

# farm families ALIVE & WELL

News from Iowa's Center for Agricultural Safety and Health (I-CASH) & the Great Plains Center for Agricultural Health

Vol. 9, Issue 4 - 2003



## Planting the Seeds of Research

The Great Plains Center for Agricultural Health (GPCAH) has its own ongoing program of research (described below as the “big picture”). In the past two years, it has also been able to fund what are called feasibility projects (because they test whether it is feasible to develop a research idea into a major study). This year researchers from Iowa and surrounding states submitted applications for feasibility “grants” from the GPCAH, and in March the Center announced the funding of 5 projects that involve an interesting variety of problems and populations.

Farming and musculoskeletal disorders (MSDs) are the focus of one project. While low back pain, carpal tunnel syndrome, and rotator cuff tendonitis are becoming familiar maladies around offices and factories, these and other MSDs have not been studied in a dairy farm environment. Through a questionnaire sent to nearly 1,000 dairy farmers, researchers plan to find out how prevalent MSD symptoms are and how they affect the farmers’ daily activities.

Two projects are concerned with aspects of agricultural environments considered toxic to humans. One research team is studying airborne contaminants such as fungal spores, animal dander, and gases in confined animal feeding operations (CAFOs). While it is known that these contaminants contribute to lung problems, their mixture in the air makes it hard to know which are most problematic. Researchers plan to study a particular combination—ammonia gas attached to corn dust particles—and the ways that environmental factors such as temperature and humidity affect the amount of gas on the particles in a typical CAFO.

How best to measure human exposure to contaminants is the central question of another project. That research team will compare how well the body’s response to inhaled dust in swine barns can be measured by a blood test versus other methods.

*(continued on page 3)*

## I’ve been impressed by the “big picture”

as I’ve been working on the progress report for the Great Plains Center for Agricultural Health (GPCAH) that we submit to our parent funding agency—the National Institute for Occupational Safety and Health (NIOSH). While I’ve been involved day to day in Center activities for the past year, it’s interesting to view the full array of our research into the health and safety problems of Midwestern farmers, families, and communities.

When it was founded in 1990, the Great Plains Center was one of the first two such federally funded research centers in the United States (the other was the Western Center at the University of California-Davis).



Wayne Sanderson  
PhD, CIH

Now there are 10 “Ag Centers” across the country studying the problems that affect their regions.

Early on, we made the cornerstone of our research the [Keokuk County Rural Health Study](#). That project has now been collecting information for over nine years on approximately 1000 families in this rural Iowa county. Study participants receive a variety of health examinations, along with surveys of their homes and farms. These methods of gathering data are designed to identify their risks for injury and disease, including injuries associated with farm machinery, respiratory diseases, stress and depression, and pesticide exposures. *(continued on page 2)*

**2003-2004 I-CASH Injury Prevention in Agricultural Youth Grant** money for 2003-2004 will total \$10,000 which is double last year's amount. Application materials will be available on the I-CASH web site at [www.public-health.uiowa.edu/icash](http://www.public-health.uiowa.edu/icash). Deadline for applications is January 15, 2004. For more information, contact Kay Mohling at 319/335-4219 or [kay-mohling@uiowa.edu](mailto:kay-mohling@uiowa.edu).

The I-CASH **Agricultural Occupational Health Training** was held May 14-16 and June 18-20, 2003. Forty-one health care professionals from Iowa, Wisconsin, Nebraska, and Canada were trained on topics including agricultural toxicology, biological hazards, zoonoses, agricultural skin diseases, agricultural trauma, respiratory issues, behavioral health, noise-induced hearing loss, PPE, skin cancer, and ergonomics. The course can be taken for 3 hours of graduate credit from the College of Public Health, and this year, UI Physician Assistant students were given the opportunity to complete Session 1 as a web-based course. Next year's training dates are **May 19-21 and June 9-11, 2004**. For more information contact Kay Mohling at 319/335-4219 or [kay-mohling@uiowa.edu](mailto:kay-mohling@uiowa.edu).

The culmination of two years' work by agricultural safety specialists from across the country has resulted in the recently released report, ***The National Agenda for Action: National Land Grant Research and Extension Agenda for Agricultural Safety and Health***. The report outlines 12 key areas where land grant institutions and agricultural experiment stations should focus future safety research. It was created by the NCR-197 Committee on Agricultural Safety and Health Research and Extension. The group's members come from 18 land grant institutions, the United States Department of Agriculture (USDA), and the National Institute for Occupational Safety and Health (NIOSH). The NCR committee that produced this report was chaired by Charles Schwab, Iowa State University Extension. The entire report may be found at [www.tmvc.iastate.edu/NCR197](http://www.tmvc.iastate.edu/NCR197).

I-CASH staff worked at the University of Iowa booth at the **Iowa State Fair** on August 11, 2003. A narrated PowerPoint presentation describing I-CASH activities was featured along with "The Wheel of Misfortune" game. Approximately 400 people visited the booth during the four hours that I-CASH was there.

The Keokuk County research has branched out through the years to include studies of childhood asthma, noise-induced hearing loss, and ways to promote fire safety. More recently, ergonomics research is investigating how farming activities can increase risks for developing musculoskeletal disorders.

The GPCAH also participates in collaborative projects. For example, we're comparing our methods for taking air samples around agricultural operations with those developed at the regional Ag Center in Fort Collins, Colorado. And University of Nebraska researchers have worked on a study of genetics that has found genes which predispose people to developing asthma.

Closer to home, GPCAH and Iowa's Center for Agricultural Safety and Health (I-CASH) have joined forces to expand the Certified Safe Farm program (designed to reduce injuries and illnesses) to help Iowa dairy farmers. That research was described last spring in "Alive & Well" (Vol.9, #2). Our goal is to demonstrate a reduction in farm-related injuries and illnesses that will allow farmers, insurers, and agribusinesses to realize financial benefits.

And finally, as the top story on the front page describes, we invest funds to promote the development of additional research. Farming remains one of the most dangerous occupations in the US. As new problems develop or we need new ways to deal with old ones, we will keep focusing our research on finding ways to help farmers and farm communities work safely and live healthy lives.

*Dr. Wayne Sanderson directs the Great Plains Center for Agricultural Health, which is housed in the Department of Occupational and Environmental Health of the UI College of Public Health.*



**Great Plains  
Center for  
Agricultural  
Health**

100 Oakdale Campus  
The University of Iowa  
Iowa City, IA 52242-5000

Farm Families  
Alive & Well  
Published 4/yr  
Kay Mohling,  
Del Bonney, Eds.  
319/335-4219  
fax-319/335-4225  
[kay-mohling@uiowa.edu](mailto:kay-mohling@uiowa.edu)



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[www.public-health.uiowa.edu/icash](http://www.public-health.uiowa.edu/icash)  
[www.public-health.uiowa.edu/GPCAH](http://www.public-health.uiowa.edu/GPCAH)

If you want to receive this newsletter through the US mail in hard copy, notify [meggan-harrington@uiowa.edu](mailto:meggan-harrington@uiowa.edu)

## Sharing the Road

One of the projects chosen to receive a 2002-2003 I-CASH Injury Prevention in Agricultural Youth Grant was AgriSafe of Spencer Hospital's "Sharing the Road with Farm Vehicles." The project was a collaboration between the Clay County school systems, ISU Extension and AgriSafe. According to Project Coordinator Maureen Christensen, the intent of the project was to educate new, young drivers about roadway dangers involving farm equipment. The long-term goal is to reduce the incidence of roadway accidents involving young drivers and agricultural vehicles by increasing the awareness of the potential dangers when these vehicles are encountered.

The program, presented to over 180 driver education students, used an interactive driving simulator to measure reaction times and involved an Iowa State Patrol trooper



An Iowa State Patrol trooper speaks to classes about roadway hazards involving farm equipment.

to discuss roadway hazards associated with farm equipment.

The results from pre- and post-tests showed an increase in students' knowledge of the hazards presented by farm vehicles on roadways.

Although the long-range goal of reducing roadway accidents involving young drivers cannot yet be measured, the project made an impact on the students and the program has already been requested for future classes.

See [www.public-health.uiowa.edu/icash](http://www.public-health.uiowa.edu/icash) for complete list of grant recipients, and information on the 2003-2004 I-CASH Injury Prevention in Agricultural Youth Grant.

**Youth Grant money available for 2003-2004 is \$10,000.**

## Planting the Seeds of Research *(continued from page 1)*

Human exposure, in this case to agrichemicals, is central to the fourth feasibility project. The researchers are planning a large study of an under-investigated concern: how exposure to agrichemicals may affect memory, concentration, coordination, mood, and sensory perception. In this feasibility phase they will contact subjects and evaluate the methods to be used for data collection.

Finally, a team in western Iowa and eastern Nebraska will identify the safety and health needs of a rapidly growing Hispanic population in that area, many of whom are working on farms and ranches. Interviewing these workers will help educators at Clarkson College in Omaha develop

programs for nursing and other health occupations, which will help prepare health professionals to serve this population as well as attract Hispanics into health careers.

Dr. Wayne Sanderson, director of the GPCAH, explained that the Center selected the 5 projects for their focus on agriculture, their research designs, and their likelihood to develop into major studies. "To use the appropriate metaphor," he said, "we want these 'seed' grants to produce more and better research into the safety and health concerns of farmers, farm workers, their families and communities."

See [www.public-health.uiowa.edu/gpcab/accomplish.html](http://www.public-health.uiowa.edu/gpcab/accomplish.html) for the descriptive title of each feasibility project.

## calendar

Sept 7-9

### Challenges in Agricultural Health & Safety

Holiday Inn Golden Gateway  
San Francisco, CA  
Sponsored by the Western Center for Agricultural Health & Safety and The Pacific Northwest Center for Agricultural Safety and Health  
530-752-5253

<http://agcenter.ucdavis.edu>

Sept 21-27

### National Farm Safety and Health Week

Oct 19-23

### Future of Rural Peoples: Rural Economy, Healthy People, Environment, Rural Communities

Delta Bessborough Hotel  
Saskatoon, Saskatchewan, Canada  
<http://iareh.usask.ca/symposium2003>

October 20-22

### BioSecurity 2003

Omni Shoreham Hotel  
Washington, D.C.

[www.biosecuritysummit.com](http://www.biosecuritysummit.com)

Nov 5-6

### Midwest Rural Agricultural Safety and Health Forum (see page 4)

Iowa Health System's Virginia Thompson Auditorium  
Des Moines, IA

[www.public-health.uiowa.edu/icash](http://www.public-health.uiowa.edu/icash)

Nov. 15-19

### American Public Health Association Meeting

San Francisco, CA

[www.apha.org/meetings/](http://www.apha.org/meetings/)

Dec 3-5

### Sixth National Environmental Public Health Conference: Preparing for the Environmental Public Health Challenges of the 21st Century

Hilton Atlanta Hotel  
Atlanta, GA

[www.cdc.gov/nceh/Information/ncehconf03.htm](http://www.cdc.gov/nceh/Information/ncehconf03.htm)

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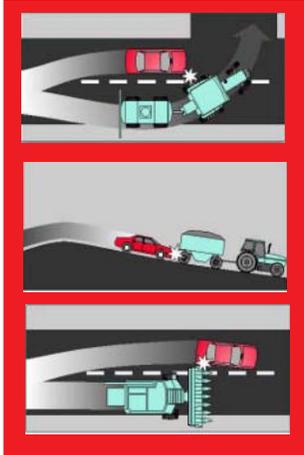
# Midwest Rural Agricultural Safety and Health Forum

The Midwest Forum, hosted by Iowa's Center for Agricultural Safety and Health and the Iowa Rural Health Association, will be held **November 5-6, 2003**, at Iowa Health System's Virginia Thompson auditorium, Des Moines, Iowa. The keynote speaker on Day 1 will be **Cornelia Butler-Flora**, Distinguished Professor of Sociology at Iowa State University, who will focus on the socio-economic risk factors in rural health as well as agriculture. The second day keynoter will be **Fred Kirschenmann**, Director of the Leopold Center at Iowa State University. Plenary subjects include Rural Health Care Services, Community Mental Health, Rural and Environmental Health.

For more information call Eileen Fisher at 319/335-4224, or check the I-CASH web site at [www.public-health.uiowa.edu/icash](http://www.public-health.uiowa.edu/icash).



## +++++It All Adds Up



### Harvest Season: Crunch Time?

**23,000+**

Crashes involving farm equipment each year in US\*

**140**

People killed in those crashes\*

2001: Fatal Crashes between Farm Equipment and Motor Vehicles (50% of US total)\*\*



### Motorists Be Aware:

- Watch for slow moving vehicles
- Be patient and courteous
- Reduce speed to see 10 seconds or 1/4 mile ahead
- Respect escort vehicles
- Slow down when you see the red/orange Slow Moving Vehicle emblem

### Farmers Prepare:

- Install/maintain lighting and marking
- Signal all turns
- Drive as close to right edge of road as possible
- Don't direct motorists behind you to pass
- Plan for escort vehicles

\* Delta Farm Press, Oct 2001

\*\* Fatality Analysis & Reporting System, 2001

THE UNIVERSITY OF IOWA  
UI College of Public Health  
Dept. of Occupational & Environmental Health  
100 Oakdale Campus  
Iowa City, IA 52242-5000



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