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PRESS RELEASE

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CONFINED SPACE ENTRY

If you're going in, observe all the safety principles.

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Whenever a feedyard worker enters an enclosed space to perform work, they are exposed to inherent risks for injury or death.

The Occupational Safety and Health Administration (OSHA) defines a confined space as any area that is not necessarily designed for people but is large enough for a person to enter. Confined spaces found in a feedyard include grain bins, tanks, silos, storage bins, feed mixer wagons and tanks, hoppers, pits, water storage tanks, equipment housings, etc.

Identifying confined space safety principles is one of the aims of Central States Center for Agricultural Safety and Health (CS-CASH). This University of Nebraska Medical Center group (<https://www.unmc.edu/publichealth/feedyard/>) is conducting two research projects (funded by National Institutes of Occupational Safety and Health) that are designed to make a positive impact on the sustainability of cattle feedyards through increased safety and health efforts.

To prevent injury or death in these situations, workers must be trained to recognize hazards and know how to safely accomplish a task in a confined space.

The first step to prevention is to recognize what constitutes a confined space. Employers should evaluate all confined spaces in the workplace and determine what actual or potential hazards exist in that space.

Evaluation of a confined space must consider all physical and other hazards. Before and during entry, test and monitor for oxygen content, flammability, toxicity, and explosion hazards. Ensure that the confined space is properly ventilated. Workers entering confined spaces must maintain contact at all times with a trained attendant either visually, by phone or

by two-way radio. Appropriate equipment for the space – fall protection, rescue, air-monitoring, lighting and communication – should always be used.

Personal Protective Equipment commonly used in confined space entry includes a hard hat, eye protection with side shields, gloves (heavy-duty work gloves for handling debris and/or chemical protective gloves appropriate for potential contact with chemicals), ANSI-approved protective footwear and respiratory protection as necessary.

Train workers to never enter a confined space before the hazards and steps to address the hazards have been outlined. Train workers how to enter, how to exit and how to respond to an emergency if it does occur in the confined space where they are working.

Common hazards related to working in a confined space include

- lack of or excess oxygen
- gases, fumes or vapors
- flooding
- dust
- fire or explosion
- temperature
- access restrictions

Oxygen can be depleted in a confined space through naturally occurring reactions. Any reaction that produces carbon dioxide – such as breathing – will displace oxygen. Excess oxygen is also hazardous because it can result in an explosion.

Poisonous gases and fumes can build up in confined spaces, especially where there is a lack of ventilation. Poisonous fumes may also leak into a confined space or be generated within the space through welding, painting, etc.

To avoid being overcome by poisonous fumes, etc., always conduct air sampling prior to entering a confined space. Make sure the sampling equipment has the capability for measuring potential byproducts.

Be aware of flooding hazards as confined spaces can fill with floodwater in seconds, trapping the worker. Naturally occurring dust or dust generated by drilling or grinding can quickly build up in a confined space and cause respiratory hazards. Dust also poses a risk for fire and/or explosion, especially in an area with a lack of ventilation.

Flammable vapors, liquids, gases, or dust within a confined space greatly increase the risk of fire or explosion in that space. That is especially true if tools which can generate a spark are used within the space.

Strenuous work in high heat can lead to a dangerous increase in body temperature, especially in a confined area where ventilation hinders cooling of the space and the person working there. Risks of working in these conditions include heat stroke, exhaustion, and collapse.

If a confined space is difficult to access, the risk of not being able to reach a worker in distress is greatly increased. Anyone working in such conditions should be fully aware of how to exit the space or how they might be carried out of the space if necessary.

Among the means of controlling confined space hazards are:

- Developing a written safety procedure prior to entry and implementing it with every entry.

- Including an effective communication process within the safety procedure.
- Cleaning and ventilating the space prior to entry.
- Providing additional lighting within the space as appropriate.
- Use of non-sparking tools inside the space.
- Use of breathing equipment as appropriate.
- Having someone outside the confined space monitor the worker whenever they enter the space.
- Use lifelines as appropriate.
- Train with and rehearse emergency rescue procedures on a routine basis.

If equipment such as a generator or other noisy device is used, set it up as far as possible away from the worker to avoid noise-induced-hearing-loss. Determine whether or not hearing protection is appropriate for the worker.

Anytime unknown chemicals are discovered in the confined space, follow OSHA's guidelines for PPE and procedures for safely resolving the presence of the substance.

Workers should be aware that weather conditions – rain, heat, cold, snow – could add to the hazards related to entering a confined space. Rainy conditions may increase the risk for slips, trips, or falls. Heavy rain could also inhibit visibility and communication with the worker inside the confined space.

High temperatures will automatically heat up a confined space, which could mean contents within the space could react differently than in cooler conditions and potentially add new entry hazards. Freezing temperatures, ice, and snow all add to the hazards of entering a confined space. Training information should emphasize the importance of being aware of environmental conditions and how those conditions are impacting the proposed work area.

Workers should also be aware of potential for the unexpected presence of animals – such as bees, hornets, biting insects, snakes, etc.

Before allowing a worker to enter a confined space, employers should ensure the worker fully understands the hazards and the safety procedures necessary to address them. It's also critical to ensure that the worker implements the required safety practices.

Whenever appropriate, implement a plan to provide the necessary ladders or other accessories needed to safely enter and exit a confined space.

An emergency response plan should be part of the overall confined space entry procedure. Identify who will be involved, how they will contact authorities and where they will locate emergency contact information.

Planning a safe entry and training all employees to implement it will make confined space entry safer, easier and more effective.

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