almost always sunburn and never tan.
    b. burn easily and it is hard for me to tan.
    c. burn sometimes but always get a tan afterwards.
    d. never get a sunburn and always tan easily.

52. How old are you: _____ (years)

53. In general, is your health excellent, good, fair, or poor (circle one)?

54. Have you ever had any type of cancer? [If yes,] What kind?

55. How long has it been since you last saw a medical doctor or other health care provider about your health?

What was the reason for that visit?

56. Do you have health insurance?

57. How long have you been a cotton scout?

58. In what county are you an cotton scout?

If you would like to receive the results of this study, please provide your name and address below.

Name: _____

Address: _____

_____

Do you have any final comments or information you would like to give or request? THANK YOU VERY MUCH FOR YOUR PARTICIPATION.