

## News Article

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## Grain Bin Safety

There are many potential dangers on the farm this time of year, including grain entrapments and dangers while repairing or unclogging equipment.

This is especially important to keep in mind this year, when much of the grain harvested had high moisture levels and had to be dried down significantly prior to storage. If not properly dried, potential problems could develop in grain bins.

Purdue Extension farm safety experts say that a common cause of grain bin accidents occurs when wet grain forms a flat crust on the surface as it settles. As bins are unloaded, the crust stays in-tact while the grain below it is removed. Farmers may be deceived by what appears to be a full bin, but the crust can collapse and entrap them.

Wet grain also can form crusts along the sides of grain bins. Growers should never enter bins and attempt to dislodge the grain with a prod from below. This, too, can collapse and entrap them.

The experts say that up to 90 percent of grain entrapments could be eliminated if farmers did not work alone or enter grain bins when unloading augers are running.

With a 12-inch auger, it only takes 15 seconds to be in up to your waist, 30 seconds for the grain to be over your head, and within one minute you can be 6 feet under the surface. It's nearly physically impossible to get out in time, and digging around when trapped causes more grain to flow down.

When growers are out near grain bins, they should consider having one person at the top of the grain bin who can see everything and one person on the ground to make emergency phone calls.

A recent study (Riedel and Field, 2011) of over 800 grain storage and handling-related entrapments reported, "Approximately half of all documented entrapments have historically resulted in a fatality with the balance requiring assistance in extrication from the grain mass."

As recently as 2007, commercially available grain rescue tubes gave first responders an important new tool for grain entrapment rescue operations. Many township fire departments have since acquired these tools and trained their personnel on proper use.

Purdue Extension safety experts recommend never entering a bin when unloading equipment is running, whether or not grain is flowing from the outlet. Better still to lock out the control circuit.

In addition to shutting down equipment, it takes about five minutes to replace guards that have to be removed to change frayed belts on augers and other machinery, but it could save a grower's life.

Finally, the following are some safety tips from Purdue Extension publication S-77 on the dangers of flowing grain:

- \* Install ladders inside and outside all bins.
- \* Always use a rope and safety harness when entering a dangerous bin situation. Have two men who are capable of lifting you out standing by.
- \* Don't rely on a rope, chain or pipe ladder hanging from the roof. They are not reliable and may obstruct flow during filling or increase drag during unloading.
- \* Never work alone in heavy mold dust. Always wear a respirator capable of filtering fine dust particles. Avoid unnecessary exposure to mold dust. Your tolerance may be reduced with each repeated exposure and can lead to an acute reaction from any contact.
- \* If you should become trapped in a grain bin or silo, stay near the outer wall and keep moving. If necessary you can walk until the bin is empty and the flow stops.