



# Maine Farm Safety Program

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## *Electrical Fires: Prevention and Extinguishing*

**E**lectricity can be a potent fire source. Many farmers and others have lost a barn or house from old or defective wiring. Overloaded wiring can be very dangerous. It is safer and more efficient to install new circuits.

### **Potential Electrical Fire Hazards**

Potential electrical fire hazards are everywhere. A build up of dust, trash and spider webs is an invitation for fire to start in the electrical system. Good housekeeping greatly reduces the odds for a fire.

Unprotected light bulbs in work areas are another potential hazard. They can be hit and broken causing a fire. Electrical wiring can be hit when drilling holes or driving nails in walls causing a fire.

### **Power Delivery System**

Many fires result from defects in, or misuse of, the power delivery system. Wiring often fails due to faulty

installation, overloading, physical damage, aging and deterioration by chemical action, heat, moisture and weather. Such wiring should be replaced and new circuits installed.

Overloading circuits by hooking on more electrical devices than they are designed to handle is a typical problem. Do not overload circuits. Dimmed lights, reduced output from heaters and poor television pictures are all symptoms of an overloaded circuit. Add up the wattage of electrical devices and lights on each circuit.

### **Electrical Fires: Prevention and Extinguishing**

- **Never put water on an electrical fire. Use a CO<sub>2</sub> fire extinguisher if the fire is small.**
- **Don't overload circuits or bypass the circuit protection.**
- **Protect all circuits with a fuse or circuit breaker.**

Keep the total load at any one time safely below maximum capacity. When using a high wattage device such as a heater, iron or power tool, switch off all unnecessary lights and devices. Try to connect into a circuit with little electrical power demand.

It is hazardous to overload electrical circuits by using extension cords and multi-plug outlets. Use extension cords only when necessary and make sure they are heavy enough for the job. Avoid creating an octopus by inserting several plugs into a multi-plug outlet connected to a single wall outlet.



If a fuse blows or circuit breaker trips repeatedly while in normal use (not overloaded), check for shorts and other faults in the line or devices. Do not resume use until the trouble is fixed. Use extension cords heavy enough to carry required wattage to the devices in use. Use grounded extensions for three-prong equipment.

Each circuit must be protected by a fuse or circuit breaker that will blow or break when its safe carrying capacity is surpassed. Any circuit will take a temporary overload, like when a motor starts. Time delay (slow blow) fuses will handle this. Circuit breakers provide time delay and are the preferred type of protection for general use.

### **Motor and Power Tool Fire Hazards**

Motor troubles can trigger a fire. Overheating due to excessive dirt, overloading, poor ventilation, arcing or

sparking could ignite combustible materials (chaff, grease, trash) on or near it. Keep the area around motors and heaters free of flammable or combustible materials. Provide plenty of ventilation for motors, and keep them clean. Internal failures or shorts could cause a motor to burst into flames.

Most electrical devices are subject to internal wiring failures, faulty power cords and switches that add to fire risk. Inspect all electrical devices and their cords. Repair frayed insulation at once. If an electrical device does not work or works poorly, makes unusual noises, smokes or has a burnt smell, issues sparks or a pop, unplug it immediately, and have the problem fixed.

### **In Case of a Fire**

If an electrical fire starts at a wall outlet, pull the plug by the cord or turn off the main switch. Call the fire department, give them your address and tell them it's an electrical fire. If the fire is small, use your home CO<sub>2</sub> fire extinguisher. Never put water on an electrical fire. If in doubt, get everyone out. If the fire is large, call the fire department and try to turn off the main power source. Do not try to handle the fire yourself.

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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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