



Silo Gas Hazards

Silo gas is a confined hazard that is formed after chopped silage is loaded into the silo. A natural fermentation process takes place, releasing gases. Nitrogen dioxide (NO₂) and carbon dioxide (CO₂) are of the greatest concern. These gases can kill with even minimal exposure. NO₂ is toxic while CO₂ displaces the oxygen supply in a silo. Farmers should make sure everyone takes the proper steps to protect themselves from silo gas.

- Label silo to warn of the gas hazards.
- Be aware of the signs of silo gas such as a yellow-brown color in the air or a bleach-like odor.
- Lock access to silos to keep bystanders and children out.
- Do not enter silos after filling has started. Silo gas concentration may be the highest 48-72 hours after filling. Lethal concentrations may exist for up to three weeks in poorly ventilated silos.
- Run the blower to ventilate the silo at least 20 minutes before entering.
- Obtain and use monitoring equipment to determine the level of NO₂, CO₂ or O₂ present. If dangerous levels exist, do not enter.
- A self-contained breathing apparatus must be worn when entering a silo and the person wearing it should be trained in its use. A safety harness should also be worn and personnel should be available outside the silo to monitor the entrant's progress.

Inspection

- Is monitoring equipment operational?
- Is a safety harness being used?
- Is the silo well ventilated?
- Are silo doors in good repair?
- Are ladders in good condition?
- Is lockout available for power?
- Are guards and shields in place?

Information supplied by the National Safety Council's Agricultural Division, the National Education Center for Agricultural Safety (NECAS) – www.necasag.org or 888-844-6322.