

# SAFE FARM

Promoting Agricultural Health and Safety



## Practice lawnmower safety on farms

*It was 12-year-old Bill's turn to mow. He was in a hurry so he could join his younger brothers and sisters, outside playing in the yard. As he was mowing, he ran over a toy left in tall grass. The mower threw the toy and it flew across the yard, hitting his sister in the eye. She lost sight in that eye.*

This example illustrates how easily injuries can happen with lawnmowers. Mower-related injuries are an everyday occurrence. The U.S. Consumer Product Safety Commission estimates that more than 81,000 lawn mower-related injuries occur in a year.

Lawnmower safety is important in rural areas where large yards are common. Mowing and maintenance around farm buildings and equipment is almost year-round task, often one of the first farm chores delegated to young family members. Because mowing consumes so much time and routinely involves inexperienced operators, safety is a real concern. This publication outlines ways to prevent many mower-related injuries on the farm.

### Mower hazards

The mower is a cutting machine designed to trim grass but has the potential to cut anything that is placed in its path. The cutting edge of the mower blade can travel at speeds of up to 200 miles per hour. Even a dull blade at that speed can slice fingers and toes that get in its way.

Other materials, such as toys, stones, sticks, and equipment parts, can become projectiles when struck by the blade. These items, too, can travel up to 200 miles per hour as they leave the discharge chute. Items thrown from mowers can cause serious injury to other people in the area or to the operator when there is no rear guard. Thrown items also can cause property damage.

In addition to cutting and projectile dangers, mowers also can cause burns. The muffler and cylinder head heat up during operation, and remain hot for some time after the engine has been turned off.

Fuel is another danger. Most mowers are powered by gasoline-driven combustion engines. Gasoline is a very explosive and flammable material that should be treated with respect. One gallon of gasoline combined with the correct amount of air is equivalent to 83 pounds of dynamite. Gasoline is flammable because it vaporizes with air to form a mixture that ignites easily. Vaporization can occur in temperatures as low as zero degrees.

### Safe practices

**Prepare lawn for mowing.** Every time before you mow, check your lawn for items such as sticks, rocks, toys, sports equipment, dog bones, wire, and equipment parts. Make sure miscellaneous items are not hidden in tall grass. Also look for and remember immovable objects, such as pipes, or partially buried rocks. Running into a fixed object can shatter the blade and throw jagged chunks of metal out the discharge chute or under the housing.

**Handle fuel with care.** Always use care when filling the tank with gasoline. Wipe up spills. Never fill the tank on a mower that has been operating and is hot. Vapors from the gasoline can be ignited by a hot muffler.

**Wear appropriate clothes.** Close-fitting clothes are less likely to get caught on controls or moving parts. Long pants and sturdy leather shoes protect you from flying sticks, stones, or other items not caught by the rear guard. Shoes also should provide good traction. A canvas or open toed shoe cannot protect your foot

## Lawnmower safety

### How much do you know?

1. How fast can a stick or toy fly out of a lawnmower discharge chute?
  - a) 10 miles per hour
  - b) 20 miles per hour
  - c) 200 miles per hour
  - d) 500 miles per hour
2. Always mow across slopes and inclines when using a walk-behind mower. True or false?
3. What kind of shoes should you wear when operating a walk-behind mower?
  - a) sandals
  - b) canvas athletic shoes
  - c) bare feet
  - d) leather shoes
4. What is the most important thing to do before doing any service work on a mower?
  - a) put on gloves
  - b) drain fuel tank
  - c) disconnect spark plug
5. One gallon of gasoline combined with the correct amount of air is equal to 83 pounds of dynamite. True or false?

See answers on back.

if it slips into the blade. When mowing for long periods of time or if noise is objectionable, wear hearing protection such as ear plugs.

### Use safe mowing techniques.

- **Always operate the mower outdoors.**

Never start the lawnmower in a garage or confined area to prevent buildup of carbon monoxide from the exhaust.

- **Make sure other people, especially children, are out of the area.**

Young children should be supervised in the house while the yard is being mowed. They cannot understand the dangers, and the operator may not hear or see children approach.

- **Never point the discharge chute at anyone.** You never know when something will be thrown from the mower. Never run the mower over gravel.

- **Do not mow wet grass.** Wet grass is slippery and the operator can lose footing, slip under the mower, or allow the mower to roll backwards. Wet grass also clogs the discharge chute and can cause the engine to falter. When this happens, always turn off the engine and wait a few seconds for the blades to stop rotating before correcting it.

- **Use care on inclines.** Some slopes are too steep to mow safely, so use good judgment. Always push walk-behind mowers across slopes to avoid coming in contact with the mower (e.g., by sliding down the hill onto the mower, or allowing the mower to roll backwards on top of operator). Drive riding mowers up and down slopes.

- **Never leave a running mower unattended.** When you leave the operator's position the mower should be turned off. New models have an operator presence switch that automatically kills the engine when the operator releases the handle.

- **Disconnect spark plug to service.**

Disconnect the spark plug when you work on the mower. This prevents the engine from accidentally being started. Many people are hurt every year because mowers start unexpectedly when the blade is turned by hand. Keep all parts in working condition. Fluid leaks (gas or oil), blade sharpening, and balancing may require professional service.

### Safe mower features

Safety features on newer mowers help prevent hazardous situations that can lead to injury. Do not disconnect special features or controls to avoid using them. Look for a shield on the back blade housing behind the rear wheels of the mower. This shield protects the operator's feet from exposure to the blade and thrown objects.

A deadman switch, or operator presence switch, requires the operator to hold the device to keep the mower running. If for some reason the operator releases the switch, the engine is turned off. When placed at the correct location, the switch makes it physically impossible for an operator to hold the switch and reach down to the danger area where the blade is operating. Some switches also have a braking device that stops blade rotation.

### Other solutions

Think of the layout of the yard and ways to make mowing safer. Do you have steep slopes that are dangerous and difficult to mow? Are there lots of trees with low-hanging branches to mow around? Retaining walls can help reduce inclines, and flower beds eliminate the need for mowing in difficult areas. Adding mulch one to three feet around a tree (depending on size) makes trimming easier. Keep trees pruned properly so that you can see while mowing.

## Lawnmower safety

### What can you do?

- Pick up objects before mowing.
- Handle fuel with care.
- Wear close-fitting clothes and closed-toe leather shoes.
- Keep children out of the area.
- Never mow wet grass.
- Always shut off engine before unclogging discharge chute.
- Push mower across inclines;
- drive riding mower up and down inclines.
- Never leave a running mower unattended.
- Disconnect spark plug before working on mower.

Answers to quiz:

1-c; 2-True; 3-d; 4-c; 5-True.

### For more information

For more information about lawnmower safety, contact the U.S. Consumer Product Safety Commission at 1-800-638-2772 and [www.cpsc.gov](http://www.cpsc.gov).

This publication deals with hazards of walk-behind mowers only. Additional precautions must be followed when operating other kinds of mowers, including riding lawnmowers, those attached to small utility tractors, and implement-type mowers. To learn more about tractor safety while mowing, check out [Use tractors with ROPS to Save Lives](#).

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## SAFE FARM

Safe Farm is an Iowa State University Extension and Outreach project helping to make Iowa farms a safer place to work and live. For more safety information, check the web at [www.abe.iastate.edu](http://www.abe.iastate.edu).