

Engulfment is less common in gravity-unloaded systems, but it can occur when grain or feed is discharged into or “dumped” onto an unsuspecting person in a bin. Not working alone, coordinating with a rescue team and not entering a bin without a safety harness are necessary precautions for avoiding these tragedies.

How to Enter a Bin

Confined Space Entry

Airborne grain dust, microbial spores and inadequate oxygen to sustain breathing can cause the death of a person entering a grain bin (confined space). Persistent exposure to these airborne particles may cause “farmer’s lung” which may become an irreversible lung condition, eventually causing death.

Flowing grain hazards and mold and dust health hazards may exist when working with grain that has gone out of condition or has bridged into a precarious stack. Those who enter should wear NIOSH-approved dust filtering respirators to protect their lungs. Other more effective filtering equipment may prove to be a better alternative for extended exposures.

How to Reduce the Risk

Rule 1

A worker entering a grain or feed bin should have a body harness tethered to a lifeline that is manned

by two others outside the bin. One worker should be able to see the worker inside the bin through an access. This support crew can retrieve the one who entered the bin. One rescuer can get aid, if necessary, after the victim is retrieved, while the other is treating the victim.

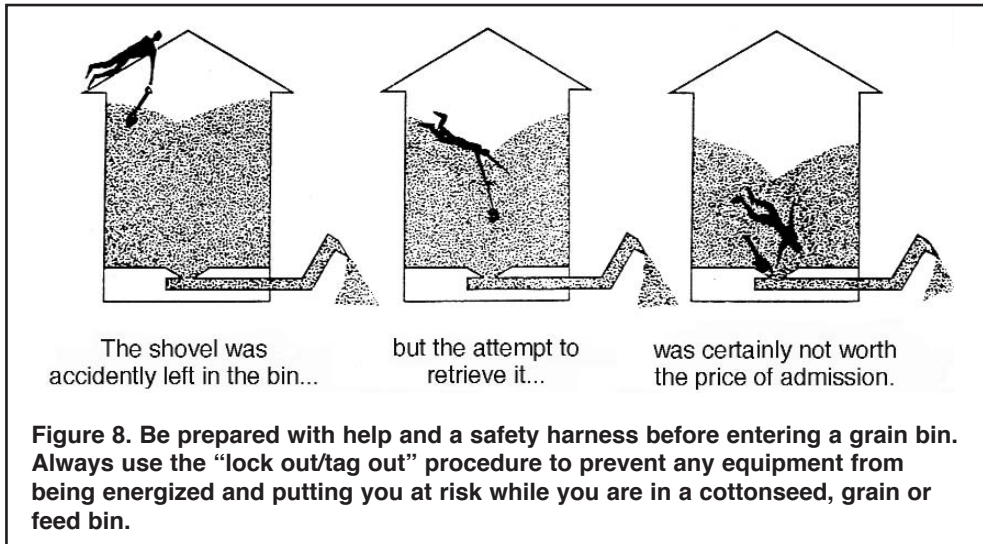
Don’t depend on being able to communicate from the inside to the outside of the bin. The use of prearranged arm and hand signals is one suggestion for these conditions. It is difficult to hear under any circumstances, but especially when grain handling or drying equipment is operating.

Rule 2

Never enter a bin of flowing grain. If you drop a grain probe or shovel, **first stop the flow of grain**, take the precautions given in Rule 1, then retrieve the lost item. Remember, no piece of equipment is worth a human life (Figure 8, page 6).

Rule 3

You should know or be wary about a grain bin’s history before entering. Get help if the grain surface appears moldy or caked. Get at least two helpers and have a tether and a safety harness. Strike the grain surface hard with a pole or long-handled tool before entry. Probe through the top layer and determine if there is a crusted surface; never get out of communication with your co-workers.



Rule 4

Don't fail to lock out/tag out related power equipment before entering any bin. It may also be wise to post a sign on the control box if it is possible that others may arrive after you padlock the control levers. If a bin is unloaded by gravity flow, padlock the control gate to keep it closed.

Rule 5

An accident response plan was mentioned toward the beginning of this publication (Figure 9). Any adjustments to rescue another should not endanger a second victim. A rescue should not increase the number of or the severity of injury to victims.

Having appropriate breathing apparatus is essential if the victim has been unable to get sufficient oxygen or has been breathing air containing

grain toxins. Use adequate dust protection and take a rope to **remove the victim from the bin without using your tether. Again, an adequate crew is essential to retrieve a victim without placing yourself in the same danger! Before concluding that you should enter a bin, assure that adequate help is available to pull you out with your tether and safety harness.**

Rule 6

Preventative safety measures should include proper ladders, scaffolds, etc. Modern bins have an interior ladder, and these can be installed in older bins. Have a body harness, tether, breathing apparatus and a minimum of two others in your crew if you have reason to enter a bin. Remember, always try other means first to alleviate a problem without entering the grain bin. Do not enter without following all accident prevention measures, having a trained crew and using the recommended equipment.

