

Lawn Mower Safety

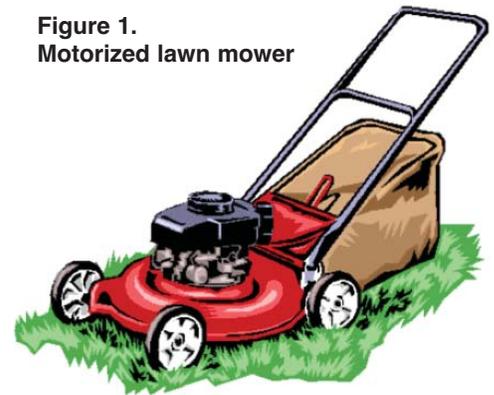
Sammy Sadaka,
Ph.D., P.E., P.Eng.
Assistant Professor -
Extension Engineer

Introduction

Lawn mowers are essential equipment found in many homes with a yard in the United States (Figure 1). They enable homeowners and groundskeepers to comply with municipality codes and maintain neat and good-looking lawns by cutting down grass. Many children and teenagers also earn extra money by mowing lawns during the grass-growing season. However, according to the U.S. Consumer Product Safety Commission (CPSC), a lawn mower can be extremely dangerous if not operated properly. In 2010, more than 250,000 people were treated for lawn mower-related injuries. Lawn mower injuries went up 3% in 2010 compared to 2009. Unfortunately, 40% of these injury cases were serious enough to require treatment in hospital emergency rooms. Furthermore, nearly 10,000 of those injured were children with mean age between 5-10 years. Each year more than 600 children undergo amputations as the result of lawn mower-related injuries.

Lawn mower injuries can be easily prevented if safety precautions are followed. This fact sheet will review the various types of lawn mowers and the types of lawn mower accidents before presenting very useful accident prevention tips.

Figure 1.
Motorized lawn mower



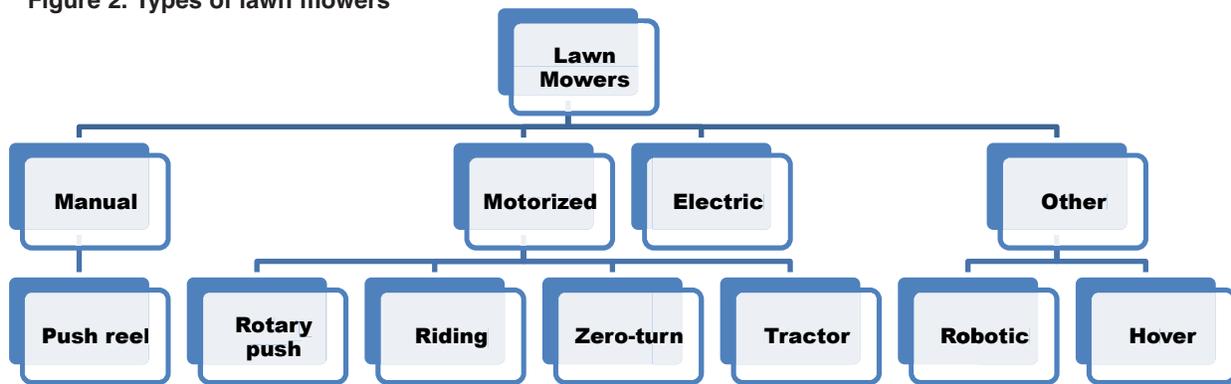
Types of Lawn Mowers

Lawn mowers are classified into four major categories: manual lawn mower, motorized lawn mower, electric lawn mower as well as other types of lawn mowers as shown in Figure 2. The push-reel lawn mowers (manual) have ground drive blades that brush up and cut the grass. Motorized lawn mowers, on the other hand, can be further classified into rotary push lawn mowers, riding lawn mowers, zero-turn lawn mowers and lawn tractors. Electric mowers, whether corded or cordless, are inexpensive to operate and relatively easy to maintain. In addition, less common lawn mower types exist, namely robotic lawn mowers and hover mowers.

*Arkansas Is
Our Campus*

Visit our web site at:
<http://www.uaex.edu>

Figure 2. Types of lawn mowers



Motorized Lawn Mower Accidents

The majority of injuries sustained during use of motorized lawn mowers can be classified as one of the following four types of accidents:

- **Contact with rotating blade** – Injury often occurs when the victim cleans the discharge chute of grass clippings or places a foot too close to the mower deck when performing some other maintenance when the engine is still running.
- **Propelled objects** – Rocks, glass or wire are picked up by the blades and hurled at speeds above 170 miles per hour. Objects may be thrown for distances up to 50 feet or more causing death and injuries ranging from blindness to severe bruising.
- **Overtipping** – This occurs primarily when riding mowers are used on steep slopes or embankments. Victims may be pinned under the mower or come in direct contact with rotating blade.
- **Riding mowers running over the victim** – Accidents occur if the operator fails to check behind him when backing a riding mower. Playing children are often seriously injured. Also, an operator can accidentally pull the power mower backward over his or her foot.

Lawn Mower Accident Prevention Techniques

What can be done to prevent lawn mower accidents? The following practices will prevent most accidents:

- **Read the entire operator's manual**– Read the instructions and then follow these instructions carefully. The manual explains safety procedures that should be followed.
- **Train operator** – Make sure that anyone operating the mower fully understands how the mower operates. Demonstrate safe use first and then observe the operator until satisfied that he/she can handle the mower safely.
- **Check your lawn before mowing** – Clear the lawn of sticks, stones, toys, bones and other objects.
- **Check guards and shields** – Make sure all protective devices are attached and in place before starting the mower. Shields and guards are designed specifically for YOUR protection.
- **Dress properly to do the job safely** – Always wear sturdy shoes; steel-toed safety shoes are preferred. NO bare feet! NO sandals! And NO sneakers!

- **Handle gasoline with care** – Do not fill the gasoline tank while the engine is running. Turn the mower off, and let it cool first. Fill the tank outdoors, and make sure to wipe up all fuel spills.
- **Keep all persons and pets away from mowing area** – Remember, a mower blade can pick up and throw objects with a force sufficient to seriously injure or kill.
- **No riders on riding mowers** – Always say “no” to small children asking to ride the mower with you. Extra riders can be thrown from the mower and run over. Extra riders also distract the operator, increasing the possibility for mistakes.
- **No horseplay around lawn mowers** – Playing with a mower is extremely dangerous, inviting an accident. This has caused many serious injuries. Use a mower only for the purpose it was designed – to mow lawns.
- **Do not use riding mowers on steep slopes** – Mower overturns cause serious injury. Drive up and down slopes when operating a riding mower. Mow across the slope when using a walk-behind mower.
- **Take care of your mower** – The operator-presence switch should stop the mower immediately when you release the control. Clean and safety-check your mower during the mowing season. If you have any doubt on how to adjust or repair your mower or sharpen your mower blade, see an expert. An annual inspection by an experienced service person is always a good idea.
- **Store fuel in a safe place** – You should store gasoline outside the house and away from any heat source. Frequently remind yourself and everyone in the household that gasoline is a volatile, flammable liquid.
- **Use earplugs to preserve your hearing** – Inability to hear high-pitched sounds is the first indication of damage. Hearing loss from loud noise is permanent.
- **Never bypass safety features** – Manufacturers have made operator-presence safety stops. This safety feature should never be bypassed.

Mower Safety Guideline Summary

Before Starting Mower . . .

- Put on close-fitting clothes and sturdy, non-slip shoes.
- If the lawn is wet – wait!
- Go over the lawn carefully to pick up stones, wire, toys and dog bones – anything the mower blade might pick up and throw.
- If your electric mower is not labeled “double insulated,” never plug it into anything but a grounded (three-prong) outlet.
- Adjust cutting height before starting mower.

While You Mow . . .

- Never run mower over gravel, stones or hard, immovable objects like pipes, rocks or sidewalk edges.
- Mow advancing forward whenever possible so you can see where you are going.
- Keep electric mower cord out of the cutting path.
- Stay clear of the blade housing and the discharge chute.
- Never point discharge chute at others.
- Turn off the mower before you leave it – even for a moment.

Be Sure To . . .

- Disconnect spark plug or power cord before working on your mower.
- Treat gasoline like the volatile fuel that it is.
- Keep the power cord of an electric mower in near-new condition.

Safety practices are just common sense – but we often need reminders. Take a few minutes to review these safety suggestions at the beginning of each mowing season.

Acknowledgment is given to Gary Huitink, former Extension agricultural engineer, as first contributor to this fact sheet.

Printed by University of Arkansas Cooperative Extension Service Printing Services.

SAMMY SADAKA, Ph.D., P.E., P.Eng., is an assistant professor - Extension engineer in the Biological and Agricultural Engineering Department, University of Arkansas Division of Agriculture, Little Rock.

Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Director, Cooperative Extension Service, University of Arkansas. The Arkansas Cooperative Extension Service offers its programs to all eligible persons regardless of race, color, national origin, religion, gender, age, disability, marital or veteran status, or any other legally protected status, and is an Affirmative Action/Equal Opportunity Employer.

FSA1005-PD-3-2014RV