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Pennsylvania Impact

Teaching, Research, and Cooperative Extension Programs Work for Pennsylvania



“When we arrived on the scene of the accident, the situation we encountered was one of the exact scenarios we trained for during Penn State’s PAgricultural Rescue Training. Thanks to that course, we knew exactly what to do and were able to save the man’s life.”

Josh Zulick (left) and Adam Zulick, Eden Volunteer Fire Company

Making a Dangerous Job Less Hazardous

Agriculture is a dangerous business. So dangerous, in fact, that farming ranks second only to mining as the most hazardous occupation in the United States. Nationally, between 700 and 800 farmers are killed each year. In 2003, 31 people died of injuries suffered in farm-related incidents in Pennsylvania. In addition to fatalities, the estimated number of temporary lost-time work injuries on Pennsylvania farms is nearly 5,000 annually. The estimated annual economic toll of these injuries to Pennsylvanians and the rural economy is well over \$153 million.

The young and the elderly are especially vulnerable to injury. Of the more than 700 farm-related deaths nationally each year, about 100 of those involve children aged 19 and younger. As the average age of farm operators has risen, older workers—whose sight, hearing, and reaction times may have declined—are increasingly at risk.

Agricultural safety and health programs designed and offered by researchers and extension educators in Penn State’s College of Agricultural Sciences target farm workers and their families, rural youth, and emergency service providers. The result has been a long-term reduction in farm injuries and fatalities in Pennsylvania.

THE PAYOFF

▼ **Preventing farm work injury.** Farmers face many hazards, from tractor overturns and machinery entanglements to grain bin entrapments and silo gases. Research-based safety education programs, demonstrations, and publications developed by College of Agricultural Sciences specialists annually reach thousands of people across the state, providing potentially life-saving information. Addressing the most common cause of on-farm injuries, Penn State educators conduct tractor roll-over and other machinery safety demonstrations and stress the use of rollover protective structures and seatbelts. Penn State’s *Agricultural Safety and*

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Health Best Management Practices Manual assists farm operators in conducting safety audits on their farms and serves as a reference for insurance companies in assessing risks. One recent study showed that farmers conducting self-audits reduced hazard “scores” on their farms by more than 21 percent. A Penn State–developed process for extinguishing conventional silo fires was adopted as standard operating procedure by the International Silo Association.

▼ **When families are first on the scene.** When farm workers are involved in an injury incident on the farm, their survival often depends on the individuals—usually coworkers or family members—who find them and must care for them until emergency personnel arrive. The wrong decisions, or the right decisions made in the wrong order, may cause further injury to the victim and put others at risk of injury or death. Penn State’s Farm Family Emergency Response Program is designed to help farm workers and members of farm families know exactly what to do if they are first to discover a farm emergency. The program leads participants through various injury scenarios, teaching them how to make proper decisions during those important first minutes after an incident. Information and materials developed by Penn State for this program are generally recognized as the national gold standard for first-on-the-scene training.

▼ **A different kind of rescue.** Emergency crews arriving at an agricultural incident may encounter a set of circumstances unlike those found at other accident scenes. Tractors and other farm implements function differently than cars. Animals can be unpredictable. Farm chemicals, dusts, and silo gases can quickly overcome rescuers unfamiliar with ag emergencies. To help emergency service providers respond effectively and save lives, Penn State offers PAgricultural Rescue Training. The program helps fire, rescue, and EMS personnel to identify and control hazards and to manage emergencies involving tractors and machinery, chemicals, and confined spaces, such as silos, grain bins, manure storages, and tanks. Since its inception, the program has made a difference. In one case, Lancaster County rescue personnel used scene stabilization and victim extrication techniques they learned during the training to save the life of a man pinned under the bucket of a skid steer loader.

▼ **Start ‘em young.** Because family farms also are places where children live, play, and often work, young people sadly make up a high percentage of farm-related injuries and deaths. Penn State offers many programs aimed at teaching youth good safety practices before they have a chance to develop bad habits. In many cases, children take this information home and influence the safety practices of

their parents. Penn State Cooperative Extension sponsors farm safety day camps that enroll hundreds of kids every year in counties throughout the state. The Farm Safety and Health Quiz Bowl is an exciting and fun educational program that motivates 4-H and FFA youth to increase their awareness and knowledge of agricultural safety and health. Vying for monetary awards that benefit their clubs or chapters, teams from around the state compete in a quiz show format that requires team members to learn about farm safety and health hazards and recommended practices. A tractor and machinery safety youth curriculum, taught by county extension educators and high school agriculture teachers, helps prepare young people and other first-time operators for work on the family farm or for other farm employers.

▼ **Making a dent.** The results of all of these efforts? Since Penn State and other land-grant universities began emphasizing agricultural safety and health in the mid-1970s, farm injury and fatality statistics have been declining steadily. From 1980 to 1984, 236 people died on Pennsylvania farms—an average of 47 per year and 8.4 per 10,000 farms. But for the four-year period ending in 2003, 117 farm-related deaths were reported, which averages to 29 per year and 4.9 per 10,000 farms. Likewise, from 1976 to the mid-1990s, nonfatal farm injuries fell from one for every 6.6 farms to one for every 12.7 farms.

For more information, contact Dennis Murphy at 814-865-7157 or visit Penn State Agricultural Safety and Health on the Web at <http://www.age.psu.edu/ASH/index.html>.

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