

Farm families ALIVE & WELL



Great
Plains
Center for
Agricultural
Health

News from The Great Plains Center for Agricultural Health

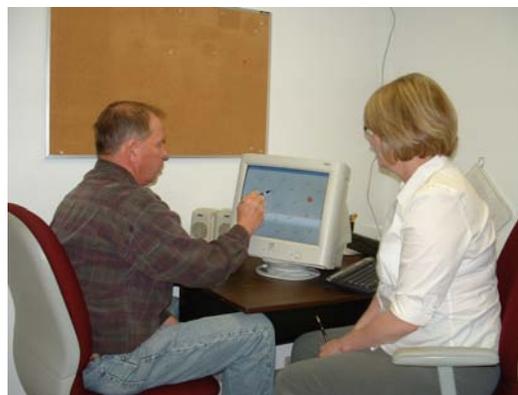
Vol. 14, Issue 2 - March 2008

Neurobehavioral Health of Farm Families

by Wayne T. Sanderson, PhD, CIH

Farm work often involves use of chemicals, such as pesticides, fertilizers, fuels, and solvents, which may be toxic to the nervous system. Exposure to high levels of these chemicals is known to cause acute neurological toxicity (such as loss of balance, memory loss, inability to perform simple mental tasks, nausea, and dizziness), but the effects of long-term, low levels of exposure are less well known. To study the effects of exposure to these chemicals, we have incorporated neurological testing into the third round of the Keokuk County Rural Health Study (KCRHS). This part of the study is being led by Dr. Fred Gerr of the Occupational and Environmental Health Department in The University of Iowa College of Public Health.

Study participants are asked about their historical use of pesticides (especially organophosphate and carbamate pesticides, organochlorine pesticides, fumigants, and chlorophenoxy herbicides which are



Study participant taking the computer-assisted neurobehavioral examination.

known to be neurotoxins) fuels, and cleaning and degreasing solvents. We also ask about the duration, frequency, and intensity of exposure to these chemicals as well as the use of protective measures such as gloves, respirators, aprons, or coveralls. Total exposure and relative intensity of exposure are estimated using

continued on page 2

NORA - National Occupational Research Agenda

by Murray D. Madsen, GPCAH Associate Director

The National Institute for Occupational Safety and Health's National Occupational Research Agenda (NORA) is a framework document to help stimulate research, facilitate collaboration, and channel resources to address the most critical problems of worker safety and health for our nation. Unlike the first generation of NORA unveiled in 1996, which focused on *topics* (such as hearing loss and respiratory disease), the next generation NORA is structured by *industry sector*.

"Agriculture, forestry, fishing, and hunting" is one of the eight sectors. Each sector is guided by a Sector Council and shared issues are addressed by a cross-sector council. This *sector-based approach* acknowledges the uniqueness of workplaces. It challenges stakeholders in each sector to identify and prioritize efforts, develop strategies and partnerships, set realistic

and measurable goals, and drive improvements in safety and health for workers in their sector.

The next edition of the new NORA, **including the latest iteration for the agriculture sector**, is scheduled to be posted for public comment soon. Visit the NIOSH website at www.cdc.gov/niosh/nora/comment/public to submit your comments and suggestions.

The *NORA Symposium 2008: Public Market for Ideas and Partnerships* will advance the emerging sector-based action plans by encouraging discussions and partnerships among researchers and occupational health professionals in all types of organizations. A virtual conference will be held for those who cannot attend the Symposium in person on July 29th in Denver.

Murray Madsen is the Associate Director of the Great Plains Center for Agricultural Health. He can be reached at 319/335-4481 (murray-madsen@uiowa.edu)



The Agricultural Occupational Health Training to be held June 9-13, 2008 in Iowa City, Iowa. Nurses, physicians, nurse practitioners, physician assistants, and other interested health care providers are invited to participate. The Training provides information and skills to enable the health care professional to function in the anticipation, diagnosis, treatment, and prevention of occupational illnesses and injuries in the farm community. The course may be taken for three graduate credit hours from the University of Iowa College of Public Health, and continuing education credits for physicians and nurses are offered. The training brochure is available on the I-CASH website at www.public-health.uiowa.edu/icash. Contact Kay Mohling at 319/335-4219 or kay-mohling@uiowa.edu for more information.

Farm Safety 4 Just Kid's Spokesperson and Founding President, **Marilyn Adams, has been named one of the top three winning heroes in the 6th Annual Volvo for Life Awards.** Adams is being recognized in the program's Safety category and will receive a \$100,000 contribution at the awards ceremony in New York City on March 19, 2008. During the ceremony one overall Grand Award winner will also be named "America's Greatest Hometown Hero" and will be presented with a new Volvo every three years for the rest of his or her life. The Volvo for Life Awards, launched in 2002, is the largest-ever national celebration of everyday heroes in the categories of Safety, Quality of Life, and Environment.

The AgriSafe Network, partnering with the GPCAH, is offering a series of presentations using the web-based Elluminate program. Upcoming AgriSafe Elluminate Sessions include: **AgrAbility-Farming or Ranching with a Disability**, April 30th, presenters are Taylor McLean and Mary Beck, National AgrAbility Project; **Risk Management in the Agricultural Workplace**, May 14th, presenter is Bruce Johnson, Farm and Ranch Safety and Health Administration, British Columbia, Canada. To learn more about these programs e-mail Stacey at sjenkins@agrisafe.org or visit www.AgrISafe.org

Abstracts are being accepted for the **Sixth International Symposium: Public Health & the Agricultural Rural Ecosystem.** Submission procedures are available at <http://pharesymposium2008.usask.ca/abstracts>. The deadline is April 2, 2008.



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this information. The neurological function of people exposed to these materials is compared to that of unexposed people.

Participants in the KCRHS study 12 years of age and older are invited to take a battery of neuropsychological and neurological tests. The tests assess function of both the central nervous system (brain and spinal cord) and the peripheral nervous system (all nerves outside the central nervous system that serve the limbs and organs). Participants grip a dynamometer as hard as they are able to assess neuromuscular strength. Computer-assisted neuropsychological tests are administered to evaluate a wide range of central nervous system functions. The tests assess motor speed and coordination, perceptual-motor speed, general verbal intellectual ability, conceptual tracking, immediate and delayed memory, sustained attention, and mood. As an example, participants are shown a shape on the computer screen and then asked to find that shape among an array of other shapes as quickly as they can. They are also given a list of words and then asked to repeat as many of those words as they can recall.

These simple tests have been used in epidemiological studies of persons occupationally exposed to nervous system toxins and they have been shown to be sensitive measures of neurological impairment. This work in the KCRHS is one of the first studies to evaluate the general neurological health of rural residents and investigate whether impairments are related to agricultural exposures.

Dr. Wayne Sanderson directs the Great Plains Center for Agricultural Health, housed in the Department of Occupational and Environmental Health of the College of Public Health. He can be reached at 319/335-4207 (wayne-sanderson@uiowa.edu).

Online Safety Courses for Grape Growing and Wine Making Industry

by Dan Neenan, Manager, NECAS

The National Education Center for Agricultural Safety (NECAS) in partnership with Northeast Iowa Community College (NICC) has developed and will be offering two safety courses for the grape growing and wine making industries. These courses will be delivered in an online format



Photo courtesy of NECAS

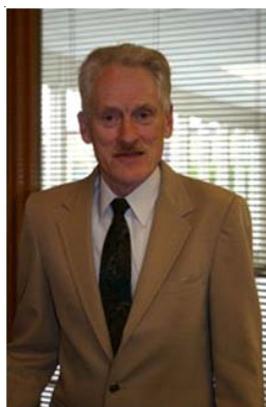
within NICC's Associate in Applied Science, diploma, and certificate programs. The safety courses are being developed as part of NICC's partnership with the Viticulture and Enology Science and Technology Alliance (VESTA). Other colleges in the VESTA consortium include Missouri State University (West Plains, MO), Rend Lake Community College (Ina, IL), and Redlands Community College (El Reno, OK).

Viticulture Safety is a one credit course addressing issues related to vineyard safety. The course will cover topics such as machinery safety, pesticide application, and personal protective equipment. Enology Safety is a two credit course addressing issues related to winery safety. The course will cover topics including fall protection, confined space, and ergonomics. Both courses will be available Fall semester 2008.

For course information contact Dan Neenan 888/844-6322 or neenan@nicc.edu. The VESTA website is <http://vesta-usa.org>.

Gunderson Presents at Seminar

Dr. Paul Gunderson engaged students and faculty with his presentation including observations and future directions for agricultural safety and health during the Occupational and Environmental Health Seminar on February 26th. The archived Elluminate session is available at <http://globalcampus.uiowa.edu>. Click on "recordings" and "calendar" for February 26, 2008. The program name is "OEH Seminar - Dr. Paul Gunderson, NAS Review of NIOSH Ag S and H."



Dr. Paul Gunderson, PhD

Dr. Gunderson chaired the panel that recently completed its comprehensive review of NIOSH's internal and external agricultural safety and health programs over the past 15-plus years.

His career exploring the health impact of human activity in agricultural work settings began in 1976 with research work in poultry barns. He is the past director of the National Farm Medicine Center and the Marshfield Medical Research and Education Foundation. He is also a current member of the External Advisory Committee to the Great Plains Center for Agricultural Health.

Visit www.cdc.gov/niosh/nas/AgForFish/review.html for additional information about the National Academy of Sciences (NAS) review.

calendar

March 27-28

10th Annual Occupational Health Symposium: The Business of Occupational Health & Safety
Iowa City, IA

www.public-health.uiowa.edu/heartland/ce/courses.asp

April 1-2

2008 Iowa Public Health Conference: Prevent, Promote, Protect
Ames, IA

www.iowapublichealthconference.com

April 10

I-CASH Spring Meeting
Des Moines, IA

www.public-health.uiowa.edu/icash

May 31-June 5

American Industrial Hygiene Conference & Expo 2008

Minneapolis, MN

www.aiha.org

June 9-13

Agricultural Occupational Health Training

Iowa City, IA

www.public-health.uiowa.edu/icash

June 22-26

National Institute for Farm Safety Annual Conference (NIFS)

Lancaster, PA

www.ag.ohio-state.edu/~agsafety/NIFS/nifs.htm

June 29-July 2

2008 ASABE Annual International Meeting

Providence, RI

www.asabe.org/meetings/aim2008/index.htm

July 29

NORA Symposium 2008 - Public Market for Ideas and Partnerships

Denver, CO

www.cdc.gov/niosh/nora

October 19-23

The 6th International Symposium Public Health & the Agricultural Rural Ecosystem

Saskatoon, SK

<http://pharesymposium2008.usask.ca>

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+++++It All Adds Up

**Agriculture (AFFH*) and Total Work Deaths
Upper Midwest Region**

		IA	IL	KS	MN	MO	ND	NE	SD	WI
2003	AFFH*	33	15	13	19	34	10	15	13	30
	TOTAL	76	200	78	72	154	26	51	28	103
2004	AFFH	27	32	23	19	46	13	14	7	20
	TOTAL	82	208	80	80	165	24	46	24	94
2005	AFFH	41	32	15	22	43	11	15	12	30
	TOTAL	90	194	81	87	185	22	36	31	125
**2006	AFFH	16	18	9	23	31	15	21	17	22
	TOTAL	71	207	85	78	166	31	57	37	91
Work Deaths 2003-2006		319	809	324	317	670	103	190	120	413
% AFFH		37%	12%	18%	26%	23%	48%	34%	41%	25%

*Agriculture, Forestry, Fishing, and Hunting sector per North American Industry Classification System, 2002 ed.
Information compiled from Department of Labor, Bureau of Labor Statistics, Census of Fatal Occupational Injuries (BLS CFOI) at www.bls.gov/iif/oshstate.htm.

**All 2006 BLS CFOI data is preliminary.

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