

the school year. Control schools received no intervention. A select number of students who completed the treatment are participating in farm safety audits to observe the students' work habits (results forthcoming).

Results: Of the full sample, 861 reported working on farms. Of these, 74% were male and 76% were in the ninth or tenth grade. Only 53% had ever driven a ROPS equipped tractor, 4.9% had overturned a tractor, and 42% had used PTO powered equipment with missing or damaged shields. 72% worked in dusty environments; 85% in noisy surroundings. There were significant differences ( $p < .05$ ) in safety attitude and safety behaviors between the treatment group and control groups. There were no significant differences between order of treatment (narrative or physical) and control groups on the dependent variables.

Conclusions: Farm youth continue to be at risk for serious injury. Adolescents' safety attitudes and behaviors can be influenced by an interactive school curriculum that requires little class time. Formal evaluation of the curriculum needs to be conducted to assess the real utility of this project in the classroom.

**CI.4 Health Professional Education to Promote Use of Childhood Agricultural Injury Prevention Guidelines**—Shutske JM, Schermann M

A one-hour educational module was developed in cooperation with the National Children's Center for Rural and Agricultural Health and Safety. This module was designed to educate parents, other care providers, and health professionals about the appropriate use and application of the North American Guidelines for Children's Agricultural Tasks. Initial pilot surveys of a small group of central Minnesota workshop participants ( $n=12$ ) early in the year 2000 showed a significant change before and after the workshop in attitudes related to the age at which participants believed it was appropriate for children in their county to perform five different farm tasks. These tasks were: operating a tractor and towed tillage implement ( $p=.003$ ); hitching a towed implement to a tractor ( $p=.002$ ); operating a combine ( $p=.006$ ); feeding milk to calves ( $p=.007$ ); and operating a PTO-driven stationary machine ( $p=.008$ ). The mean increase in appropriate age, according to participants before and after the workshop, ranged from +1.46 to +2.30 years for the various tasks. Additional results will be reported that will include a larger group of health professionals from Minnesota, Wisconsin, North Dakota, South Dakota, and Iowa. In addition, a continuing education credit-bearing website for nurses is being developed and will be summarized.

**CI.5 National Children's Center for Rural and Agricultural Health and Safety**—Lee BC

In 1997 the National Children's Center for Rural and Agricultural Health and Safety was formally established with

a mission to enhance the health and safety of all children exposed to hazards associated with agricultural work and rural environments. The Center is based at the Marshfield Clinic, Marshfield, WI, one of the largest rural healthcare facilities in the U.S. with over 550 physicians. Funding is provided by the National Institute for Occupational Safety and Health (NIOSH), federal Maternal and Child Health Bureau, Marshfield Clinic, and private donations. Staff members have advanced training in injury prevention, health promotion, agricultural safety, and related topics. The team works in cooperation with nine formal collaborating agencies that enable the Center and collaborators to maximize their capacity to address complex issues related to children and agricultural injury prevention. A 23-member external Steering Committee guides the Center's program planning. The Center's work is based on objectives and recommendations of the 1996 National Action Plan for Childhood Agricultural Injury Prevention.

Major activities of the Center include: a) provide technical assistance for childhood agricultural injury prevention programs; b) convene consensus development sessions to address controversial issues; c) enhance communications between researchers, safety specialists, and the farming community; and d) provide professional training, including an annual Rural Youth Safety Summer Seminar. A recent accomplishment was the development and dissemination of the North American Guidelines for Children's Agricultural Tasks. Currently, a major initiative is underway to address the occupational health and safety needs of migrant farmworker youth.

The Center's primary audience is professionals involved in agricultural safety and health. An Internet site provides ready access to injury facts, prevention program tactics, and links to relevant web-sites for rapid referrals. A toll-free phone line (888-924-7233) provides opportunities to access staff for in-depth technical assistance inquiries.

**Session: C2.0**

**Title: Prevention of Deaths and Injuries Among Fire Fighters**

Category: Special Session

Organized by the NIOSH Fire Fighter Fatality Investigation and Prevention Program

Moderator(s): Richard Braddee

**C2.1 Firefighter Fatality Statistics for 1999**—Fahy RF

Since 1977, the National Fire Protection Association (NFPA) has collected data annually on all on-duty firefighter fatalities in the U.S. This presentation will provide an overview of fatalities over the past 23 years, focusing on the deaths in 1999. Topics to be covered include the types of duty during which the fatalities occurred, the cause and nature of the fatal injuries, the ages of the victims, and details on fireground fatalities.



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## ABSTRACTS

**National Occupational  
Injury Research Symposium**

**CDC**  
CENTERS FOR DISEASE CONTROL  
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*National Institute for  
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