

# Beware of Silo Gas

Craig Saxe  
Agricultural Agent - Juneau County  
University of Wisconsin-Extension

During silo filling and for about 3 weeks after, take special care when entering or working around a silo. Silo gas, which is formed as newly stored silage ferments, can cause serious injuries – severe respiratory distress, permanent damage to lungs, and even death. According to Mark Purschwitz, University of Wisconsin-Extension Agricultural Safety and Health Specialist, silo gas has predominately been a concern with corn silage but there have been incidents of silo gas exposure from haylage, so do not overlook silo gas concerns when dealing with haylage.

The primary component of silo gas is nitrogen dioxide. This highly corrosive, toxic gas mixes with moisture, such as the moisture in the lungs, to form nitric acid. Low concentrations of nitrogen dioxide will cause a burning sensation in the nose, throat, and chest. Heavy concentrations can cause death within seconds. Even brief exposures to moderate concentrations can cause extensive lung damage and pneumonia. Because silo gas is heavier than air, it will settle on the surface of the silage and flow down the silo chute if given the opportunity. Anyone exposed to silo gas should see a doctor and explain what happened. Even though they might feel better after getting fresh air, they can still die many hours later, as fluid collects in the lungs.

To prevent silo gas exposure the following steps are recommended:

- Stay out of the silo for three weeks after filling. This is the peak period of silo gas information. Keep the silo room closed off from the rest of the barn, and ventilate it to remove any gas that flows down the chute.
- Before you enter the silo for the first time, run the forage blower for 30 minutes, and leave it running while inside. Ventilate the chute and silo room as well. Have someone with you outside the silo to go for help if needed.
- If you must enter the silo to level off or set up an unloader after filling, do so immediately after the last load is in. Do not wait until after supper or the next day. The blower should be running while you are inside.
- Since silo gas settles to the bottom of the silo, be aware that air from the forage blower may not adequately ventilate a partly filled silo. Some recommend leaving silo doors open to allow gas to escape, but be sure to close off and ventilate the silo room.
- Keep children and visitors away from the silo area during the danger period