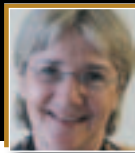


## NewsWatch

# It's just seconds to a grain bin entrapment



**NURSE  
MURF**

By HELEN MURPHY

**T**EST your knowledge. What are three types of grain bin entrapments? How many minutes does it take a worker to become engulfed in flowing grain bin with a common augur? What is the minimum number of people needed for a rescue?

Suffocation from drowning in grain is not an uncommon cause of death in storage bins. According to Purdue University that maintains a national database on engulfment cases, there are up to nine cases per year, the majority are fatal. These accidents happen when a worker enters the bin while it is being emptied from below.

An 8-inch augur typically will unload 3,000 cubic feet of grain per hour, which could submerge a 150-pound worker in eight seconds. Entrapments are also

caused by grain bridge collapses and wall avalanches.

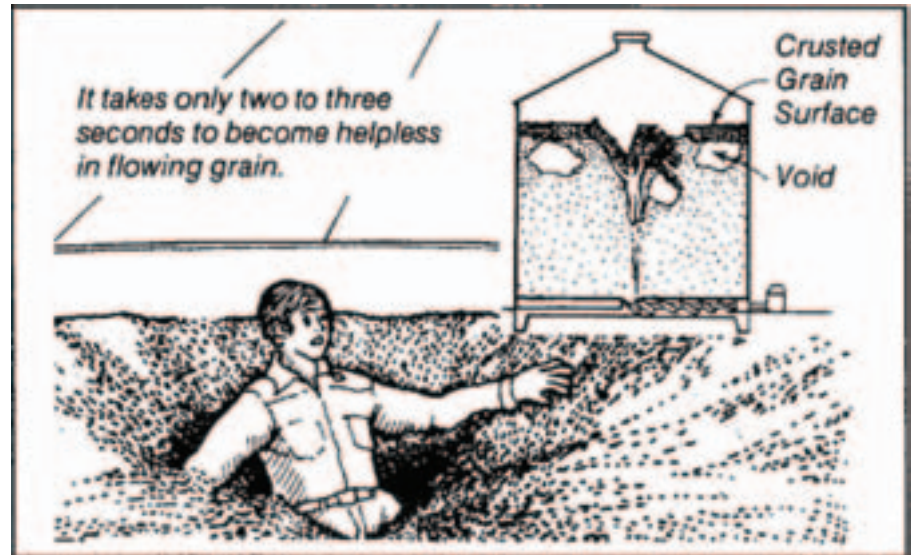
### Flowing grain

During unloading, grain will flow downward from the top center, which creates a funnel effect. That draws material and objects down under into the auger. Flowing grain behaves like quicksand, submerging and suffocating a worker.

Grain bridges also can be hazardous. They are formed when the upper layer of grain becomes hardened by mold or frost if not properly maintained. When the bin is unloaded, a hollow space is formed beneath the surface leaving a "bridge" on the top. The weight of a worker can make this bridge collapse, and the worker becomes buried in the cavity. If you do not see a typical funnel forming during unloading or an inverted cone, you've got a bridge.

### Grain avalanche

Grain in poor condition will cake against the bin wall. If a worker tries to dislodge it from beneath, the wall can break,



causing a grain avalanche and burying the individual. Walls should always be dislodged from above and from a manhole with a wooden pole to prevent electrocutions in case there are overhead power lines.

### Survival tactics

If you are a victim, covering your mouth and nose and staying as calm as possible to avoid hyperventilation that uses up precious air space will increase your chances of survival.

For rescuers, assume the victim is alive and never start the unloading augur or open the gravity flow gate. Turn on your ventilation system to provide as much air as possible. Then get help from an emergency rescue team. Do not attempt a rescue on your own. At least three people are required; those working inside the bin must wear a harness to withstand 5,400 pounds of stress.

Removal of the grain is the first priority. Digging out the victim is futile because of the grain's weight and its tendency to fall back onto the person. The most effective technique is to cut several V-shaped or semicircular openings uniformly spaced around the bin, at least 4 to 6 feet from the base or just below the level of the victim. This allows a controlled but rapid release of grain.

Avoid entrapments altogether by never walking on stored grain surfaces. But if required, always use a lifeline accompanied by a buddy.

*Murphy is outreach and education director at the University of Washington Pacific Northwest Agricultural Safety and Health Center. This is the last month Nurse Murf will appear.*

## NewsWatch Briefs

### MSU picked as home for Wind Applications Center

The National Renewable Energy Laboratory has named Montana State University as the home for Montana's new Wind Applications Center, which means more wind-related course work and research for MSU students and a demonstration turbine on campus. This article is available on the Web at [www.montana.edu/cpa/news/nwview.php?article=6135](http://www.montana.edu/cpa/news/nwview.php?article=6135).

### ODA issues 2007 report on pesticide use in Oregon

The Oregon Department of Agriculture has released the 2007 Pesticide Use Reporting System annual report, summarizing data collected last year — making it the first report to include information from a mandatory electronic reporting of pesticide use state-wide. The requirement to report online applies to anyone using a registered pesticide or pest control product in

the course of business, for a government entity or in a public place. The PURS 2007 annual report is available at [oregon.gov/ODA/PEST/purs\\_index.shtml](http://oregon.gov/ODA/PEST/purs_index.shtml), and can be found under "Annual Reports."

### Food science departments merge to create new school

An academic merger will draw together Washington State University and the University of Idaho food science departments. The new School of Food Science at the University of Idaho and Washington State University formalizes historic ties that have reached across the seven miles between them for decades.

### CSU researchers land largest single grant to study biofuels

A team of Colorado State University researchers has been awarded \$1.5 million to accelerate research in the de-

velopment of new crops for cellulosic biofuels. Cellulosic biofuels, unlike ethanol derived from cornstarch, are made from cellulose, which is a major component of cell walls in stems and leaves of all plants. Cellulose is superior to starch because there is much more energy available from it per plant.

### Washington state issues fines for pesticide violations

During the second quarter of 2008, the Washington State Department of Agriculture issued fines totaling \$4,550 and imposed license suspensions for violations of state pesticide laws and rules. Fines ranged from \$100 to \$4,000 for incidents that involved herbicide drift that damaged crops, creating fraudulent records, making false or misleading statements during an investigation, and not properly maintaining a pesticide storage area.



## Bring It In

Harvest is going well, so far – your wagon's loaded with grain for another trip to the elevator.

Suddenly, your driver turns too sharply onto the gravel road and dumps the overfilled wagon. He's not hurt, but your grain spills everywhere. Some can be recovered, but does your insurance cover what can't?

Don't worry – with **AgriChoice**®, Nationwide® Agribusiness's unique farm insurance, you're covered, including any damages to your machinery.

**AgriChoice**® – America's choice for farm insurance.

Call your local Nationwide® agent today.

It's time well spent.

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