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.