



AgConnections

AGRICULTURAL SAFETY AND HEALTH

Vol. 3, No. 1

NIOSH Agricultural Research Centers Update for Spring, 2005

Interventions to Reduce Safety and Health Hazards in Agriculture

What is R2P?

by DeLon R. Hull & Janice Huy
NIOSH Research & Technology
Transfer

In 2004, John Howard, MD, NIOSH Director, launched the NIOSH Research to Practice (r2p) initiative, and since then some NIOSH partners have wondered, "What exactly is r2p and how does it relate to occupational research?" "Research to practice" is exactly what it suggests: ensuring that research findings and products make their way into the workplace to positively impact worker safety and health. The two essential components of r2p are (1) partner involvement throughout the research process, and (2) conducting the highest priority research.

r2p starts before research projects are begun – during needs assessment. To assure that the research project's results will be relevant and useful, early involvement of stakeholders is critical to establish both the need for the project as well as appropriate study design. In an

continued on page 3

The goal of occupational safety and health intervention research is to prevent disease and injury by developing and evaluating techniques such as control technologies, exposure guidelines and regulations, worker participation programs, and training. These techniques have been applied in agriculture—with varying degrees of success—to prevent disease and injury.

Since the Agricultural Health and Safety Centers were first created by the National Institute for Occupational Safety and Health (NIOSH) in the early 1990s, a variety of intervention efforts have been conducted by these centers. As an example, it has been shown that rollover protection structures (ROPS) and seatbelts greatly reduce the number of fatalities associated with tractor overturns. Legislation requiring ROPS or ROPS-equivalent cabs on tractors has dramatically reduced the number of overturn fatalities in other countries, but it has been argued, rather strongly, that legislation cannot be used to solve this problem in the United States. The Ag Centers are currently working on an initiative which will evaluate interventions, including incentive programs and social marketing campaigns, to increase the proportion of active tractors with ROPS.

The Great Plains Center for Agricultural Health (GPCAH) and its partners at the University of Iowa have conducted many prevention and intervention projects. For example, dust exposures encountered in animal production are known to cause respiratory disease. Spraying vegetable oil in swine confinement facilities significantly reduces dust levels, but use of this technique has not become widespread because it is difficult to clean the oily mess left behind. Increased ventilation also reduces dust levels, but substantially increases heating costs. We recently found that a marketed electrostatic precipitation system failed to

reduce dust levels in swine buildings. Therefore, efforts to reduce dust levels and prevent respiratory disease in these environments continue.

Within the past decade we established the Agrisafe Network of agricultural occupational health clinics in Iowa, and developed the Certified Safe Farm program. The Certified Safe Farm (CSF) program works to reduce farm-related injuries and illnesses and pass along associated cost savings to farmers, insurers, and agribusinesses. To become certified, farmers complete an occupational health clinical screening, safety education tailored to their farming situation, and an on-farm safety review—they must pass the review to become certified. Maintaining their certification requires participation in periodic health screenings, education, and safety reviews. To date, over 250 farmers have taken part in this project and recruitment is underway to expand the program to cover 600 farmers.

As a part of the Certified Safe Farm program, we are conducting an intervention study focused on dairy farmers, in collaboration with the National Education Center for Agricultural Safety (NECAS) in Peosta, Iowa. We were able to provide respiratory and hearing protection to every farm, 188 slow moving vehicle (SMV) emblems, and 18 fire extinguishers. In addition, ten tractors from seven farms were retrofitted with Rollover Protective Structures (ROPS) and seatbelts. Through these efforts, all farms were able to pass the farm safety review.

NIOSH has a new initiative entitled Research to Practice (r2p) which is focused on the transfer of research findings to prevention practices and products into the workplace. The Ag Centers are partners with NIOSH in transferring the lessons they have learned to improving the health and safety of our nation's agricultural workers.



Wayne T. Sanderson, Ph.D., CIH
Director, Great Plains Center



Using Mandated Pesticide Training Programs for Skin Cancer Intervention Strategies for Agricultural Workers

Dee Jepsen and Benita Jackson
The Great Lakes Center

Agriculture relies on sunny days for growing and harvesting crops, raising healthy livestock, and providing adequate work conditions. However, the sun may be the biggest health hazard farmers face.

Besides the enormous amount of time farmers spend in the sun, other risk factors contribute to the likelihood they will develop skin cancer. These include the time of day they are in the sun, their limited use of protective clothing, their unwillingness to wear sun screen, and their reluctance to wear a wide-brimmed hat.

Putting prevention research into practice, an educational program was developed for farmers attending Ohio's Pesticide Applicators Training (PAT) Programs. By law farmers are required to attend a recertification program every three years to maintain their restricted-use pesticide license. The skin cancer program was offered as a portion of the core training.

Using a multifaceted approach to affect behavior change, the program created awareness of skin cancer and offered strategies to reduce sun exposure. A novel approach to the program included the participants' opportunity to view their face through a Dermascan™ (a UV detection unit). Participants were also given a free sun-safe hat for the up-coming planting season.

What did we learn?

Teaching skin cancer identification and prevention strategies during PAT was a natural fit to an existing program. Because of the federal requirements to attend PAT, agricultural workers were receptive to the additional training and liked receiving safety information during their already scheduled PAT program. Of course the free hats were a big hit, too!

Contact Information

For additional information about the Ohio sun safety program, contact Dee Jepsen (614-292-6008 or Jepsen.4@osu.edu).

Storytelling: Driving the Safety Message Home

Mark Lando
PNASH Center

Finding Common Ground, a collaborative project between the Pacific Northwest Agricultural Safety and Health Center and Center for Farm Health and Safety at Eastern Washington University compared two models for communicating farm safety messages to novice farmers.

Stories told in informal settings are the primary medium in intergenerational, full-time farm families. These reports of actual events involve real people and are told by real people in real time. They are

conversational and use humor, reflecting the stories' multiple purposes, such as bonding, joint recollection, and enjoyment.

In contrast, new farmers, who may lack ancestral ties to the land, work at farming part-time, or be employed by corporate farms, learn primarily from carefully written, formal narratives with the single purpose of accident prevention.

The project documented the appeal of both modes of discourse based on the responses of farmers with varying agricultural experience and knowledge. The study recommends designing a means to assess the efficacy of incorporating informal stories into formal intervention strategies and the direct formats of safety instruction. Such an intervention would combine the best of both forms of discourse and presumably offer the greatest chance of success.

Contact: Mark Lando, markl@mfw.org, (509) 328-2971, x 114

The Preventing Farm Injuries to Rural Youth Project

Henry P. Cole
Southeast Center

Preventing Farm Injuries to Rural Youth, an educational project conducted by the Southeast Center for Agricultural Health and Injury Prevention, engages students in four rural Kentucky counties to think critically about farm injuries and their prevention, specifically:

Who is at risk of farming-related injuries?

What are the costs of these injuries and who bears them?

Can these injuries be prevented and is it cost effective to do so?

Students answer these questions by running interactive "cost of injury" Excel worksheets that weigh the personal and social costs of

injuries against the cost of their prevention. This project targets youth age 16-19, a group at high risk of farming-related injuries, and introduces them to economic and public health concepts usually not encountered in high school. It also helps teachers integrate community-relevant and engaging public health and safety material into their social studies, economics, business, law and justice classes. Teachers and students alike are enthusiastic about the program and are contributing to its development.

Contact: Hank Cole at hcole@pop.uky.edu, (859) 323-5202.



KENTUCKY STUDENTS AND TEACHERS DEVELOPING COMPUTERIZED FARM SAFETY PROGRAM

Multimedia, Interactive Program on CD Teaches Pre-teens First Aid, Safety Skills

Ann Carruth, RN, DNS
Southwest Center

The First Aid Farm Quest CD is a multimedia, interactive educational program that teaches 5th and 6th graders emergency access and first aid skills, and reinforces farm-related safety principles. Games and activities are developmentally appropriate and reinforce content through interactive navigation within modules.

The Healthy Farm Families Initiative research project team at Southeastern Louisiana University collected data about women and children's agricultural injury risks in 657 telephone interviews in southeast Louisiana as part of the National Institute for Occupational Safety and Health (NIOSH) grant funded project. One exciting idea, derived from focus group sessions with youth and parents, was developing an interactive computer-base program that could be used in the classroom or at home.

The development process of the First Aid Farm Quest has been highly participatory, involving ongoing youth beta testing among youth groups, iterative evaluation of content by nurses, agricultural safety specialists, certified first aid instructors, education and health professionals, as well as the development of interactive activities, games, scoring, and navigation by video game programmers, and graphic art designers from three states.

Contact: Ann Carruth, accruth@sela.edu, (985)549-3379.

FIRST AID FARM QUEST CD



SKIN DISORDERS AMONG COMMERCIAL FISHERMEN

William A. Burke, MD and David Griffith, PhD

Commercial fishermen are known to be at high risk for skin disorders from several sources, including skin cancers, rashes, traumatic injuries, bites/stings and fungal and other infections. In order to address these issues, the research team with the Southern Coastal Center has attended a variety of commercial fishing shows, festivals, and blessings of the fleets in NC, MD, FL, and AL offering skin cancer screenings to commercial fishermen and developing educational materials about risks of skin disorders.

A total of 161 fishermen have been screened resulting in the identification of 24 skin cancers and 365 precancerous lesions. In addition, researchers found that between 35% and 40% of fishermen suffer from skin disorders, most commonly skin rashes, although this varies by state. North Carolina crabbers, for example, reported fewer disorders overall but more disorders requiring treatment. Despite obvious risks, under 50% of fishermen reported using sunscreen, with gloves, long pants, and sunglasses the most common protection. Fishermen are an under-insured population in need of information on early signs of cancers and other serious skin disorders. Contact: Dr. Griffith at griffithd@mail.ecu.edu, (252) 744-1000.

What is R2P?

continued from page 1

impressive example, the High Plains Intermountain Center for Agricultural Health and Safety worked closely with farm equipment manufacturers to develop drawings and test ROPS, making it possible to retrofit, based on accepted standards, some of the most popular pre-ROPS tractors in use in the United States.

Dr Howard has made a commitment that NIOSH-funded research will not only be conducted in a scientifically rigorous manner, but will also be useful and responsive to our stakeholders needs. To accomplish this, partners will be included throughout the entire research process – from project conception through program evaluation. In addition, NIOSH will be more pro-active in involving partners during the dissemination and transfer of the research findings to workers. Existing networks, such as trade and professional associations, labor unions, private industry, educational systems, and others - all with a stake in the subject area - are fundamental to ensuring that the research findings are put into practice in the workplace. NIOSH has a long history of working with the occupational safety and health community, and the r2p initiative supports and enhances these partnerships.

LOGGING IN VALUABLE RESOURCES

Intervention Strategies

<http://www.cdc.gov/niv/aboutdhap/perb/hdg/3deip.pdf>

The seven types of interventions which are addressed here include individual-level interventions, group-level interventions, outreach, etc.

Planned Approach to Community Health

<http://www.cdc.gov/nccdphp/patch/00binaries/00patch.pdf>

Information includes data use, partnering within and beyond the community, and appropriate levels of evaluation to plan effective interventions.

Logic Models Course

<http://www.uwex.edu/ces/lmcourse/#>

This on-line course teaches the basics of developing logic models for intervention programs.

Making Health Communication Programs Work

<http://cancer.gov/pinkbook>

This book (also called the Pink Book) was developed to guide communication program planning.

Engineering Interventions

<http://bae.engineering.uscavis.edu/professionals.htm>

Agricultural Research Center Initiative Centers funded as of October 1, 2001

Great Lakes Center for Agricultural Safety and Health

Ohio State University
 590 Woody Hays Drive
 Columbus, OH 43210
 (614) 292-9455

Center Director: Thomas Bean, EdD

Great Plains Center for Agricultural Health

100 Oakdale Campus, #124 IREH
 The University of Iowa
 Iowa City, IA 52242-5000
 (319) 335-4887

Center Director: Wayne Sanderson, PhD, CIH

High Plains Intermountain Center for Agricultural Health & Safety

154 B Environmental Health Bldg.
 Colorado State University
 Fort Collins, CO 80523-1681
 (970) 491-6151

Center Director: Steve Reynolds, PhD, CIH

National Children's Center for Rural & Agricultural Health & Safety

National Farm Medicine Center
 1000 North Oak Avenue
 Marshfield, WI 54449-5790
 800-662-6900

Center Director: Barbara C. Lee, PhD

Northeast Center for Agricultural Safety & Health

One Atwell Road
 Cooperstown, NY 13326
 (607) 547-6023

Center Director: John May, MD

Pacific Northwest Agricultural Safety & Health Center

Department of Environmental Occupational Health Sciences
 Box 357234
 University of Washington
 Seattle, WA 98195-1452, (206) 685-8962

Center Director: Richard Fenske, PhD, MPH

Southeast Center for Agricultural Health and Injury Prevention

Department of Preventive Medicine
 University of Kentucky
 1141 Red Mile Road, Suite 102
 Lexington, KY 40504-9842
 (859) 323-6836

Center Director: Robert McKnight, MPH, ScD

Southern Coastal Agromedicine Center

East Carolina University
 West Research Bldg., 1157 VOA Site C Road
 Greenville, NC 27858
 (252) 744-1000

Interim Center Director: John Sa bella, EdD

Southwest Center for Agricultural Health, Injury Prevention, & Education

The University of Texas Health Center at Tyler
 11937 U. S. Hwy. 271
 Tyler, TX 75708-3154
 (903) 877-5896

Center Director: Jeffrey L. Levin, MD, MSPH

Western Center for Agricultural Health & Safety

University of California
 One Shields Avenue
 Davis, CA 95616-8757
 (530) 752-4050-5253

Center Director: Marc Schenker, MD, MPH

NIOSH Program Officers

Program Administration: E. Lee Husting, PhD
 Sr. Scientist for Agriculture: Steve Olenchok, PhD
 Program Liaison Officers: Greg Kullman, PhD
 Teri Palermo, RN, MS

LATEST CATCH



"Kids on Farms: Telling the Story,"
a workshop for journalists
focusing on childhood agricultural
health and safety— June 10-11,
2005, at NYCAMH in
Cooperstown, NY.

Ten journalists representing print and electronic media will be selected from among applicants from across the nation. No fee will be charged, stipends will be provided.

Application Deadline - April 29.

Check the Web page for details.



National Children's Center
 for Rural and Agricultural Health and Safety



Funds for this newsletter provided to the Southwest Center for Agricultural Health, Injury Prevention and Education by the National Institute for Occupational Safety and Health (Contract # 000025170)

NON PROFIT ORG
 US POSTAGE
 PAID
 TYLER, TX
 PERMIT NO 1028

ADDRESS SERVICE REQUESTED
 Tyler, TX 75708-3154
 11937 US Highway 271
 The University of Texas Health Center at Tyler