



# Maine Farm Safety Program

by Dawna L. Cyr, farm safety project assistant, and Steven B. Johnson, Ph.D., Extension crops specialist

## *Fire Safety on the Farm*

**F**arm fires cost lives and many dollars each year. Most fire victims die from smoke inhalation before the flames reach them. Preventing fire is your first line of defense against heavy losses.

Fires need three things to burn: fuel (something to burn), air (oxygen) and heat (something to set it off). Preventing this combination reduces the risk of fire.

### Housekeeping

Shops, garages, machine sheds and barns often are cluttered with unnecessary accumulations of items that could add fuel to a fire. Often, these items are located near sources of ignition. Large amounts of unneeded items that will burn, such as papers, clothing and straw, should be reduced and kept away from heat. Arrange shops and barns so that flammables are safely away from ignition sources. A

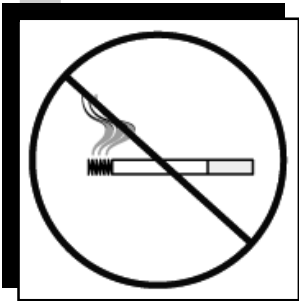
little rearranging could reduce fire risk considerably.

### Smoking

Cigarette or cigar smoking causes many fires in the United States each year. If you smoke, keep plenty of large, deep ashtrays or receptacles handy. Obey "No Smoking" signs. Avoid smoking in places with flammable materials. Never smoke while refueling. Do not lay lighted cigarettes on

### Fire Safety on the Farm

- **Avoid clutter of flammable materials.**
- **Don't smoke in areas where flammable materials are stored.**
- **Maintain heating systems.**
- **Equip farm buildings with a smoke detector and a fire extinguisher.**



wooden tables or workbenches, even if smoking is permitted. Make sure matches and tobacco products are extinguished before discarding them. Never flick a cigarette butt or knock out a pipe into a wastebasket or trash can. Keep matches, lighters and lighter fluids away from small children. Smoke with caution when operating farm vehicles and equipment. Equip tractors and combines with ashtrays.

### **Heating Equipment**

Modern home and farm heating systems are safe when properly operated and maintained. Fire hazard increases when papers, rags and trash accumulate around stoves, furnaces and gas water heaters. Faulty chimneys and dirty or poorly functioning equipment also can increase the chance of fire.

Many farms use a variety of heating equipment. Each type has certain safety precautions that must be taken. When heating with wood, test and clean each chimney before the heating season begins. Check for leaks in the chimney by building a smudge, covering the top of the flue and then examining the whole length of the chimney to check for escaping smoke. Inspect wood stoves at least once a year for cracks or weakened parts. Keep all flammable objects away from all heat sources. Don't use gasoline, kerosene or outdoor grill starter fluids to start fires in wood stoves or fireplaces. Use paper or kindling to start fires in these places.

Kerosene or oil-burning heaters need to be protected so that they will not tip over or come near flammable materials. Also watch for carbon monoxide poisoning.

Portable electric, LP gas or oil heaters are commonly used in out-buildings, animal quarters, shops and unheated or inadequately heated rooms in houses. Fire hazards include flammables located too near the flame or heating element, a heater tipping or being knocked over and equipment defects. Dispose of electric heaters without thermostats and tip-over protection.

### **Farm Machinery**

Common causes of tractor and machinery fires include defects in the fuel or ignition system, improper method of refueling, smoking and matches, over-heated engines, sparks from exhaust and friction.

Refuel with care. Watch for and repair leaks in fuel lines, carburetors, pumps and filters. Keep exhaust systems in good condition to avoid sparks. Keep engines properly tuned and timed to avoid backfiring. Keep machinery properly lubricated to minimize friction.

### **Flammable Liquids and Gases**

Gasoline, diesel fuel, LP gas, degreasing solvents, paint solvents and certain paints are among flammable materials found on most farms. Keep these liquids away from open flames

---

and motors that might spark. When transferring them, bind the containers to each other and ground the one being dispensed from, to prevent sparks from static electricity. Clean up spills right away and put oily rags in a tightly covered metal container. Change your clothes immediately if you get oil or solvents on them. Watch out for empty containers that held flammable liquids. Vapors might still be present. Store these liquids in approved containers in well-ventilated areas away from heat and sparks. Be sure all containers for flammable liquids are clearly and correctly marked. Read and heed directions on all product containers, noting flammability and safety precautions.

### Hot Work

Never do cutting or welding work alone. Always have someone on hand to put out a fire before it can get out of control. Watch for molten metal. It can ignite flammables or fall into cracks and start a fire that might not erupt until hours after the work is completed. Use portable cutting and welding equipment in clean areas. Keep flammables at least 35 feet from a hot work area. Be sure tanks and other containers that have held flammable liquids are completely neutralized and purged before you do any hot work on them.

### Spontaneous Combustion

Fire caused by spontaneous combustion can occur any time, day or night. Many such fires are beyond control at the time of detection.

Many materials – vegetable and animal oils, soft coal, vegetable and animal fibers, such as flax, jute, wool and hay – can, under certain conditions, heat spontaneously. Hay and grass silage often have been implicated in many high-loss farm fires. Store vegetable and animal oils and paint or linseed-soaked rags in sealed containers in cool, well-ventilated places away from other combustibles.

Harvest loose or chopped hay at low enough moisture content to prevent molding, a key factor in heat generation. Avoid storing wet hay. Check stored hay for warm spots. If hay temperature is noticeably warmer than when it was put in, watch it closely. If the temperature reaches 175 degrees F, get the hay out or divide it into small, shallow stacks.

With grass silage, the problem is too little moisture content. A fine chop permits the material to be packed more firmly in both trench and upright silos. Also, a silo designed to be sealed should be kept closed, except for loading or unloading. Failure to do so has resulted in disastrous fires and even explosions while trying to put out the fires. Watch for silage danger signs – heat, release of moisture vapor or steaming, smoke, a charred tobacco smell. If they appear, call your fire department and silo dealer for instructions.





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.

For the most current Extension publications, see our online catalog at

**[www.umext.maine.edu](http://www.umext.maine.edu)**

*A Member of the University of Maine System*

Published and distributed in furtherance of Acts of Congress of May 8 and June 30, 1914, by the University of Maine Cooperative Extension, the Land Grant University of the state of Maine and the U.S. Department of Agriculture cooperating. Cooperative Extension and other agencies of the U.S.D.A. provide equal opportunities in programs and employment. 11/02