

Farm Safety

Avoiding and reducing hazards can save lives

According to the United States Department of Labor and the National Safety Council, agriculture is the most **hazardous** industry in the nation.^{1,2} Farming is one of the few industries where not only workers but also their families (who often share the work and live on the premises) are at **risk** for fatal and nonfatal injuries.¹

There are approximately 2.2 million farms in America³ with 1.2 million farm operators, 1.2 million hired workers, 3.0 million migrant workers,⁴ and 1.12 million youth.⁵ Fatal injuries constitute a significant burden on the agricultural sector¹ with 28.7 deaths per 100,000 adult workers (compared to an average

rate of 3.7 deaths per 100,000 in all other industries⁶) and 43 deaths per 100,000 youth.⁵ Over 700 farmers and ranchers die in work-related accidents yearly, and an estimated 200 plus youth die while doing farm work or simply being innocent bystanders.⁷ An additional 120,000 agricultural workers suffer disabling injuries from work-related accidents.⁷ An estimated 22,648 youth are seriously injured annually.^{8,9} Every day, about 243 agriculture workers suffer lost-work-time injuries.⁶

“Farming has changed over the years, with more machinery to help with more work. Equipment is bigger, faster, and more powerful. There’s more to do, more to do it with, and less time to get the job done.¹⁰ The safety risks for children on farms today may be different from what they were when today’s adults were growing up.” With all of these changes comes a need to take a critical and vital look at keeping the work and home environment safe for old and young alike in agricultural surroundings.

Hazards & Risks

Knowing the dangers

“A **hazard** is anything with the potential to do harm. A **risk** is the likelihood of potential harm from that hazard being realized. For example, the hazard associated with power-driven agricultural

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machinery might be getting trapped or entangled by moving parts. The risk may be high if guards are not fitted and workers are in close proximity to the machine. If, however, the machine is properly guarded, regularly maintained, and repaired by competent staff, then the risk will be lower.”¹¹

Farm workers – including farm families and migrant workers – are exposed to hazards such as the following: chemicals/pesticides, manure pits, cold, mud, dust, noise, electricity, ponds, falls, silos, grain bins, slips/trips, hand tools, sun/heat, highway traffic, toxic gases, lifting, tractors, livestock handling, wells, and machinery/equipment.¹²

Although we can’t address all farm hazards here, we can address those largely involved in farm accidents and injuries and point you to guidelines and resources for preventing and protecting against



other hazards. We'll look most closely at the following four areas:

- chemicals and pesticides;
- machinery, tools, and equipment;
- livestock; and
- storage areas.^{9, 13}

Chemicals & Pesticides

Take precautions for safe use

"During their daily work, farm workers are often exposed to pesticides, which include substances that prevent, destroy, or repel pests. Because some pests have systems similar to the human system, some pesticides



also can harm or kill humans. The term pesticide also encompasses herbicides, fungicides, and various other substances used to control pests."⁶ "Farm workers frequently encounter pesticides through direct contact with the chemicals, contact with pesticide residue on treated crops or equipment, and drift of pesticides into untreated areas."⁶ "Farm workers can also transport pesticides from the fields into their homes through residue on their clothing, boots, and skin. This puts the farm worker's entire family at risk, especially because pesticide residue in the home is not degraded by the sun or rain."⁶ "Studies indicate that pesticide exposure is associated with chronic health problems such as:

- respiratory problems,
- memory disorders,

- dermatologic conditions,
- cancer,
- depression,
- neurologic deficits,
- miscarriages and infertility,
- birth defects."⁶

"In severe cases, pesticide exposure can lead to convulsions, coma, and death."⁶

"To protect family members from take-home contamination, the following should be followed:

- **Put on clean clothes.** At work, change into clean clothing and shoes before getting into the car and going home. Put dirty work clothes and shoes in a plastic bag, or leave them at work.
- **Remove shoes.** If you wear work shoes home, take them off before entering the house.
- **Wash hands.** Wash your hands and face at the end of a work shift and before leaving work.
- **Shower at work.** Take a shower and wash your hair before leaving work if possible or as soon as you get home.
- **Doing the laundry.** Wash work clothes separately from all other clothes. Empty work clothes from the plastic bag directly into the washing machine, and wash immediately. Run the empty washing machine again to rinse out contaminants.
- **Dust at home.** Make sure to keep your home clean and dust-free."¹⁴

"Growers should provide employees with the time and facilities to change clothes and wash, as is required in high-exposure lead jobs. Growers can support conscientious employees who are taking precautions and encourage lax workers to begin doing so. It is through this kind

of active cooperation between workers and producers that we can both secure the benefits of pesticide use *and* minimize the risks associated with these chemicals."¹⁴

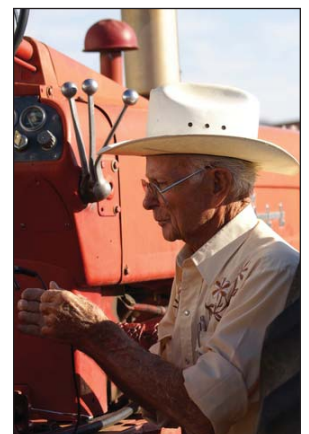
We want to keep our farmers safe and remember, also, that farm safety isn't just for farmers. Youth who live on the farm or teens who are employed with summer jobs on the farm may be unaware of hazards. People merely visiting the farm can also be at risk.⁹ "Locks and childproof containers are necessary when storing pesticides and chemicals. Because poisons can be ingested, inhaled, or can get into eyes or be absorbed through skin, kids should never be allowed near them. You can take another precautionary step by labeling the containers of poisonous materials with warning signs. Never keep poisonous materials in unmarked bottles – that's a dangerous practice for kids and adults who may get the poisons confused with another substance."¹⁵

Machinery, Tools, & Equipment

Operator responsibility reduces risks

"Most farm accidents involve machinery."¹⁶ "Tractors are the most frequent and most deadly cause of machinery injuries."¹⁵ Other common machinery injuries include being crushed or losing

limbs in equipment like combines, threshers, hay processors, and riding mowers.¹⁵ There are many different kinds of



farm machinery, but they all have similar characteristics and hazards. “You can be cut, crushed, pulled in, or struck by an object thrown by these machines. They have cutting edges, gears, chains, revolving shafts, rotating blades, pinch points, and other hazards. You can also be injured if you fall while working on or near any of these machines.”¹⁷

Unfortunately, “many machinery-related accidents result from human error.”¹⁷ The operator may:

- forget something,
- take a shortcut or risk,
- ignore a warning,
- not be paying close attention to some factor,
- forget to replace a guard that had been removed for maintenance, or
- fail to follow safety rules.¹⁷

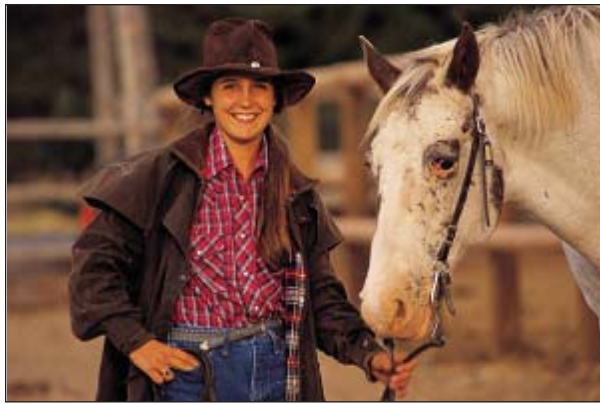
The good news is, this means there’s something we can do about it. Use these [Machinery, Tools, & Equipment Safety Tips](#) to help reduce risk for injury and fatality.

Livestock Safe animal-handling practices

Livestock hazards are two-fold. Improper or unsafe livestock handling can contribute to:

- injury, and
- zoonotic diseases (diseases transmitted between humans and animals¹⁸).

Whether you are a farm worker, rancher, family member, or visitor, it is important to consider animal behavior and what it means to your personal safety.^{18, 19} “Animal-handling practices are often inherited from watching others and from our own experiences growing up on the farm. Too often, this results in unsafe animal



handling and restraint practices.”¹⁸ “Individuals may work carefully around animals most of the time, but then are injured in an animal incident because of preoccupation, haste, impatience, or anger. It is during these moments that a livestock handler really needs to understand animal behavior.”¹⁸

Below are some common characteristics and instincts of animals:

- They have strong territorial instincts.
- They can be excited or spooked by changes in lighting or shadows.
- They can have unpredictable behavior when separated from other animals.
- They are frightened by sudden or loud noises.
- Some types of livestock, such as beef cattle, swine, and dairy cattle, are colorblind and have poor depth perception. This factor causes them to be sensitive to contrasts in light, movement, and noises.
- Cattle and horses can see everything around them except directly behind their hindquarters.¹⁹

Planning ahead, maintaining equipment, and acting appropriately based on knowledge of the above animal instincts can go a long way in reducing the risk of injury and fatality around

livestock. Use these [Tips for Working Safely around Livestock](#).

“Zoonoses are infectious diseases common to animals and humans. At least 24 of the over 150 such diseases known worldwide are occupational hazards for agricultural workers in North America. The agricultural worker’s risk of acquiring a zoonotic

infection varies with the type and species of animal and the geographic location. Infectious zoonotic diseases of particular concern to livestock handlers are leptospirosis, rabies, brucellosis, salmonellosis, and ringworm.¹⁸ “A livestock producer can contract zoonotic illnesses by being bitten by the animal, handling an infected animal, or disposing of infected tissues.”¹⁸ To reduce exposure to disease, use basic hygiene and sanitation practices, which include:

- proper hand washing with warm water and soap,¹⁵
- prompt treatment or disposal of infected animals,
- adequate disposal of infected tissues,
- proper cleaning of contaminated sites, and
- proper use of [personal protective equipment](#).¹⁸

Storage Areas Invisible hazards

“Confined work spaces can be very dangerous. You can be at risk of being overcome by gases when entering a confined area such as a manure pit, silo, grain bin, or other confined areas, that may not have enough ventilation. Gases that build up in manure pits and silos can quickly kill an unsuspecting worker. Workers entering grain bins while the bin is being emptied may risk being



crushed or suffocated by flowing grain. Breathing moldy dusts can also cause lung damage.”²⁰

Grain bins. “Grain entrapment is one of the least understood hazards in today’s family farm operations. Within the past three decades, more than 200 farmers or family members have died from grain suffocation in the United States.... With today’s high-capacity loading and unloading systems, people are helpless in flowing grain within seconds. Workers also may be trapped in grain when a horizontal bridge of crusted grain collapses, or in the avalanche of a vertical grain wall inside a bin.

Countless people have experienced a “close call,” that is, they have found themselves either trapped in grain or swept through an outlet in flowing grain. The most common remark of survivors is that they never anticipated the tremendous force of grain.”²¹

Following a few rules can keep your farm family and employees safe from grain incidents. Always use [Safe Practices in and around Confined Spaces](#).

Manure Pits. “A confined-space hazard that often claims multiple lives before anyone realizes there is a danger is manure gas.

This document is meant for educational purposes only and is not intended to replace the advice of your doctor or other health care provider.

Manure pits can be oxygen-deficient, toxic, and explosive.”²² There are four gases in manure pits that are of primary concern: [hydrogen sulfide](#), [carbon dioxide](#), [ammonia](#), and [methane](#) gases. Use [Safe Practices in and around Confined Spaces](#) to prevent fatalities.

Silos. Like manure pits, “[methane gas](#), [carbon dioxide](#), [ammonia](#), and [hydrogen sulfide](#) can also be present in unventilated grain silos... in quantities sufficient to cause asphyxiation or explosion.”²³ “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.... These gases can kill with even minimal exposure. Farmers should make sure everyone takes the proper steps to protect themselves from silo gas”²⁴ and uses [Safe Practices in and around Confined Spaces](#).

Farm Safety It involves everyone

When it comes down to it, farm safety involves everyone. Operators, employees, families, and even visitors need to be informed. Then, each individual must do their part to act safely. It’s easy for any one of us to get in a hurry and take a shortcut, forget to do something like replace a protective guard, or become frustrated with some aspect of the hard, daily

work required on the farm that causes us to act unsafely. We all know it takes time to act safely – something we often feel we have so little of. Please take the time! You can begin by taking a [safety audit](#) or using a [health and safety checklist](#) to help you think about potential hazards that need to be addressed.

Remember, “unsafe operation can cause injuries and illness. If you are unable to do the work, who will do the work? How will being short-handed affect your business? If people who work for you are injured, how does that affect your workers’ compensation insurance rates? Who covers for workers while they are gone?”²⁵

“Better safety and health practices reduce worker fatalities, injuries, and illnesses as well as associated costs such as workers’ compensation insurance premiums, lost production, and medical expenses. A safer and more healthful workplace improves morale and productivity.”²

Find more helpful resources on farm hazards and safety [here](#).



To view the references used in this newsletter, go to:
<http://fcs.tamu.edu/health/healthhints/2009/dec/ref.php>

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Machinery, Tools, & Equipment Safety Tips

Understanding the working parts of farm machinery can help you avoid and reduce hazards (see the glossary below). The following tips can help you reduce the risk for injuries and fatalities as you work with machinery, tools, and other farm or ranch equipment.

- Wear clothing that fits well and is not loose fitting to avoid being caught in [pinch points](#) (e.g., where two pieces of machinery move together with at least one moving in a circle).¹
- Never reach over or work near unguarded rotating parts.¹
- Turn off machinery to work on it.¹
- Always replace shields that were removed for maintenance.¹
- Check all equipment for potential [wrap points](#) (e.g., where clothing or hair could be wrapped around a shaft), and if possible, shield those points that can be shielded.¹
- Replace any damaged manufacturer-installed warning labels, and place warnings on equipment parts not previously labeled (consider painting them a bright color, perhaps with a wide stripe).¹
- Stay alert, and warn others when working with [shear and cutting points](#) (e.g., objects with blades or hard edges used to cut). Some shear and cutting points cannot be guarded, which can result in severe cuts, lost limbs, or injuries from objects thrown by the cutting-type equipment.¹
- Avoid [crushing points](#) (e.g., raised equipment or hitching points of tractors and implements).
 - Wait until a tractor has stopped completely before stepping into the hitching position.
 - To avoid being blocked or pinned, recognize and avoid potentially dangerous situations (talk with your children about these as well).
 - Block all machinery securely if you must work under it.
- If an implement can roll freely, block its wheels firmly so it cannot roll.¹
- Never touch [free-wheeling parts](#) (i.e., parts that continue to spin after the power is shut off) until they have stopped moving. This could take 2-2½ minutes.¹
- Know what direction a spring will move and how it might affect another machine part when released, and stay out of its path. ([Compressed springs](#) will expand with great force when released, and springs that are stretched will contract rapidly when released.)¹



- Be aware of [burn points](#): mufflers, manifolds, and even gear cases under adverse climatic conditions. They may not be severe enough to seriously maim, but they can startle the operator enough to cause him or her to “jump” into more deadly danger.¹
- [Hydraulic systems](#) contain fluid under extreme pressure. Before loosening, tightening, removing, or otherwise working with any fittings or parts, relieve this pressure (shut off the hydraulic pump, lower implements, and follow instructions in the operator’s manual). Jet streams from even pinhole leaks can penetrate flesh, often with hot liquid.¹
- Keep equipment in good repair and safety features up to date.² “Proper machine inspection and maintenance can help prevent accidents.”³ For example, tractors should have lights, seat belts, and roll-over protection structures (ROPs). When it comes to machinery maintenance, a shield and guard to cover spinning parts or blades should be kept in place. Read and follow the directions

in equipment instruction manuals, and conduct routine inspections of equipment so you'll be aware of potential safety hazards that may cause an accident.²

- When operating machinery or other equipment or tools, use appropriate [personal protective equipment](#) (PPE), such as safety gloves, [goggles](#), helmet, face shields, ear protection (from noise), etc. to reduce accidents.³
- Follow the one seat, one rider rule. If there is only one seat on the equipment, there should only be one rider – an adult.²
- Don't allow children to play or ride on equipment or in areas where machinery is used or stored.²
- Vehicles such as motorized dirt bikes, mopeds, and [all-terrain vehicles](#) (ATVs) are often used as transportation on farms. They can cause death and serious injuries (often head and spinal injuries), mostly among teens who use them recklessly and don't wear helmets. Children under the age of 16 should not operate 2-, 3-, and 4-wheeled vehicles.
- Do not allow riders in the back of pickup trucks.²
- Before starting machinery, all operators should know where kids are located. You may be unable to hear or see children, especially behind large wheels or in blind spots.²
- All equipment should be parked and locked with the keys removed when not in use.²
- Keep hand tools out of reach of children, especially those with sharp or hot parts.²



Glossary

- **Pinching points:** When two pieces of machinery move together with at least one piece moving in a circle, clothing or fingers, hands, or other body parts could be caught near a rotating part and severed.²
- **Wrapping points:** If there's a rotating shaft, clothing or hair could be wrapped around the shaft, trapping a child or adult and pulling him or her toward the machinery.²

- **Cutting or shearing points:** Machinery that contains blades or hard edges, such as those found on harvesting equipment, can cut material or skin or even sever limbs.²
- **Thrown-objects:** Machinery such as mowers can throw out stones or other debris while in operation and cause injuries.²
- **Crushing points:** Garage doors, tractors, or raised equipment may fall, roll, or be lowered, causing serious injury or death to someone trapped beneath.²
- **Free-wheeling parts:** Machine parts that continue to spin after the power is shut off, such as cutter heads of forage harvesters, hammer mills of feed grinders, rotary mower blades, fans, and flywheels, can cut or catch one unaware. It can take 2-2½ minutes for these parts to stop rotating.¹
- **Compressed springs:** Compressed springs store energy, while relaxed springs have no energy. A compressed spring can expand with great force; springs that are stretched will contract rapidly when stretched. Either way, injury may result or another part of the machinery could be affected, leaving one unaware of the danger.¹
- **Burn points:** Mufflers, manifolds, and gear cases under adverse climate conditions can become hot and result in burns or startle the operator to jump into a more deadly danger.¹
- **Hydraulic systems:** Equipment that contains liquid under pressure can be very dangerous if the pressure is not relieved appropriately. Jet streams of hot liquid can come through even a pinhole leak, penetrating skin.¹

Sources

1. Ohio State University Extension (2008). Preventing farm machine hazards [online]. Retrieved October 22, 2009. From http://ohioline.osu.edu/aex-fact/pdf/AEX_593_08.pdf.
2. Nemours Foundation (2008). Farm safety [online]. Retrieved October 21, 2009. From http://kidshealth.org/parent/firstaid_safe/home/farm_safety.html#.
3. U.S. National Library of Medicine (2009). Farm health and safety [online]. Retrieved October 21, 2009. From <http://www.nlm.nih.gov/medlineplus/farmhealthandsafety.html>.

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Tips for Working Safely around Livestock

Planning ahead, maintaining facilities, and acting with knowledge of animal instincts can help reduce accidents and injuries around livestock.

- Always wear the proper [personal protective equipment](#) for the job¹ (e.g., steel-toed shoes, helmets, etc.).
- Be calm and deliberate around livestock; avoid sudden movements.¹
- Avoid the animal's "blind spot." Approach from the front or side.¹
- Avoid loud noises, and do not yell.¹
- Assess your lighting situation, and avoid rapid changes from light to dark.¹
- When working around livestock, always leave yourself a way out, especially when working in close quarters. (Many injuries are caused by a startled animal pinning the handler against some surface.¹)
- Always use extreme caution around all male farm animals. While bulls account for only 2 percent of the cattle population, they are responsible for more than half of the fatalities.¹
- Distribute feed in large, unpredictable patches to help avoid territorial behavior.¹
- Plan ahead:
 - Label livestock handling areas to warn away visitors.
 - Design all facilities to allow workers easy access to and exit from animals, including emergency exit options.
 - Make sure to consistently and properly use restraining equipment.²
- Maintain equipment and facilities in good repair, and keep things clean and in order.¹

- Are gates, fences, or pens in good repair?
 - Do aisles have any sharp projections?
 - Is restraining equipment useable?
 - Is an escape gate or path available?²
- Keep children and bystanders out of livestock handling areas.²

Sources

1. Oregon State University Integrated Plant Protection Center (2009). Farm safety tip – livestock safety [online]. Retrieved October 22, 2009. From http://www.ipmnet.org/tim/Farm_Safety/Farm_Safety_Tip_-_Livestock_Safety.pdf.
2. National Safety Council (2009). Livestock handling [online]. Retrieved October 22, 2009. From http://www.necasag.org/pdf/Livestock_handling_updated.pdf.



Safe Practices in and around Confined Spaces

Manure pits, unventilated grain silos, and other confined spaces can be oxygen-deficient, toxic, and explosive.^{1,2} There are four gases in these spaces that are of primary concern: hydrogen sulfide, carbon dioxide, ammonia, and methane gases.

- “Hydrogen sulfide is a highly toxic gas that is heavier than air. It can cause dizziness, unconsciousness, and death. At low concentrations, it may smell like rotten eggs; at higher concentrations, it deadens the sense of smell so that no odor can be detected.
- Carbon dioxide is an odorless, tasteless gas that is heavier than air. It displaces the oxygen supply in the bloodstream, which can cause unconsciousness and death.
- Ammonia is a gas that is lighter than air. It has a pungent smell and can irritate the eyes and respiratory tract. Ammonia also displaces oxygen in the bloodstream.
- Methane is also a gas that is lighter than air. The primary hazard of methane gas is that it can create an explosive atmosphere. This gas also displaces oxygen.”²

Workers should be trained about safety and use extreme caution around manure pits, grain silos, and other confined spaces that may produce toxic and potentially deadly gases. Extreme caution should also be used around grain bins and wagons to avoid being trapped and suffocated by the extreme force and weight of grain.

Grain Bins

- Always lock access doors to grain storage structures.³
- Stay out of grain bins, wagons, and grain trucks when unloading equipment is running.⁴
- If you must enter a grain bin, ensure the following:
 - The unloader is shut off.

- The unloading equipment is locked out to prevent someone from starting the equipment while you are inside.

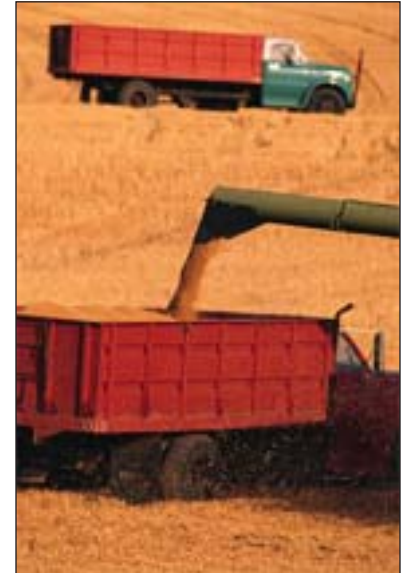
- You have put on a safety harness and attached a lifeline to a lifting device before entering.⁴

- Stay near the outer wall of the bin, and keep walking if the grain should start to flow.⁴
- Always wear an appropriate [respirator](#) when working in a grain bin because grain dust can cause difficulty breathing.⁴

- Have at least one and preferably two people outside the bin to help if you become trapped.⁴
- Always know where ALL family members are (especially children) at all times when grain is being loaded, unloaded, moved, or otherwise handled.³
- Never permit children to ride in grain wagons or enter grain storage areas.³

Manure Pits

- Be aware of the dangers of entering manure pits. Potentially dangerous gases remain in pits even after they have been emptied.⁴
- Label the manure pit and manure storage areas to warn of the gas hazards.¹
- Obtain and use monitoring equipment to determine the level of gases present in the manure storage area.¹



- Never enter a manure pit unless you are wearing a self-contained breathing apparatus (SCBA respirator) and a lifeline and harness and are monitored by a standby person who is equipped and trained to rescue you.⁴ The use of a harness or safety belt with a lifeline is critical because it is the only safe means for a standby person to rescue a worker from the pit without proper respiratory protection (such as a positive-pressure, SCBA⁴).
- Do not try to rescue someone from a manure pit unless you have been trained and are wearing the proper equipment. Call the local fire department or rescue squad immediately. They have the training and equipment needed to accomplish such a rescue without endangering other lives.⁴

Silos

- Label the silo to warn of the gas hazards.⁵
- Obtain and use monitoring equipment to determine the level of NO₂, CO₂ or O₂ present. If dangerous levels exist, do not enter.⁵



- Be aware of the signs of silo gas, such as yellow-brown or reddish color/fumes in the air or near the silo or a bleach-like odor.⁵ These gases, if inhaled, can cause severe delayed lung damage.⁴
- 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.⁵ It is recommended that you do not enter a silo for four to six weeks after filling, as several different dangerous gases are produced as forages ferment. Be aware that even after six weeks, it may not be safe to enter silos. SCBA-equipped respirators should be worn anytime you are entering full or partially full silos.⁴ A safety harness should also be worn, and personnel should be available outside the silo to monitor the entrant's progress.⁵ If you must enter silos during the first four to six weeks after filling stops, or anytime the silo is full or partially full, wear a SCBA-equipped [respirator](#). A regular respirator or dust mask will not protect you in an oxygen-deficient atmosphere.⁴

- Run the blower for at least 20 minutes before entering⁵ to ventilate the silo.
- If you start coughing or experience throat irritation, get away from the area immediately, inform your employer, and seek medical attention.⁴
- Lock access to silos to keep bystanders and children out.⁵

Sources

1. National Safety Council (2009). Manure pit gas hazards [online]. Retrieved October 21, 2009. From http://www.necasag.org/pdf/Manure_pit_gas_hazards_updated.pdf.
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4. Occupational Safety and Health Administration (2009). Confined spaces [online]. Retrieved October 21, 2009. From <http://www.osha.gov/SLTC/youth/agriculture/confinedspaces.html>.
5. National Safety Council (2009). Silo gas hazards [online]. Retrieved October 21, 2009. From http://www.necasag.org/pdf/Silo_gas_hazards_updated.pdf.

Safety Audit

To perform a safety audit:

- Walk through your farms, homes, shops, and garages; then eliminate hazardous situations. Change procedures for storing equipment and material to minimize dangers to children.
- Be sure to include children in the safety audit so they will gain an appreciation of potential dangers. They respond better if shown “why” rather than just being told “don't.” Bear in mind that children see the world from a lower vantage point than adults do. With this in mind, get down on your hands and knees during the safety audit so you can see hazards that may not be apparent when you're standing.
- Think about past “close calls” or potential future situations that might cause injuries. Determine the factors that were or could be responsible for a near-miss, and talk with employees and family – including children who are mature enough to understand.

Source

National Ag Safety Database & University of Florida IFAS Extension (2002). ‘Childproofing’ your yard or farmstead [online]. Retrieved October 30, 2009. From <http://nasdonline.org/document/183/d001586/039-childproofing-039-your-yard-or-farmstead.html>.



Farm Safety Resources & Links

- [Agricultural Operations: Hazards and Solutions](#)
- [Creating Safe Play Areas on Farms](#)
- [Children and Safety on the Farm](#)
- [Farm Safety 4 Just Kids: Farm Safety Fact Sheets](#)
- [Farm Safety for Children: What Job Is Right for My Child?](#)
- [National Ag Safety Database](#)
- [National Education Center for Agricultural Safety – Safety Brochures](#)
- [North American Guidelines for Children’s Agricultural Tasks \(NAGCAT\) Guidelines](#)
- [Occupational Health and Safety](#)
- [Oregon State University: Archive of Farm Safety Tips](#)
- [Oklahoma State University: Online Safety Library: Farm Safety and Agriculture](#)
- [Youth in Agriculture: Agriculture Hazards](#)



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