

Goal

This program provides ideas and suggestions for reducing the number of farm accidents.

Objective

This information will assist farmers and farm workers in identifying hazardous locations, situations and actions that could result in an accident.

Background

The Bureau of Labor Statistics (BLS) and the National Safety Council (NSC) are two agencies that collect information on occupational injuries and fatalities. The BLS is limited to gathering information on farms that employ 11 or more hired workers. Among this group the injury rate is 1.5 times the rate for all industries nationwide. However, the fatality rate is 4.3 times that of industry as a whole, making agriculture one of the most hazardous industries in the United States. In Texas, 227 people were killed in agriculture, forestry and commercial fishing accidents from 1996 thru 2003 but this total does not include any fatalities on small family farms.

Facts

Across the nation, tractor accidents account for the highest number of farm fatalities. Tractors turning over cause most of these. Tractor rollovers are caused by hazards like ditches, gullies, stumps and operating on steep slopes. Others causes are: taking turns at high speed, improper hitching, loss of control with towed loads and collisions with road traffic. The tractor running over the victim is the second most common tractor-related fatality. Many run-over accidents involve riders who fall off of tractors and many of these are children. All-Terrain Vehicles (ATVs), now in regular use on many farms and ranches, also have a strong potential for rollover hazard.

Aside from tractors, most other injuries are caused by machinery. Clothing and limbs becoming entangled in moving parts is a major hazard. Hydraulic equipment failures include pinhole leaks and pressure failures of jacks that cause equipment to drop suddenly during maintenance. Chain saws, improperly used, can cause severe injuries.

Large farm animals, especially dairy breed bulls, are responsible for many injuries.

Other hazards encountered on farms and feed lots include storage structures such as silos, grain bins/wagons, and manure pits that pose asphyxiation, explosion and engulfment hazards.

Overhead power lines contacting equipment, especially portable augers, cause electrocutions. Slips and falls from ladders, roofs and on steps and walkways are common.

Exposure to pesticides can result in severe or fatal poisoning. Inhalation of grain dusts as well as molds in grain, hay and silage can lead to short- or long-term respiratory problems for farm workers.

Finally, the very nature of the physical demands of farm work leads to injuries from improper heavy lifting, handling livestock and repetitive motions.

The injury rate for farm workers is much higher for males than females and higher for hired workers than for family members.

Accident Prevention

In rural areas, hospitals and emergency medical care are often not readily available to farm and ranch workers. This makes the value of accident prevention apparent.

Many benefits, including fewer injuries, increased production, and reduced medical costs may result if the following recommendations are practiced:

- Inspect your operation and try to identify as many hazards as possible.
- Develop accident prevention plans for fires, vehicle accidents, electrical shocks, and chemical storage and exposures.
- Take preventive measures by reading and following instructions in equipment operator's manuals and product handling and storage specifications.
- Conduct preventive maintenance on your vehicles and equipment to anticipate problems and potential failures.
- Provide approved rollover protection structures and seat belts for all motorized equipment. Never allow anyone to ride on a tractor.
- Equip your tractors with proper lighting, amber flashers and reflective triangle placards for those times when they must be driven on a road.
- When operating ATVs, helmets must be worn.
- Power take-offs on tractors should be shielded at all times, as should all drive mechanisms. Be sure to always restore these guards after maintenance.
- Check for hydraulic pinhole leaks with paper or cardboard. Support equipment with stands in addition to jacks during maintenance.
- When using chain saws always wear protective equipment,

including hearing protection, and practice safe cutting procedures.

- Practice safe handling procedures with animals and always remain alert when working with them. In animal housing and handling areas, provide even lighting. Shadows cast by uneven lighting can frighten animals. Chutes for animals should be constructed so that animals can pass through but not turn around. Do not enter cramped areas such as stalls holding large animals. New mothers, such as cows and sows, may suddenly attack if they feel their offspring are endangered.
- Manure pits contain toxic hydrogen sulfide and explosive methane gases. When constructing manure pits, build structures to prevent accidental entry. No one should ever enter a pit without a supplied-air respirator. No flame or spark sources should be allowed anywhere near manure pits. Agitation of a manure pit will cause extra release of gases. Always ventilate pits prior to entry.
- Silos may contain silo gas, which is primarily nitrogen dioxide, and which can cause severe, even fatal lung burns. Silos must not be entered for three weeks after filling, the peak period for production of the gas. Silos must always be ventilated prior to entry.
- Never allow people to enter grain bins or wagons during loading or unloading operations due to the engulfment hazard. During grain, silage and hay transfer operations, provide respiratory protective masks to prevent inhalation of dusts, bacteria and mold spores.
- Review material safety data sheets and chemical product labels. Educate your workers on chemical hazards and provide the recommended personal protective equipment and wash-up/wash-down stations.
- When constructing concrete floors and walkways, allow for good drainage and leave a rough finish to provide better footing in wet conditions.
- When moving portable equipment such as augers, make sure they are secured in a lowered position. If you have overhead power lines in work areas, consider rerouting or burying them.

In addition to Occupational Safety and Health Administration (OSHA) regulations, the Environmental Protection Agency (EPA) has the Worker Protection Standard to provide safety to workers handling pesticides used in agricultural production. This standard applies to all farms, not just those with employees. Your County Extension agent can provide information on labeling requirements and certification for purchasing restricted-use pesticides.

Finally, if children are present on your farm, you must control their activities. They should be taught to stay away from areas

where work is being done and to keep away from machinery, even when it is parked. When children are given chores, be sure that the work is within their physical, mental and emotional capabilities and train them thoroughly in the assigned tasks.

Review

1. Tractor accidents cause the most fatalities on farms in the United States. True or False?
2. Besides tractors, most injuries are caused by _____.
 - A. Machinery
 - B. Falls
 - C. Livestock
 - D. Asphyxiation
3. If you must operate a tractor on public roads, equip it with _____.
 - A. Proper lights
 - B. Amber flashers
 - C. Reflective triangle placards
 - D. All of the above
4. Manure pits can contain toxic and explosive gases. True or False?
5. Which types of bull breeds are more dangerous to handlers?
 - A. Beef breeds
 - B. Dairy breeds

Answer Key: 1. True 2. A 3. D 4. True 5. B.

Resources

The Texas Department of Insurance, Division of Workers' Compensation (TDI/DWC) Resource Center offers a workers' health and safety video tape library. Call (512) 804-4620 for more information or visit our web site at www.tdi.state.tx.us.

Disclaimer: Information contained in this training program is considered accurate at time of publication.

Safety Violations Hotline
1-800-452-9595
safetyhotline@tdi.state.tx.us

The Texas Department of Insurance,
Division of Workers' Compensation (TDI/DWC)
E-mail **resourcecenter@tdi.state.tx.us**
or call 1-800-687-7080 for more information.