



Maine Farm Safety Program

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Electrical Safety on the Farm

Electricity is an essential source of energy on farms. However, few resources have a greater potential to cause harm than electricity. Electrical systems will function almost indefinitely if properly installed and not overloaded or physically abused. If there are any doubts about the electrical circuits, wiring and equipment on your farm, have a licensed electrician inspect them.

Electrical Panels

Electricity enters the farm through a control panel and a main switch where a person can shut off all the power in an emergency. This control panel contains either fuses or circuit breakers. Always use the correct fuse for the panel. Never use a greater number, or replace fuses with items like pennies. If there is a stoppage in power, check the control panel. If fuses are used, look for the broken metal strip in the top of a blown fuse. Replace the fuse with one

that is marked with the correct amperage. If circuit breakers are used, reset them from off to on.

Be sure to check why the fuse or circuit blew. Possible causes are frayed wires, overloaded outlets or defective appliances. Never overload a circuit with high wattage

Electrical Safety on the Farm

- **If a fuse or circuit breaker frequently blows, the circuit may be inadequate for the equipment.**
- **Make sure all electrical systems are properly grounded.**
- **Keep water and electricity separated.**
- **Make sure electric lines are high enough to allow tall machinery to safely clear them.**

appliances. Check the wattage on appliance labels. If there is frayed insulation or a broken wire, a dangerous short circuit may result and cause a fire. Circuit testers are available to inspect circuits. If power stoppages continue, or if there is a frayed or broken wire, contact an electrician.

Install a lock out switch. This can turn off all power from one area. This is important if there is an emergency or when working on the electrical system. Do not have a switch turned on while you are working on the electrical system.

Grounding Electricity

Ground the entire electrical system. Protect ground wires and rods from damage. Proper installation will assure continuous service. Grounding to water pipes will not work if the system uses plastic pipes. Ground outlets that are outside or may come in contact with water.

To determine if an outlet is grounded, insert a neon test light into each outlet slot in turn. The screw is grounded if the light glows when the face plate screw is touched with the other probe.

Shocks

If any appliance or device gives the user a tingling shock, turn it off, unplug it and have a qualified person correct the problem. Under the right conditions, any

leakage can easily become a fatal shock. Never insert a metal object into an appliance without unplugging it.

Check equipment periodically to spot worn or cracked insulation, loose terminals, corroded wires, defective parts and any other components that might not work correctly. Have these appliances repaired at once by someone who knows how or replace them.

Outlets and Extension Cords

Farmers use outlets and extension cords every day. Make sure all electrical outlets are three-hole, grounded outlets with face plates. If there is water in the area, there should be a Ground Fault Interference (GFI) outlet. All outdoor outlets should use GFI. Do not use extension cords unless absolutely necessary. Use them sparingly and do not place objects on them while they are in use. Keep the cords out of traffic areas. Place safety covers on unused receptacles. After using electrical cords, coil them and hang them where they will not be in the way.

Electricity and Water

People are good conductors, particularly when they are standing in water or on a damp floor. A body can act like a lightning rod and carry the current to the ground. Never touch an electric cord or appliance when your hands are wet. Do not use electrical appliances in damp areas or while standing on damp floors. In areas where water is present, use GFI outlets.

Shocks can be fatal. Be sure that sprinklers do not spray water near overhead power lines.

Outside Hazards

Be aware of overhead and underground power lines. Electrocutation can occur when objects people are moving come in contact with the overhead power lines. Equipment such as grain augers should be put in the lowered position before moving them under electric wires. Keep ladders, antennas, kites and poles away from power lines leading to the house and other buildings. Do not erect fence wire along the same route as overhead lines or strain fence wire where it may spring and come into contact with the overhead line. If there is the possibility of underground power lines, call your local utility before digging.

Downed power lines are extremely dangerous. If you see a downed power line, call the electric company and warn others away. If a power line hits your car while you are in it, stay inside unless the car catches fire. Jump clear without touching metal and the ground at the same time.

Be sure to check why the fuse or circuit blew. Possible causes are frayed wires, overloaded outlets or defective appliances. Never overload a circuit with high wattage appliances.



This Maine Farm Safety fact sheet is part of an educational fact sheet series produced by University of Maine Cooperative Extension. For more information on farm safety, contact your county Extension office.

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