

# Grain bin safety: The killer harvest

by Theresa Whalen

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The golden grain rushing through an auger to or from a grain bin should represent the rewards of a hard-earned harvest that brought satisfaction and prosperity. Unfortunately, all too often that golden harvest kills farmers.

Grain bins are commonly used to store grains such as corn, soybeans, wheat, oats, and sorghum. And every year several Canadian farmers suffocate in those same bins. Those deaths are preventable.

People can become caught or trapped in grain in three different ways: the collapse of bridged grain, the collapse of a vertical wall of grain, and engulfment in grain. Moving or flowing grain is involved in all three. People who work with grain – loading it, unloading it, and moving it from bin to bin – need to know about the hazards of flowing grain and how to prevent a grain entrapment situation.

“Flowing grain” is the term used to describe the down and inward movement of grain from a storage bin. A funnel is formed and the grain flows toward the bottom centre of the cone, causing quicksand-like suction. Flowing grain can exert a tremendous pull on a body caught in the flow. You will be helpless within three to four seconds. In 20 seconds or less, you can be completely buried.

Once the grain is waist level or higher, a person cannot be pulled from flowing grain without risk of injury to their spinal column. The grain will have a very strong grip on the body. Research has shown that up to 400 pounds of pull is required to extract a body from waist-deep grain. That is more than enough force to permanently damage the spinal column.

Most grain bin fatalities involve someone trying to break up a clog caused by crusted grain that is wedged above the unloading well in a bin, shutting off flow of grain to the unloading auger. Farmers are caught when they climb into the bin with a pole to free the clog. Too many times they climb in alone, without a safety harness and with the auger running. It may seem more convenient that way – but it can be deadly. Once the clog breaks, the tremendous suction power of flowing grain pulls-in the victim before he has time to react.

The best way to prevent grain bin disasters is to ensure the grain put into bins is in good condition, and stays that way so that clogs don't occur in the first place. However if you must enter a bin, never enter when grain is being removed. Only enter when the power is off and locked-out on the unloading conveyer and auger. Always use a safety harness and safety line and have at least two people near by prepared and capable of helping in an emergency.

This may take a few extra minutes of planning, preparation and aggravation – but what is that compared to the rest of your life? You are worth the effort.

For more grain bin safety advice, check out <http://www.ag.ndsu.edu/pubs/ageng/safety/ae1102w.htm> . More information on this and other farm safety topics is available at [www.casa-acsa.ca](http://www.casa-acsa.ca) or [www.cfa-fca.ca](http://www.cfa-fca.ca) .

*“PPE only works if you use it!”* is this year’s Canadian agricultural safety campaign theme with a focus on the use, fit and access of personal protective equipment (PPE) in agriculture. The yearlong campaign was launched last March with Canadian Agricultural Safety Week.

- 30 -

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