



Agricultural Safety and Health



Cattle Continue to Cause Farm Deaths

The Centers for Disease Control and Prevention (CDC), along with numerous researchers and state agencies, has released a report on farm worker fatalities related to cattle. Cattle continue to be a cause of injury and death among farm families. In this analysis, four states—Iowa, Kansas, Missouri and Nebraska—were included. To better characterize cattle-caused occupational deaths in these four states, investigators reviewed all such deaths occurring during the period 2003-2008. The deaths were detected by two surveillance sources, the Iowa Fatality Assessment and Control Evaluation (IA FACE) and the Great Plains Center for Agricultural Health (GPCAH). The CDC report identified 21 cattle-related deaths. In addition to these deaths, at least three cattle-related fatalities—all involving bulls—have occurred in Pennsylvania since 2005. Below is a summary of the 24 cattle-related fatalities.

Take note of aggressive animal behavior

The victims' most common activities at the time of death were working with and treating cattle in enclosed spaces, such as pens and chutes, as well as moving or sorting cattle toward pens, barns or pastures. Incidents also occurred while loading cattle into trucks or trailers, feeding, or working in open pastures.

Thirteen of the 24 fatalities involved attacks by individual bulls, six involved attacks by individual cows, and five involved multiple cattle. In eight attacks (whether witnessed or not), the bull or cow was known to have exhibited aggressive behavior in the

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Agricultural Safety and Health News is produced bi-monthly. We welcome your comments.

Dennis Murphy, Editor
 Laura Coyne Steel, Writer
 Marsha Hull, Design & Layout

Less Public But No Less Serious

Late fall and early winter is not traditionally a time of year with a lot of serious injuries, especially those involving tractors and machines, making this is a good time to look at hazards and safety issues that gain less publicity. For instance, this issue contains articles on cattle fatalities, silo fires and farmer suicides. A high rate of suicide among farmers is perhaps surprising to many even though some sources of stress and anxiety, such as high input prices with low commodity prices, are all too common among the farm community. Farm operators and families can learn more about this issue by checking the resources at the end of this article.

The 2010 Pennsylvania Farm Show is just around the corner. This means it is time for the Pennsylvania Farm Safety & Health Quiz Bowl State Finals. This event will be on Wednesday, January 13th in the Exhibition Hall. 4-H teams from Cumberland, Huntingdon, Snyder and Union counties will begin their competition approximately 12 noon, with FFA chapters from Mifflinburg, Conococheague, Big Spring, and Chambersburg SHS beginning their competitions approximately 3:00 pm. Come root for your favorite team.

Dennis J Murphy

past. In 19 of the cases, the animal was deemed to have purposefully struck the victim; five other deaths were caused by being crushed against a stationary object or struck by a gate (secondary to the action of cattle).

All but one death resulted from blunt force trauma to the head and/or chest. One resulted from inadvertent injection of the antibiotic Micotil 300 (tilmicosin phosphate) from a syringe in the victim's pocket when he was knocked down by a cow.

These deaths occurred throughout the year, however, one-third of the CDC reported deaths occurred in March and April. The three Pennsylvania deaths occurred in February, July and September. Those killed tended to be older. The 21 decedents in the CDC report ranged in age from 8 to 86 years, with a median age of 65 years (mean age: 61 years). The victims in Pennsylvania were 26, 57 and 59 years old. Only one of the 24 total victims was female. Also, one of the victims was an 8-year-old boy who was helping castrate cattle when he was crushed against a squeeze chute.

Case Reports

Here are some case examples of how people were killed by cattle during this five-year period.

Case 1

In August 2005, a 65-year-old woman was removing a dead, newborn calf from a pasture when a cow knocked her down, stomped her, and butted her while she was lying on the ground. The coroner reportedly stated that death resulted from blunt force trauma to the woman's head and chest.

Case 2

In November 2005, a 65-year-old man was helping his son sort beef cattle for loading onto a truck. He was attempting to guide one of the animals toward the truck when it turned into him, crushing him against the barn door. According to witnesses, he stopped breathing immediately. The medical examiner's report stated that death was caused by blunt force trauma to the man's chest.

Case 3

In April 2006, a 63-year-old man was herding cattle into his dairy barn for milking when a bull came into the barn and repeatedly butted him, pinned him against a fence, and stomped him. According to the attending physician's death record, the man sustained multiple rib fractures, lacerated pulmonary arteries, and head injuries. The man's family said that the bull was known to be dangerous and had been threatening in the past.

Case 4

In August 2007, a 45-year-old man who was working alone in a pasture was attacked by a bull that had been bottle-fed and raised by the family but, according to family members, had become more aggressive recently. The attack was not witnessed, but the man was able to call his wife for assistance on his cell phone before he died and told her he had been attacked. According to the state medical examiner's autopsy report, he died of blunt force injuries to the chest.

Reduce Your Risk When Dealing With Cattle

To reduce your risk of cattle-caused injuries, farmers should take proper precautions when working with cattle, especially cattle that have exhibited aggressive behavior. Here are a few other facts and recommendations.

- Large livestock are powerful, quick, protective of their territory and their offspring, and they are especially unpredictable during breeding and birthing periods. Mothering livestock often protect their young aggressively.
- Dairy bulls, which have more frequent contact with humans than do beef cattle, are known to be especially possessive of their herd and occasionally disrupt daily feeding, cleaning and milking routines.
- A case-control study of Iowa livestock farmers found that use of a hearing aid and doctor-diagnosed arthritis or rheumatism were significantly associated with injuries

related to animals. Age-related reduced hearing and reduced ability to react might contribute to this risk.

- Approximately one-third of the deaths described in this report occurred when the farmer was working alone. Some of these deaths might have been prevented if a coworker had been present to help observe cattle behavior and movement and to provide prompt aid in case of injury. This might be especially useful when working with bulls or cows known to be aggressive, given that seven of the deaths described in this report involved such cattle.
- Working with bulls involves higher risk for injury. In a study of farm-worker injuries based on surveillance data from New York, bulls were found to account for 25 percent of animal-related injuries. Among the deaths described in this report, four (19 percent) were caused by dairy bulls during feeding or milking operations.
- To help protect yourself and other workers, provide sturdy barriers between cattle and people, allowing for directed movement of cattle but also providing a means for rapid exit from the cattle area.

For More Information

To review the entire report on the CDC Web site, go to

www.cdc.gov/mmwr/preview/mmwrhtml/mm5829a2.htm

To review farm fatality reports in Pennsylvania, go to www.agsafety.psu.edu/ and click on Injury Data.

For more information on safe cattle-handling practices and safe cattle-handling facilities, go to the National Agricultural Safety Database at www.nasdonline.org/menu/topic/animals.html.

Depression and Suicide



Some Farmers Feel Strain of Falling Prices and Changing Markets

America's rural populations have become more susceptible to depression, anxiety, substance abuse and suicide, according to an article in *The Iowa Independent*, an online-only news outlet. Farmers in Pennsylvania and nationwide are experiencing a variety of challenges...from escalating farm expenses to drought, floods and falling milk prices.

These trying times are a call for help for some farmers. In fact, rural men are not

only much more likely to have suicidal thoughts but also much more likely to act on such thoughts successfully, according to a recent conference on rural health care held in Sioux Fall, S.D. And to make the issue more complex, more than 40 percent of rural women in a University of Maryland study were depressed, compared to less than 20 percent of urban women.

Furthermore, child psychiatrists are only available in roughly 5 percent of the nation's rural counties that have populations ranging from 2,500 to 20,000—and general practice psychiatrists are only available in 25 percent of those same counties.

Farmers vs. Nonfarmers

AgriWellness, Inc. in Harlan, Iowa, promotes accessible behavioral health services for underserved and at-risk populations affected by rural crisis in agricultural communities. According to AgriWellness, if you compare farmers to nonfarmers, farmers have twice the national average for suicides compared with nonfarmers, who have a rate that is slightly below average. Other common threads for farmer suicides go hand-in-hand with their livelihood. Examples include:

- * Farmers are more likely to kill themselves in the spring and fall.
- * They are more likely to kill themselves on a Sunday, Monday or Tuesday.
- * The deaths are more likely to occur between 6 a.m. and 11:59 a.m.
- * Firearms are the main method, whereas nonfarmers use a wide variety of methods.
- * Few attempts precede the suicide, whereas in nonfarmers, many attempts precede the suicide.

The statistical evidence of suicide reduction creates a good argument for why Congress should approve funding for the Farm and Ranch Stress Assistance Network that was authorized as part of the 2008 farm bill, according to AgriWellness. The network creates a national crisis hotline for rural workers and also mandates additional behavioral health services in geographically rural regions.

Sowing the Seeds of Hope: A Midwest Lifeline

AgriWellness and Iowa State University Extension jointly sponsor the Iowa-based Sowing the Seeds of Hope hotline, which serves rural people in seven Midwestern states. It's the nation's largest crisis help line for agricultural workers, and the calls are coming more often than they did a year ago. "More recently, we have seen an up tick in calls that are related to market prices for swine and dairy," says Dr. Mike Rosmann, executive director of AgriWellness.

For More Information

Pennsylvania Emergency Crisis Hotlines & Helplines www.findcounseling.com/help/hotlines/pennsylvania.html

AgriWellness, Inc. www.agriwellness.org

Farm Resource Center (800)851-4719

The Substance Abuse & Mental Health Services Administration www.samhsa.gov

For help 24 hours a day, call the National Suicide Prevention Lifeline at (800) 273-TALK (8255). This service is available to everyone. You may call for yourself or for someone you care about. All calls are confidential.

www.therapistlocator.net is a good resource for family therapists in your area.

Warning Signs of Trouble*

- * Persistent sadness/crying
- * Excessive anxiety
- * Lack of sleep/constant fatigue
- * Excessive irritability/anger
- * Increased drinking
- * Illicit drug use, including misuse of medications
- * Difficulty paying attention or staying focused
- * Apathy—not caring about things that are usually important to you
- * Not being able to function as well at work, school or home

*According to the Substance Abuse & Mental Health Services Administration

Managing Stress

The Substance Abuse & Mental Health Services Administration offers these coping techniques to help deal with stress:

- * Keep things in perspective by recognizing the good aspects of your life while retaining hope for the future.
- * Strengthen connections with family and friends who can provide important emotional support.
- * Engage in physical exercise, sports or hobbies that can help relieve stress and anxiety.
- * Reach out to those people and services that can help you, such as your healthcare provider, community health clinic and spiritual leader.

Why and Where Fires Start in Silos

Davis Hill
Program Dir.,
Managing Agr. Emergences
Penn State

When a silo catches on fire, a farm operator can lose a tremendous investment and be faced with an unmanageable cost to replace ruined feed. If you have 20' x 60' silo that has 400 tons of corn silage in it, and you had to purchase that 400 tons of feed, it would cost you nearly \$20,000 (\$50 per ton). Good hay crop silage would be considerably more. The goal to managing a fire inside this silo has to be in locating the fire area and controlling that area without affecting the rest of the material. Better to lose a few tons than a few hundred tons! This is not an easy task but not an impossible one either. The earlier you can detect a fire, the easier it becomes to control. So it's important to regularly monitor your silos for a good three weeks post-harvest. This is a critical time when natural fermentation and heating is taking place inside the silo.

Internal combustion of silage material occurs when the silage is put in too dry for the silo. In order for anything to burn, you need three ingredients: a heat source, air and fuel. With silage, the heat source is the heat generated by the material going through the fermentation process. This is naturally occurring and happens with any material being stored. With proper moisture, this moisture helps keep the heating of the material from getting too hot. For the air compo-

nent, air is trapped in the chopped forage during harvest and blowing the material into the silo: the drier the material, the more air that is trapped. Conversely, the wetter the material, the less air that is trapped. The fuel is the forage material itself. Generally, this is not a good source of fuel from a burning standpoint because even material that is too dry for good silage is too wet to burn quickly. This is a good thing to keep in mind when dealing with a silo fire.

Remove old, dry silage

Besides material going into the silo too dry, another common cause of spontaneous combustion is when new silage is put on top of old silage, especially if the old silage has not been completely removed. This old silage can be quite dry. Remember, the dryer the material, the more air that can be trapped in that material. When fresh material is put on this older material, the natural heating that the new material will go through could be too hot at this location. It also will not pack down as tightly, leaving more air. This would be the first place to look if a fire does occur. Likewise, if you know that some of the material you are blowing into the silo is drier than ideal, you might make a mental note of where the blower is placing that material in the silo.

Another less common way fires can start in a silo is from the outside. The most common causes of these external heat sources is a fire starting in the chute from either a shorting out electrical wire or from an adjacent barn fire. Both causes results in dried material in the chute catching on fire and then burning through one or more wooden silo doors. Once the fire burns through the doors, the material inside the silo can begin to smolder and burn. Another less common way that a silo fire can occur is from exposure of the silo to the direct heat of a barn fire. Tremendous heat is generated from a barn fire. If that heat is allowed to be exposed to the side of the silo long enough, the heat will transfer into the silage and cause it to ignite. There is often not much that can be done to prevent this situation. By the time a fire company arrives to fight a barn fire, resources may be very limited for cooling the silo. Once a silo is heated, it's best to keep water away from it.

A silo fire is usually discovered when someone sees smoke coming from the top of the silo, a burning smell, charred silage, or burnt silo doors dropped down the chute. Your initial actions can mean the difference between salvaging a viable crop or ruining it. Remember, silage does not make a good fuel source. Even silage that is too dry is most likely too wet to burn quickly. A fire inside a stack of silage inside a silo does not have adequate air to burn aggressively. This means you don't need to panic. The fire is not going anywhere in a hurry. You have time to evaluate what you have, report it to your local fire company, and seek out additional expertise if needed.

For More Information

Some fire companies around the state have been trained in silo fire extinguishment but many have not. There is an excellent printed resource, *Extinguishing Fires in Silos and Hay Mows*, NRAES-18, 2000 Revision, for fighting silo and hay mow fires (visit the Natural Resource Agriculture & Engineering Service's Web site at www.nraes.org for ordering information). Not all fire companies know of or have this resource. Several technical experts are available throughout PA to help farmers and firefighters think through the many management strategies when dealing with silo fires. This emergency information can be found by calling 814-865-2808 during working hours or 814-404-5441 after hours.



Firefighters learning the spray pattern of a silo probe during a recent silo fire training program put on by our Managing Agricultural Emergences program.

Keeping Our Kids Safe

Safe Play Booklet Now in Spanish

The booklet *Creating Safe Play Areas on Farms* is now available in a mini-edition, as well as in Spanish. This booklet provides comprehensive guidelines for designing and building an outdoor safe play area on a farm. It was developed for safety professionals, farm and rural community leaders, and farm owners who want to understand important features of safe play areas for children who live on or visit farms.

These booklets were created by the National Children's Center for Rural and Agricultural Health and Safety at the Marshfield Clinic in Wisconsin. Childhood farm injuries and fatalities most often occur while children are playing in an agricultural worksite or are bystanders to agricultural work. To view and print the booklets in PDF form, go to www.marshfieldclinic.org/NCCRAHS/. You can also call the Children's Center at (800) 662-6900 for more information.

New CDC Rabies Web Site for Kids

Rabies is a disease that naturally affects only mammals. Mammals are warm-blooded animals with fur. Lots of farm animals like cows and horses are mammals, as well as wild animals like foxes, skunks, raccoons and bats. Rabies is a virus that affects the brain. It's usually passed from animal to animal, but it can be passed from animals to people also.

The Centers for Disease Control and Prevention (CDC) features a new Web site for kids that discusses rabies and how to protect yourself and your animals. The site features answers to such questions as:

- * How do I keep myself from getting rabies?
- * How can you protect your farm animals from getting rabies?
- * How can you protect your pet dog or cat?
- * What can be done to keep wild animals from getting rabies?
- * How do you know if an animal has rabies?
- * What are the warning signs of rabies?

For more information, go to www.cdc.gov/rabiesandkids/.



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