



# #10 GRAIN BIN SAFETY

## Talk Leader Instructions:

*This is background information ONLY. Be sure to customize to your operation and facilities.*

- ✓ Print copies of this sheet for yourself and each of the participants.
- ✓ Lead a discussion with your workers about the materials on this sheet at a location that is appropriate to the topic. Be sure to give real life examples whenever possible.
- ✓ Be open to questions.
- ✓ Conclude with a brief review of the main points or a summary based on the discussion.
- ✓ Fill in your operation name, location and the date on your sheet. Have each worker sign your sheet to confirm their attendance.
- ✓ File your sheet in your worker training records to document the training experience.

## WORK ACTIVITY

Every year, several Canadian farm workers suffocate in grain bins. These deaths are preventable.

People can become caught or trapped in grain bins 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. When you work with grain - loading it, unloading it and moving it from bin to bin - you need to know about the hazards of flowing grain and how to prevent injury.

## BACKGROUND

We enter grain bins for several reasons, such as to monitor the grain condition, break a crusted layer or check the grain or bin during loading or unloading. Also, children may wrongfully enter a bin or wagon to play.

With bottom-unloaded bins, the inlet for the unloading auger is at the centre of the bin floor. During unloading, a vertical column of grain flow forms a funnel-shaped path directly over the inlet when the auger is running. When an object like a shovel or a person gets in this flowing path, it is rapidly pulled down with the grain. It takes only a few seconds to be knee deep, only about five seconds to be unable to break free and only a few more seconds to be completely engulfed. Once the grain is waist level or higher, a person cannot be pulled from flowing grain with out risk of injury to their spinal column.

## ENTRY PROCEDURE

**Remember we have detailed entry procedures in our Standard Operating Practices. I want to cover a few of the key points:**

- Don't enter a grain bin unless you have a plan. Make sure children know the grain bin is off limits.
- If you must enter a grain bin, have at least two people nearby prepared and capable of helping in an emergency.
- Use extreme caution if entering a bin with wet, mouldy or spoiled grain in it. Air hazards may include toxic gases, dusts and reduced oxygen content. Turn on the blower and use respiratory protective equipment in such situations.
- Lock-out the power source to the auger, ensuring no one can start filling or emptying the bin while you are inside.
- If there is a permanent ladder on the inside of the bin, stay on the ladder above the level of compacted or bridged grain while dislodging the grain. Wear a full body harness with the lanyard attached to the ladder above your head. If you are in a bin that doesn't have a permanent ladder, then use a safety harness with rope and secure it to a point outside the bin.

## EMERGENCY PROCEDURES

- Plan for escape before entering. Always have a person watch from the outside. The watcher should have clear instructions on what to do in an emergency. The first instruction must be: "Don't follow me in," followed by "Call 911 and get help here if I get trapped." (cont'd on page 2)



# #10 GRAIN BIN SAFETY PAGE 2

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## EMERGENCY PROCEDURES (cont'd from page 1)

- If you are in a bin without a ladder and the grain starts to flow, try to reach the bin wall and keep walking around the bin next to the wall. Remember grain moves slowest along the wall and fastest at the centre. (cont'd on page 2)
- If trapped by grain do not panic - the grain will pack tighter. Shield your face and chest with arms and clothing to create space for breathing.
- If someone is trapped in a grain bin, empty the bin by opening any side outlets or cut flaps in the walls all around the base of the bin using power tools. This way, the grain will flow outward and away from the victim, rather than using the unloading auger, which will continue the downward funnel-like suction.

## EMERGENCY PROCEDURES / CONTACTS

In case of emergency, call 911 or your local emergency services.

## MORE RESOURCES

For more grain bin safety advice, check out <http://www.agsafety.psu.edu/Factsheets/E43.pdf>

### COMMENTS / SUGGESTIONS:

Operation Name \_\_\_\_\_

Location \_\_\_\_\_

Meeting Leader \_\_\_\_\_

Date \_\_\_\_\_

### TOOLBOX TALK PARTICIPANTS

Print name \_\_\_\_\_ Signature \_\_\_\_\_

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