

Rural firefighters delivering agricultural safety and health

Casper 'Cap' Bendixsen for *Progressive Dairyman*

People who work in agriculture are eight times more likely to be fatally injured when compared to other professions. It remains the most dangerous occupation in the U.S. Moreover, farms normally include homes and non-working bystanders (often children) who are also at risk. In fact, on average, two children are killed every week in farm-related incidents.

I grew up on a farm and ranch in Idaho, but I had no idea agriculture was so hazardous. Not until I joined the faculty at the National Farm Medicine Center (NFMC), Marshfield, Wisconsin, did I learn about these cringe-worthy statistics. My work now concentrates on how rural communities can rally together to improve the health and safety of American farmers and ranchers.

Farms and ranches are independent and often semi-isolated in rural areas. While agricultural health and safety experts offer many solutions to everyday hazards, they are too few and often too separated from rural communities to be the sole deliverers of this knowledge. That is why we must bring together trusted members of the nearby rural community and provide them with simple, effective ways they can assist their farming and ranching neighbors.

The Centers for Disease Control (CDC) recently funded our efforts to train rural firefighters and other responders in farm safety. This is a project we call "Rural Firefighter Delivering Agricultural Safety and Health," or RF-DASH. I worked and lived in a fire department while I was in college, so when preliminary research with farmers revealed how much they trust their local departments, it made perfect

sense: Rural emergency responders can influence farmers' decision-making regarding safety and healthy behaviors. There are emergency responders in every rural county in the U.S. They are highly trusted, trainable and are often closely linked to local agricultural producers (if not producers themselves). The catch:

They need training and tools so they can do more than react to farm emergencies.

During the next four years, the NFMC, in partnership with the University of Minnesota, Penn State Extension and the University of Washington, will work with fire departments and community/technical colleges throughout the Upper Midwest to train a core group of RF-DASH trainers. These trainers will, in turn, spread the tools and expertise to other departments and training facilities. The daylong curriculum can be taught within existing courses or made to be a stand-alone training. There are four modules: Introduction to Agricultural Emergencies, Pre-Planning and Mapping for Agricultural Sites, Farm Hazard Analysis and Farm First Aid.

Intro to ag emergencies

Many first responders have experience responding to medical and fire emergencies on farms. However, they may not be aware of the overall severity of agricultural injury and illness as well as the principal causes. This introductory section explains the common causes of farm emergencies and strategies to expedite and improve responses. It allows for discussion about unique elements of agriculture in the region, creating unique hazards and response needs. While tractor

rollovers remain commonplace and still the primary cause of fatalities, every region possesses unique challenges to emergency response. Finally, this module emphasizes the value of prevention and pre-planning, motivating trainees to connect with the farm community and see themselves as a necessary element in the prevention of injuries and deaths.

Pre-planning and mapping for ag sites

Responding to emergencies on agricultural sites can be as dangerous as working there. Farms have machinery, chemicals, flammable agents, multi-story structures, unique electrical systems, livestock, human occupants, lagoons and waterways, and can be spread over large, complex areas despite having a standard home address. Responders should have a planned response for the farms in their service area. However, unlike other businesses, farms are private residences, and there is no right-of-way for normal pre-planning procedures. Therefore, fire departments need to work closely with farmers to be granted access and learn about their individual operations. Possible staging and airlift areas, water sources, electrical shutoffs and chemical/flammable storage are high-priority topics.

To ease the burden of creating multiple farm maps, the course includes instruction in the use of Farm MAPPER (Mapping to Assist, Protect and Prepare Emergency Responders). This online, mobile-friendly web tool is in its later stages of development and will allow emergency responders to geo-locate hazards and resources. Maps are secure, and accounts

are password-protected. Visit the website (www.nfmcfarmmapper.com). These maps can supplement other pre-planning elements and be accessed en route to emergencies.

Farm hazard analysis

One of the primary goals of this program is to involve rural emergency responders in farm injury prevention activities as opposed to just responding when things go wrong. Firefighters are already trained in hazard analysis in their own work; this module expands this to include farm hazards. As opposed to federal or state inspections, or even property insurance audits, rural responders are in a position to simply offer helpful advice without the possibility of fine or penalty. They would rather just not have to pull their neighbors out of a scary situation.

Again, technology eases the burden of learning about the many hazards that exist on farms. Instruction in this core includes the use of an online, mobile-friendly web tool located online (www.saferfarm.org). This web tool provides an updated platform for a proven safety auditing instrument previously developed by Penn State Extension. With the use of pictures and brief descriptions, novices to farm safety are able to accurately score and geo-locate hazards on farms. The scores and descriptions can assist emergency responders in making recommendations to farmers and lend insight into what kind of emergencies for which their department should prepare.

Farm first aid

Lastly, trainees in the program are taught how to teach standard first

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aid knowledge within the context of farm work, e.g., compound fractures resulting from a fall from a silo ladder. Thus, the knowledge being shared is more relatable and realistic for the farmer, their workers and their family. Additionally, the training includes the strategies that would have prevented the need for first aid, e.g., in the example above, a harness and ladder cage. Visit www.extension.psu.edu/business/ag-safety/farm-emergencies/first-aid for more information.

In addition to the technical knowledge and use of tools, the course includes discussion and guidance in how to approach individual farmers and the farm community. Often, fire departments have prior experience here as well. As the project has progressed, we have found most departments feel they have a farmer-firefighter within their ranks who can lead a local initiative within their service area. Indeed, farmers who volunteer as emergency responders are likely to become the ideal trainees in the program. These individuals can help bridge the farming community and the local departments. Starting with family, friends, co-workers, fellow volunteers and neighbors are logical



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first steps. Additionally, farmer-firefighter cookouts, co-op meetings and twilight meetings are excellent opportunities for individual farmers and the fire department to emerge as leaders in a local initiative. Similarly, 4-H and FFA organizations can both engage and promote the activities.

Over the course of the next four years, we hope to see more rural emergency responders become leaders and practitioners of agricultural health and safety, eventually improving the industry nationwide.

Emergency first responders interested in becoming trainers may contact Bendixsen at the email address above. Find more information online (www.umash.umn.edu/portfolio/rural-firefighters-delivering-agricultural-safety-and-health-rf-dash). 🐾



Courtesy photo.

Farm MAPPER (Mapping to Assist, Protect and Prepare Emergency Responders) is an online, mobile-friendly web tool in its later stages of development. It will provide emergency responders with on-site information about hazards and physical layouts of agricultural operations.



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