

# Sus Agr



# Sustainable Agriculture

*(That means the farmer, too.)*

**SIU Program educates on dangers, health risks of life on the farm**

Overturns. Runovers. Crushings. Collisions. Entanglements. Toxins. The agriculture industry — employing an estimated six million people on two million U.S. farms — is one of the most dangerous occupations, leading to 700 deaths per year in the United States, according to the International Labor Organization. The risk of an occupational fatality is six times higher for farmers than for other occupations. In addition to accidents and injuries, health problems range from heat exhaustion to cancer, infectious diseases, mental health disorders and substance abuse.

Written by Karen Carlson ● Photography by James Hawker

In a community effort to educate the health-care industry about these issues, SIU School of Medicine collaborated with the University of Iowa to present a continuing medical education program on Agricultural Occupational Health Training. The unique five-day program held in August gave participants a glimpse into the day-to-day activities of the farm worker and knowledge about the health and safety exposures, risks, treatment, and prevention.

“The term ‘sustainable agriculture’ often doesn’t include the health of the farmer, their workers and families. But it should,” says Kelley Donham, professor in the Department of Occupational Environmental Health at the University of Iowa College of Public Health and director of the Building Capacity Program.

Illinois is one of the states most dependent on agriculture. Nearly 1.5 million Illinois workers are employed by the industry in some capacity. Last year, 100 of 102 Illinois counties reported farm-related accidents. Forty-five deaths were related to Illinois farms, an increase of about 30 percent from 2007-08.

The training — the second year SIU has hosted the effort — was a collaboration of medical, environmental, and public health and safety experts to help participants understand farm life’s risks and

rewards. Stacy Sattovia, M.D., assistant professor of internal medicine at SIU, directed the program. “It’s important to learn about what farmers face that is different from urban population and other occupations,” says Dr. Sattovia, who lectured with other presenters from SIU, as well as faculty from the University of Iowa, University of Illinois, Northern Illinois University, the Migrant Clinicians Network, the AgriSafe Network, and the University of Illinois Occupational and Environmental Health and Safety Education and Research Center.

“Farming is a unique culture,” says Donham. “Farmers often are on the defensive when it comes to health care. The medical industry must understand what they do.” Agricultural occupational health is becoming a specialty area of medicine applicable to physicians, nurses, veterinarians, and safety specialists. “It takes a community to keep individuals healthy, especially places with few resources,” Donham notes.

David Steward, M.D., professor and chair of internal medicine, comes from a farming family. He studied agricultural occupational health as part of his sabbatical public health training at the University of Iowa in 2008. During his education, he realized that Illinois health workers would benefit from training about ag health. “As physicians,

we’ve always been the recipient of the problem when people get sick from their workplace. We’ve never systematically addressed the prevention aspect until now.” He spearheaded the first training at SIU last year, which more than two dozen participants attended. This year’s participants included physicians, nurses, veterinary students, and staff from the U.S.D.A., among others.

## The Healthy Farmer

Overall, American farmers are healthy, even healthier than the general population, based on lower fatality rates for the major causes of death. Farmers have fewer incidences of heart attacks, strokes and overall cancers, due to a healthier diet and more physical activity. Dr. Steward notes that farmers generally don’t smoke and have low alcohol consumption.





But in their daily work environment, farmers face weather exposure, daily contact with animals, exposure to hazardous chemicals, dusts, molds, and endotoxins in fertilizers and chemicals. Farmers and their families live in their workplace, which means constant exposure to pollutants. “Farmers and families are breathing air filled with grain particles, insect parts and hog manure,” explains Carolyn Sheridan, RN, BSN, Clinical Director of the AgriSafe Network.

The average farmer — a 56 year old man — has an increased incidence of arthritis, hearing damage, and respiratory diseases. Dangerous equipment and tools, lengthy hours and stress all can damage a farmer’s health. Because many farmers don’t retire, they’ll also have the usual aging problems in addition to the health risks of farming. According to the conference presenters, farmers may be inadequately educated about health and safety and have limited awareness about protective gear. “They are exposed to things they may take for granted,” Dr. Steward says.

Dr. Steward notes that while farmers have an overall lower risk for cancer than the general population, incidences of leukemia, non-Hodgkins lymphoma and Hodgkins Disease are prevalent in farmers, as well as melanomas, brain, stomach, lung, and bronchus cancers. At the conference, Stephen Stone, M.D., spoke about skin diseases of the farming population, including detection and diagnosis of melanomas.

In addition, rural farmers, like other rural resi-

dents, may not have access to health care. Although studies show that 86 percent have a primary care physician, farmers and workers may not be willing to take time away from their crops to treat an injury or illness. The National Safety Council reports that farmers usually lose four days of work for every injury suffered. Dr. Steward agrees that farmers aren’t often on the day’s list of appointments. “We see farmers every two, three, maybe four years. Their motto is, ‘Farm first, sick later.’”

Rows and rows of tall corn ready for harvest surround the home of Tom Martin, a farmer in Mount Pulaski, about 30 miles east of Springfield. A sixth-generation farmer, he plants 2,200 acres of corn, soybeans, with a little alfalfa and wheat for variety. He keeps his operation with minimal help, hiring two part-time workers (usually businessmen or retired farmers) in the spring and fall and shares labor and equipment with a neighboring farmer. His 17-year-old son also helps. “When my son started helping me last year, I realized he moves a lot faster than I do,” says Martin.

Martin, a healthy 52-year-old dressed in a t-shirt, shorts, baseball cap and dust-covered boots, says he worries about the respiratory effects of farming. Exposures to chemicals, mold and organic dust can lead to respiratory hazards including “farmers’ lung,” bronchitis, asthma, mucous membrane irritation, and organic dust toxic syndrome.





He says that because Mount Pulaski is so close to urban areas such as Springfield and Champaign, health-care services aren't as distant as other rural areas. "But in Mount Pulaski, we only have a nurse practitioner," he says. "Our doctor retired."

In addition to physical health problems, farmers also may confront mental health issues. Tom Martin, who has a degree in biology, points out that today's farmers wear many hats: buyer, seller, grower, businessman, marketer and financier. It's a lot to manage. In Stark County, frequent mental health diagnoses include depression, bipolar disorder, substance abuse, and adjustment disorders. Access to mental health care services is an ongoing problem for all rural residents. Jordan Litvak, LCSW, from the Illinois Dept. of Human Services Division of Mental Health cited additional barriers, including a lack of trained staff, frequent turnover, as well as unavailability of insurance coverage and a fragmented service system.

These health problems affect not just the farmer but everyone working in the agriculture industry, including farm families, day workers and their families, the elderly and other migrant populations. In Illinois, an estimated 33,000 people are employed as farm workers. "Often, hired help know nothing about farm equipment," says Robert Aherin, Ph.D., professor and agricultural safety and health program leader at the University of Illinois Urbana-Champaign. In addition, EMS first responders arriving at the scene of an accident may have limited knowledge about farm life or how to deal with special rescue situations involving farm equipment, entanglement, or confined spaces.

## Dangers & Risks

Many farming tasks put workers at greater risks for accidents and injuries. Aggressive, spooked or wild farm animals put handlers — day workers, women and children — at risk. Confined spaces such as silos and manure pits can lead to suffocation.

Children growing up on the farm have a great time playing where they live and where their parents work, but they also are at greater risk for injuries, riding on Daddy's tractor or hauling grain. "A person's normal reaction time is three-quarters of a second," Dr. Aherin reports. "That's not enough time to stop a moving tractor or other farm equipment to prevent a fallen child from

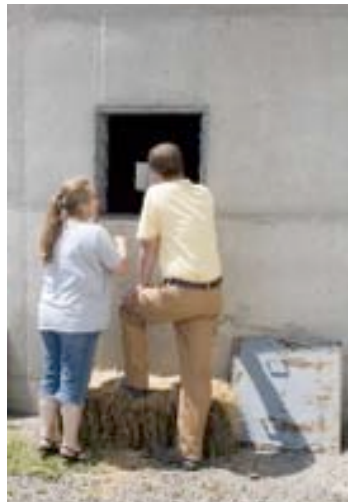
## Farming in America

- An estimated 76,000 farms are in production in Illinois, covering 27 million acres of tillable land — that's about 75 percent of the state's total land area.
- Illinois ranks second in corn and soybean production, and fourth in hog production.
- An estimated six million people are working in production agriculture on two million farms in the United States.
- Farming is one of the most hazardous occupations in the United States, leading to 700 deaths per year.

being run over." Kenton Stoll, a farmer in Chestnut, Illinois, lost part of his ring finger when it got caught in an auger when he was 13 years old. "It can happen in an instant," he says. "When we get tired, we can make mistakes."

Derek Martin, assistant manager and safety coordinator for Elkhart Grain Company, cited sweeping grain bins as the most dangerous activity — grain can quickly bury a worker alive. Grain bin incidents were the second-leading cause of farm deaths in Illinois last year. "A 160-pound man can be buried in less than 30 seconds," Martin says. With hundreds of pounds of pressure against him, retrieval is tricky and dangerous for everyone involved. Martin cited a handful of incidents in the area in the past few years, some with good outcomes and some with tragic outcomes. Grain bin workers also encounter high voltage, the potential for explosions and are at risk for respiratory illnesses from chemicals and molds.

Dr. Aherin says farmers are more safety conscious than they were 20 years ago. "But it's still a struggle to educate them. Part-time farmers sometimes don't have the equipment or take the time to work safely." Participants of the SIU training learned how to fit patients with personal protective equipment, which includes full-face masks, hearing protection, long sleeves, and gloves.



**“The  
Farmer’s  
motto is,  
‘Farm first.  
Sick later.’”**

—Dr. Steward

## Farming the Safe Way

“Farmers really have to educate themselves about safety,” Tom Martin says. “But we’re in a better situation now than we were years ago.”

That’s in part due to safety features of newer equipment, which trainees learned about from Stan Anderson, salesman for Cross Brothers Implements. Anderson noted that many accidents occur on public streets when motor vehicles are involved in accidents. Forty-eight percent of farm-related deaths in 2007-08 were caused by ATV or tractor rollovers. Improvements in lights, turn signals, markings, and SMV emblems on newer farm implements minimize these risks. Other safety measures include rollover protective structures, protective shields, and safety belts. “But I don’t know one farmer who uses safety belts,” Anderson admits.

He says it’s about 50-50 percent of old and newer equipment in use that have these safety features. “Some farmers trade in equipment every year, but some are still using 20- or 30-year old equipment. Chances are that old equipment will be resold to another farmer.”

Martin admits that farmers like him don’t often take safety precautions. “It’s just quicker and easier to do things without some of the safety measures,” he says. “We know it’s wrong, but we do it anyway.” He recalls overturning a tractor and also overturning a tank of anhydrous ammonia. Martin escaped injury in both accidents, and no leakage resulted from the overturned tank. “Simple things I’ve done a hundred times before can still result in an accident. This training makes me think more about what I’m doing, like not putting my hand near an auger.” Martin hosted the training’s participants, giving them a tour of his farm.

Dr. Aherin emphasizes that farmers and their workers must understand the work injury and illness risk and learn to manage that risk effectively. “This training helps those who associate with farm people become more aware of how to deal with the risks of farm operation. Farms can afford to lose a crop, but they cannot afford a serious injury,

illness, or death.” By attending the SIU training, participants are eligible to be certified “AgriSafe,” a membership network that gives professionals access to a network of agricultural clinicians and safety and health information and updates.

The training also helps the medical professionals keep their eyes open to the risks and dangers of farming and keeps them aware of their role in “sustainable” agriculture. ●●●

