

Agricultural Medicine Training

Iowa's Center for Agricultural Safety and Health initiated an educational outreach program in agricultural medicine in 1988. The growth of this program was advanced with funding from the Great Plains Center for Agricultural Health Building Capacity Project. The project aims to establish capacity in other regions to train health providers in agricultural medicine, and to establish new AgriSafe providers and clinics.

Agricultural Medicine: Occupational and Environmental Health for Rural Health Professionals was held June 13-17 in Iowa City, IA. Thirty-nine health care professionals from Arizona, Colorado, Georgia, Illinois, Iowa, Kentucky, Maryland, North Carolina, South Dakota, Virginia, Washington, DC, Serbia, and Turkey attended the training. In addition to the didactic training, the participants toured Amana Farms, followed by a barbecue dinner at the farm.

Nebraska, North Dakota, Vermont and Wisconsin will also host Agricultural Medicine trainings in 2011, visit www.public-health.uiowa.edu/ICASH/education/agmedtraining.html for details or contact Kay Mohling at 319/335-4219, (kay-mohling@uiowa.edu) for training information.



Shine Some Light on the “Black Box” of Pesticides

by Kelley Donham, MS, DVM, DACVPM

As Director of Iowa's Center for Agricultural Safety and Health, I receive many calls about pesticide exposure. The substance of these calls tells me there is a lack of understanding on the relative toxicity of pesticides, how and when they are applied, and the resulting health and environmental hazards. For many people the perception of pesticides resembles a big black box of serious health hazards, which leads to fear rather than a rational understanding of risk. In this article I will try to open that black box a bit to shine some light toward a more rational understanding of risk assessment. Understanding the relative toxicity of the chemicals used, and when and how they are applied, is an important step to understanding risk and risk communication. Spring and summer seasons are high use times for pesticides by Midwest corn and soybean growers. The following cases help illustrate how a basic understanding can help health professionals and laypersons to understand the risk.

On a warm, still evening in mid-July, a plane flew over an Iowa corn field, dropped low and emitted a fine spray from the nozzles under its wings. Neighbors got nervous, and calls started coming in to my office. People thought they were being poisoned. The fact is this crop duster was applying a fungicide. This was not an acutely toxic exposure, which would be apparent if the proper risk communication had been accomplished.

A second scenario involved a young man who was applying anhydrous ammonia. The hitch pin broke, the nurse tank separated, breaking the delivery hose and the young man was exposed to anhydrous. An ambulance took him to the local hospital, where he could not be treated until he was hosed down in the parking lot (56° F on an early spring day). The health providers did not distinguish this exposure (essentially nonhazardous to them) from an acutely toxic insecticide.

Due to a lack of understanding by the general public and health professionals alike, these types of scenarios are happening more frequently. Although there are pesticides that are acutely toxic, there are



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The Iowa Department of Agriculture and Land Stewardship (IDALS) hosted the **I-CASH Spring Meeting** in April at the Wallace State Office Building in Des Moines, IA. Chuck Gipp, Director of the Division of Soil Conservation welcomed the I-CASH Board of Directors, Advisory Council Members, and staff with a description of IDALS. Did you know that just over 50% of IDALS employees work in soil and water conservation? Field services are housed with the 100 USDA service centers. The Mines and Minerals Bureau is also housed at IDALS and recently received an award for their work to stop erosion and action to capture acidic water in Marion, Mahaska, and Wapello counties. The State Veterinarian, Assistant State Veterinarian, Pesticide Bureau Chief, State Entomologist, Soil Conservation Field Services Bureau Chief, and Mines and Minerals Bureau Chief joined us for lunch and shared the activities of their divisions. I-CASH Committees also met to develop action plans for the coming year.



Chuck Gipp, Director,
Division of Soil Conservation

I-CASH has awarded funds to eight ATV safety projects for 2011 through its **Agricultural Youth Injury Prevention Grant** program aimed at decreasing the risk of illness and injury to young people living on Iowa farms or involved in production agriculture. Since its inception in 1990 I-CASH has designated funds each year for communities to develop farm injury prevention and education programs for Iowa youth. I-CASH is pleased to announce the following recipients for 2011: Town & Country Farm Safety 4 Just Kids, Grant 4-H, The National Education Center for Agricultural Safety, Calhoun County Public Health, East Pottawattamie County 4-H, Dike-New Hartford Junior High School, Manchester Chamber of Commerce, and Clarke County Extension.

Faculty Position in Agricultural Health & Safety

Department of Occupational and Environmental Health

The University of Iowa College of Public Health

The University of Iowa, College of Public Health invites applications for a tenure-track faculty position (Assistant or Associate Professor) in Agricultural Health & Safety.

Department of Occupational and Environmental Health

The Department of Occupational and Environmental Health serves an important role in education, research, and outreach in the State of Iowa and the nation. The Department offers a rich environment for collaborative activities.

The Position

Applications will be considered at the level of Assistant Professor or Associate Professor. The successful applicant at either rank will be expected to teach graduate-level courses and direct graduate thesis research; develop an extramurally funded research program; and contribute to the design, implementation and evaluation of outreach and education programs.

Qualifications

Applicants should have a doctoral degree (e.g. PhD, DVM, MD) in a relevant science or engineering field as well as experience in agricultural safety and health. They should clearly demonstrate potential to develop and lead a nationally prominent, externally funded research program. Applicants should have publications in the peer-reviewed literature and demonstrated teaching ability. In addition, applicants should have an academic focus compatible with the programmatic interests of the Department of Occupational and Environmental Health. Desired qualifications include experience in the design, implementation, and evaluation of rural and agricultural health and safety programs; and demonstrated knowledge of agricultural production practices.

To Apply

To apply for this position, please visit <http://jobs.uiowa.edu>, requisition #59395, where you will be asked to submit a curriculum vitae, a statement of research interests, and the names of three professional references. Please address inquiries and nominations to the search committee assistant, Ms. Brenda Schropp, at Brenda-schropp@uiowa.edu, or call (319) 335-4414. You can visit our website at <http://cph.uiowa.edu/oeh/>.

The Department of Occupational and Environmental Health is committed to increasing the diversity of our faculty. The University of Iowa is an Equal Opportunity and Affirmative Action Employer. We strongly encourage women and minorities to apply.



The University of Iowa • Iowa State University
Iowa Department of Agriculture and Land Stewardship
Iowa Department of Public Health • Non-profits for Farm Health

www.public-health.uiowa.edu/icash

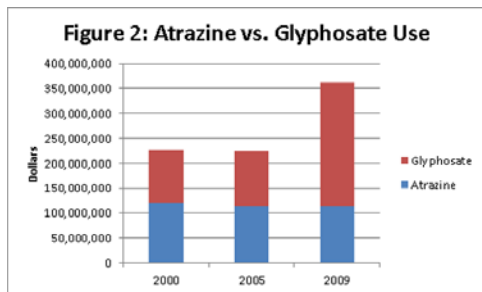
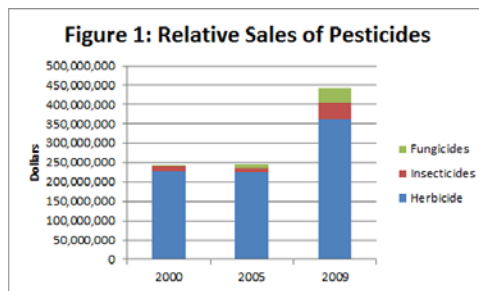
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fewer acute pesticide poisonings since the EPA introduced regulations that resulted in less toxic products and formulations, and safer methods of application.

The Iowa Department of Agriculture and Land Stewardship monitors pesticide sales in Iowa.

Figure 1 indicates the relative sales (in dollars) of pesticides in the years 2000, 2005, and 2009. Herbicides (chemicals that kill weeds) and fungicides are not very acutely toxic to mammals, while some insecticides are acutely toxic. Figure 1 shows that most of the chemicals being applied today are not acutely toxic to mammals.

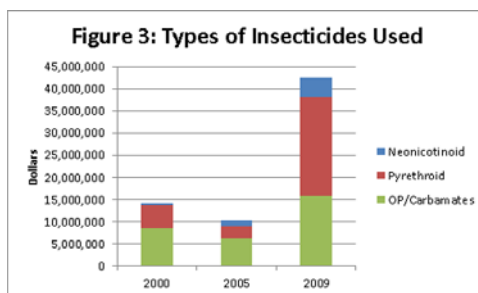


Another trend is a change in the type of herbicides used. With the advent of Roundup ready corn and beans, atrazine (a pre-emergent herbicide) has been reduced and replaced by glyphosate (Roundup). Figure 2 shows that glyphosate use has increased tremendously.

Although we don't know the chronic effects of glyphosate, it seems to be acutely non-toxic.

Climate change has resulted in a change of chemicals used for crop production. We are having more warmth and more moisture, and this enhances fungal growth, and thus the increased demand for use of fungicides on corn. Regarding the use of insecticides, we are concerned about corn root worm and cutworm, which are problems in young plants. However, Bt corn greatly reduces the need for insecticide use in corn.

Another trend that has occurred over the past two decades is replacement of some of the most hazardous classes of insecticides (cholinesterase inhibiting chemicals; organophosphates and carbamates) with much less toxic chemicals, primarily pyrethroids, and neonicotinoids. Figure 3 indicates the rise in the latter two, relative to the more hazardous chemicals.



In soybeans, the primary insect hazard is spider mites, which are a problem when the plants are a third to half grown (around July and August). Spraying at that time, often aerial, with a pyrethroid is common. In early spring, even before crops are up, a pre-emergent herbicide like atrazine is applied. Once crops are up they create a canopy to retard weed growth. After plants emerge, spray rigs are likely spraying an herbicide, probably glyphosate on Roundup-ready corn or beans.

Different regions may have different crops and practices. The point is the general public does not understand what and how pesticides are used in agriculture. We all need to be aware of the safe handling and understanding of pesticides. As health professionals or producers, we have a role in helping to shed some light on this black box of pesticides.

Kelley Donham, MS, DVM, DACVPM is the Director of I-CASH, he can be reached at 319/335-4190 (kelley-donham@uiowa.edu).

calendar

July 13-17

Agricultural Medicine: Occupational and Environmental Health for Rural Health Professionals

Omaha, NE

www.public-health.uiowa.edu/icash

August 4

Iowa Women in Agriculture - 5th Annual Womens Conference

Ankeny, IA

www.iowawomeninag.org

August 30-September 1

2010 Farm Progress Show

Decatur, IL

www.farmprogressshow.com

September 9 & 23

Agricultural Medicine: Occupational and Environmental Health for Rural Health Professionals - Videoconference
Dickinson, ND

www.public-health.uiowa.edu/icash

September 18-24

National Farm Safety and Health Week

October 7 & 21

Agricultural Medicine: Occupational and Environmental Health for Rural Health Professionals - Videoconference
Dickinson, ND

www.public-health.uiowa.edu/icash

October 13

Iowa Rural Health Association Annual Conference

Johnston, IA

www.iaruralhealth.org

October 25-28

Agricultural Medicine: Occupational and Environmental Health for Rural Health Professionals

Fairlee, VT

www.public-health.uiowa.edu/icash

November 4-5

Agricultural Medicine: Occupational and Environmental Health for Rural Health Professionals

Dickinson, ND

www.public-health.uiowa.edu/icash

November 16-17

Midwest Rural Agricultural Safety and Health Forum - Weathering the Elements

Des Moines, IA

www.public-health.uiowa.edu/icash

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OF IOWA

UI College of Public Health
Dept. of Occupational &
Environmental Health
UI Research Park
Iowa City, IA 52242-5000



RETURN SERVICE REQUESTED



SAVE THE DATE

Midwest Rural Agricultural Safety and Health Forum

November 16-17, 2011

**Ramada Tropics Resort and Conference Center
Des Moines, IA**

Hosted by:

Great Plains Center for Agricultural Health and Iowa's Center for Agricultural Safety and Health

Call For Abstracts Deadline July 22, 2011

Research, surveillance, education, outreach, and intervention presentations are welcome.
For more information visit: www.public-health.uiowa.edu/icash/events/MRASH/2011/index.html
or contact Aaron Kline at aaron-kline@uiowa.edu or call 319/335-4065