

## Goal

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This program provides information on a potentially dangerous piece of farm equipment the grain auger. This piece of equipment is responsible for severe injuries and deaths to farm children, as well as adults.

## Objective

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Farmers and ranchers will be able to identify dangers associated with grain augers and take the necessary precautions to reduce the risks associated with them.

## Background

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On a per-hour-of-use basis augers are one of the most dangerous machines on the farmstead. Most auger accidents are operator-caused. Auger-related injuries primarily result from the following types of accidents: contact with or entanglement in the exposed screw at the intake; entanglement in a drive belt; being struck by an uncontrolled spinning crank that is used to raise or lower the auger; entanglement in a PTO drive shaft; and the raised upper end of the auger coming in contact with overhead power lines. Typical auger-related accidents include: lacerations, fractures, amputations, and electrocutions. Fatal injuries result in large part from two types of accidents: electrocution and entanglements. Electrocution frequently occurs when moving a raised grain auger around the farmstead and it comes in contact with overhead electrical wires. Entanglement occurs when individuals come in contact with moving parts. These accidents and fatalities frequently involve inexperienced youth labor. A common cause of many of these accidents is lack of shielding, despite the fact that shields do not significantly affect the grain feeding into the auger.

## Description

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The grain auger consists of a continuous corkscrew blade attached to a long metal shaft and a round metal tube into which the blade is inserted. The metal tube contains the material as it is moved from the intake at one end of the auger to the discharge at the other end and protects the operator from contact with the rotating blade. Augers vary in size, generally ranging from 4 to 15 inches in diameter and from several feet to 100 feet or more in length.

An auger can be independent, portable, or integrated with another piece of machinery or grain storage system (e.g., as a fixed component of a combine, grain dryer, grain wagon, storage bin system, or silo unloader). Augers can also be self-powered (electric motor or gasoline/diesel-fueled engine) or driven by

power transferred from a second piece of equipment through a power take-off (PTO) shaft or series of gears, chains, belts, and/or pulleys.

## Recommendations

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The following precautions will substantially reduce the risks associated with grain auger use:

1. Educate all farm workers on safe operating procedures and hazards associated with augers.
2. Always perform a pre-operation safety inspection, checking fastener tightness, belts, chains, oil levels, the winch cable, etc.
3. Make repairs and adjustments prior to starting up the auger.
4. Use barriers (e.g., fences) to prevent persons not involved in the operation of an auger from entering the area.
5. Pay attention to the job at hand; do not daydream or operate augers while fatigued or distracted.
6. Do not ramp-up augers to reach tall storage bins.
7. Never allow inexperienced individuals to operate an auger without direct supervision from an experienced operator.
8. Do not allow children less than 18 years of age to operate an auger or enter the area near an auger.
9. Before starting an auger, the operator should ensure all protective shields, as supplied by the manufacturer, are in place and in good condition. According to the agriculture-safety standard 29 Code of Federal Regulations (CFR)1928, placement of guards on augers is required and must be consistent with their designed use.
10. Before service or repair, shut power off, then “lock” and “tag” the auger power source. Lockout prevents restoration of power while maintenance is in progress, tagging out the switch indicates that power is disabled and the reason why. (Refer to Hazardous Energy Control Safety Training Publication.)
11. Never wear loose clothing, jewelry, or have long hair untied while operating a grain auger.
12. Never step or jump on or over an auger while it is in operation.
13. Lower grain augers to a horizontal position before moving from one location to another. Always observe the presence and location of power lines before raising an auger into position.
14. Ensure good footing is maintained while working around augers.

15. Place portable augers on dry, level ground, or a gravel pad. Remove spilled grain between loads and be sure the equipment is turned off each time.
16. Never use your hands or feet to redirect the flow of grain or other material into the auger. There is a high likelihood that the extremity will become caught in the auger.
17. Pay attention to all entanglement hazard-warning labels.
 

Although auger-related injuries are preventable, they remain a serious public health concern for farmers and ranchers. Occupational injury surveillance and investigation data under-scores the risks augers pose for both disabling and fatal injuries among farmers, particularly the risk for traumatic amputation resulting from entanglement of extremities.
4. Prior to operating an auger what safety measures should be in place?
  - a. perform a pre-operation safety inspection, install personnel barriers (fences), and ensure all protective shields are in place and in good condition.
  - b. remove all nonessential personnel from the work area and ensure that the auger blade is as sharp as possible.
  - c. since the auger is fully enclosed, no extra safety measures are necessary.
  - d. since OSHA doesn't apply to farms, no safety measures are required.

### Answer Key:

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1. c 2. b 3. d 4. a 5. b

### Review

1. What are the safety practices that should be followed prior to the service or repair of an auger?
  - a. shut off power, remove fuse from power panel, and tell co-workers not to touch the power panel.
  - b. detach auger wiring from power source, place note on power panel to warn co-workers, and use test meter to verify that power has been disconnected.
  - c. shut off power to auger then lockout and tagout power source.
  - d. none of the above.
2. How should augers be transported around the farmstead?
  - a. fully extended so that it is easier to position the auger once you reach your destination.
  - b. lower grain augers to a horizontal position before moving and transporting.
  - c. completely dismantled for ease of transport.
  - d. augers are fixed equipment and are never subject to transport.
3. Why should hands or feet never be used to direct the flow of grain or other material into the auger?
  - a. hands and feet are too small to effectively direct the flow of grain
  - b. hands and feet will contaminate the grain and cause it to spoil
  - c. it is essential to hold onto the auger with your hand to hold it in place
  - d. it is extremely likely that the extremity will become entangled in the auger and amputation will result.

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### 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](http://www.tdi.state.tx.us).

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

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

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