

Agricultural Safety and Health in a New Century

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Background *The National Institute of Occupational Safety and Health Agricultural Centers periodically convene center scientists and educators working on NIOSH sponsored projects and other persons with expertise in agricultural safety and health.*

Methods *Selected papers from the most recent conference in April, 2000, are presented. They focus on ergonomic factors, hazards to the health and safety of migrant workers and educational efforts in this population, injuries to children, the environmental hazards of discarded agrichemicals, the difficulty of assessing worker exposure, non-Hodgkin's lymphoma in Canadian farmers, prioritization of health and safety issues and the economics of roll-over protective structures.*

Conclusions *The diversity and severity of the challenges in agriculture both on small farms and in agribusiness are enormous. It is hoped that these papers will assist professionals at all levels in addressing these complex problems.* Am. J. Ind. Med. Suppl. 2: 1–2, 2002. © 2002 Wiley-Liss, Inc.

KEY WORDS: *agricultural safety and health; pesticide exposure; migrant workers; children; non-Hodgkin's lymphoma*

The men, women, and families who are the backbone of American agriculture as well as thousands of migrant workers contribute substantially to the productivity, strength, and stability of our nation. This agricultural workforce represents only a small segment of our society, yet they have a disproportionate share of the injury and disease from occupational sources. Agriculture consistently ranks as one of the most hazardous industries. Acute traumatic injuries and death are among the most significant occupational hazards in agriculture and accidents involving the farm tractor are the largest source of fatal traumatic injury. Those who work in agriculture are also at increased occupational risk for morbidity from musculoskeletal disorders, certain cancers, hearing loss, dermatological conditions, reproductive disorders, infectious diseases, stress-related mental disorders, and respiratory disease. The National Institute for Occupational Safety and Health (NIOSH), part of the Centers for Disease Control

and Prevention, has a strong commitment to agricultural safety and health. Through a 1990 Congressional initiative (Public Law 101-517), NIOSH developed a national program to address these pressing agricultural health and safety problems. Through this program, ten NIOSH Agricultural Centers are currently funded to conduct research, education, and prevention programs targeting agricultural health and safety problems.

The NIOSH Agricultural Centers periodically hold joint conferences for center scientists and educators, for others working on NIOSH-sponsored agricultural projects and for other persons with interest or expertise in agricultural health and safety. This supplement contains a few of the papers presented at the most recent meeting held at Cooperstown, NY, in April of 2000. Over 160 scientists, educators, and health professionals participated. They came from North America, Australia, Europe, and Africa. This included staff from each of the NIOSH-designated Agricultural Centers, from the National Children's Center at Marshfield, WI, from NIOSH, from the Centre for Agricultural Medicine, University of Saskatchewan, from the Australian Centre for Agricultural Health and Safety, and from a number of land grant and other universities.

The conference featured special sessions on economic and policy interventions, education, childhood injuries,

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tractor-related injuries, women in agriculture, engineering and design, ergonomics, respiratory problems, and special populations. There were a total of 150 papers presented. Among the most prominent topics were: prevention efforts, education, epidemiology, respiratory disease in farming, ergonomics, gender issues, mental health, farm worker health, policy interventions, and toxicology.

This supplement to the *American Journal of Industrial Medicine* presents only a few selected papers. However, it does provide a flavor of the diversity of the topics discussed. Issues of ergonomic factors affecting both orchard workers and fishermen are described by Fulmer and co-workers. Dr. Vela Acosta describes hazards to the health and safety of migrant farm workers, while Dr. Elkind et al. introduce a novel educational approach to this population of workers. Information on injuries to children—another high-risk group in agriculture—is provided by Mason et al. Agrichemicals, particularly pesticides, represent a major problem area in agriculture. Slingerland addresses the environmental hazard of large collections of unwanted agrichemicals, while Oliviera and co-workers describe difficulties in assessing individual worker exposures. The relation of these compounds and other risk factors for non-Hodgkin's lymphoma in farmers is explored by McDuffie and colleagues from Saskatchewan. Finally, an approach to the prioritization of health and safety challenges in agricultural populations is described by Dr. Fenske. These papers are original and all have been peer-reviewed. The sole exception to this is the paper by Dr. Pana-Cryan and colleagues reviewing the economics of roll-over protective structures on farm tractors.

As noted in their introduction, this paper with some minor changes summarizes work previously described in a series of papers published in the *Journal of Agricultural Safety and Health*. Because this supplement enables us to reach a much broader audience and because roll-over protective structures are a key solution to the leading cause of occupational fatality in agriculture, it was decided that inclusion of this summary paper was appropriate and desirable.

It is our hope that in reviewing these papers, researchers, health professionals, and engineers with an interest in occupational safety and health will recognize the remarkable diversity and severity of the challenges in agriculture—one of our nation's largest and most important industries. We also hope these papers will be of assistance in addressing and preventing some of the complex health and safety problems experienced by those who work in agriculture.

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