November 2020

Grain Bin Safety

Two of the most common on-farm hazards related to grain bins are:

Falls:

Falls inside or outside of a grain bin or storage structure can occur when workers are accessing ladders, catwalks or other elevated walking surfaces and bin roof entrances.

Alberta Occupational Health and Safety Legislation requires an employer to develop a fall protection plan if a worker may fall three meters or more and are not protected by guardrails.

There are a lot of older grain bins that continue to be used because they are structurally sound; however, it is very likely they are not built to the standards of today's bins, for example:

- Ladder rungs may be too close to the bin wall

- There may not be a roof ladder to reach the bin lid
- It may be lacking anchor points for tie off when using fall protective equipment
- The weight loading on the ladder may be underrated, etc.

Additional concerns might include rust or possible damage incurred over the years.

What can you do to help prevent falls?

A fall protection plan is actually quite simple and is an excellent tool for ensuring all of your safety measures are in place.

It covers:

- Identifying the fall hazards at the worksite
- The Fall Protection System to be used at the worksite
- Anchors to be used during the work
- Verification that clearance distances below the work area will prevent the person from hitting the ground, another work level or an object below
- Procedures to assemble, maintain, inspect, use and disassemble the fall protection system
- Rescue procedures to be used if a worker falls and is suspended by a personal fall arrest system or safety net; It is important to remember that when a person falls and is caught by their harness, their circulation is restricted causing what is called suspension trauma which can lead to circulatory shock and potentially be fatal

There are many steps that you can take to reduce the risk of working at heights. The best option is always to eliminate going up where possible. This can be done by:

- Installing automatic grain bin lid openers
- Installing high level detectors such as a rotary or diaphragm switch to indicate when the bin is full, or
- Installing remote grain monitors to check temperature, moisture and CO2 levels

Remember…Good Grain Quality = Safety + Profit!

With regards to ladder use when someone must go up, there are addition points to keep in mind:

- Pre-inspect ladders
- Use 3 Points of Contact
- Wear non-slip footwear
- Face rungs and don't reach
- Use tool belts or pulleys to carry tools and equipment
- If your task requires the use of a portable ladder, place the ladder footings on level, solid ground and remember the 4:1 rule (for every 4 feet high, place the base of the ladder one foot away from the structure)

As before, when someone must to go up, ways to reduce the risk include:

- Installing guard rails, ladder cages, steps or other means to prevent the fall from happening
- Completing a fall protection plan and have a rescue plan in place and practiced
- Using the correct PPE and inspect it before and after use
- Training workers and supervisors in safe work practices, procedures, hazard recognition, hazard control measures
  and Emergency Response Plans specific to your farm

Entrapment or Engulfment

When someone is entrapped, they are partially submerged and cannot get out; it takes less than five seconds to become entrapped in a grain bin and less than 60 seconds to become completely submerged and die of suffocation.

There are multiple reasons for entering a grain bin:

- Checking feed condition
- Taking samples of grain
- Verifying that new grain will preserve
- Performing a rescue
- Needing to clean the bin
- Attempting to locate hotspots

Ways to prevent grain bin entrapment or engulfment:

1. ***Train workers and supervisors*** in safe work practices, procedures, hazard recognition, hazard control measures, confined space entry, your farm's permit system and Emergency Response Plans
2. ***Ensure that an attendant is stationed outside*** the bin, is in direct contact with the person working inside the bin, is trained in the emergency response procedures and knows who to

contact in the event of an emergency

3. ***Lock Out Tag Out*** and de-energize all grain entry points and equipment, such as the sweeper auger and the subfloor auger
4. ***Establish a work zone***; post signage warning of the hazards and flag or rope off the area as appropriate to keep unauthorized individuals from entering

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Welcome to our new Safety Manager!

Kaia Fossheim was raised on farm North of Edson, Alberta. Her parents and older sister broke away from the paternal family farm to start their own a few years prior to her birth. Her childhood was spent in the field, garden, working cattle & sheep, tending to chickens, rabbits, horses and at times helping her father on his sawmill. Clearing land and starting a farm has its many challenges, so her father often had to be away working in the oilfield. When he was home, she credits her father with passing on a lot of the safety minded thinking that was coming into the oil patch at that time. The family would often have tailgate meetings about the jobs they were going to perform and to think about what could go wrong before starting. Her family was always keenly aware of the impact being down a person could make whether due to injury or illness , with her father working out of town frequently and her mother dauntlessly handling serious health challenges while overseeing the farm in her husbands absence. They were all grateful to be able to exchange help with other family members who farmed, and continue to be thankful for the sense of community among the many farmers and family members who helped with the tasks Kaia and her sister were too young to perform during some difficult times.

Kaia's formal health and safety experience first started two decades ago as a business owner, where she recognized the responsibility she had to employees and their families. Both personal experience as well as conversations with friends, family and acquaintances who had been injured or lost someone they loved at work left a lasting impression on her over the years. Kaia spent some time as a first responder, which she found only deepened her passion for preventing needless

injuries and loss of life, particularly in rural areas where resources and response times can be far from ideal. Kaia ultimately committed herself to a dedicated career in health and safety, and promptly started furthering her education in this field though the University of New Brunswick and the various Health and Safety & Emergency Response Associations.

Kaia is honoured to be a part of the AgSafe Alberta team and is ecstatic about being able to help support farmers and ranchers of all types and sizes to live and work safely.

Safety Minute

In January 2020 OHS investigated an incident involving a worker who was pinned under a bale. Here are some tips to keep everyone safe when moving, stacking and loading bales

Child Safety and Bales

- Ensure children are not allowed play on top of stacked bales or use the stack as a play area/den/fort.
- Keep children out of the work area during stacking and de-stacking work.
- Do not allow children to ride on a stack of bales being carried on a trailer or on bale handling equipment.
- Remove ladders to prevent children gaining access to bale stacks.
- Children should not be allowed in the farmyard or fields where bales are being moved, handled or transported.

Safe Stacking

- Chose a level, even and stable surface or well drained area to store bales; soft or uneven ground increases the risk of an incident.
- Keep others away from the stacking/de-stacking area to prevent injury if a bale were to fall.

Round Bale Handling

- Where possible, it is best to store round bales one high on their flat ends.

- Do not stack more than 3 bales high; where the bales are not very dense or are soft, a maximum height of two bales is advised.
- Stacking soft round bales on their ends is not recommended.

Square Bale Handling

- Square bales should be stacked in an interlocking pattern to tie-in the bales with the row underneath.
- The maximum height of a stack of square bales should be one and a half times the width of the base.

Removing Bales from the Stack

- Remove bales from the upper row first; do not remove bales from the bottom or middle of the stack as it may lead to dislodgement and the risk of being crushed by a falling bale.
- Be mindful some settlement of the remaining bales may occur after removal from the stack.

Transporting Bales using Tractors and Loaders

- Equipment operators must ensure that their view is not obscured when feeding.
- If you need to dismount from the tractor or loader transporting bales to carry out another task (i.e., to open a gate or remove plastic/twine from bales), ensure the hand brake is fully engaged, turn the engine off and remove the key.
- Ensure your tractor, front end loaders or other equipment that is used to move bales are fitted with falling objects protection (FOPS) and roll over protection (ROPS).

Transporting Bales using Trailers and Truck Trailers

- Trucks used to transport bales must not be overloaded.
- Never allow bales to overhang the edges of the trailer or truck.
- Secure the load with suitable straps and follow load securement procedures.

We want to hear from you!

Every month, we will be including a survey question for our subscribers about ag safety!

November's question is:

How do you think most people are injured on farms and ranches?

AgSafeAB.ca

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