

## FIRE PREVENTION ON THE FARM

A barn fire is a farmer's worst nightmare and often, it brings significant emotional and economic damage to a farming community. Between 2007 and 2011, barn fires in Ontario accounted for over \$175 million in property losses. In 2014, there were 150 fires in barns containing equipment, produce, or housing animals, resulting in losses of more than \$28 million.

There are many steps that can be taken to establish a good fire prevention plan to reduce the risk of fire on farm properties. The following information outlines simple measures to ensure farm buildings and livestock are safer from fire. These fires are largely preventable by following good fire safety practices.

### HOW FIRES START

Fires require three elements: oxygen, fuel and heat. Farm buildings are particularly susceptible to fast-moving fires because they are well ventilated. Barns and farm buildings provide a plentiful fuel supply for fires to start and grow: the buildings themselves are constructed of wood and house solid fuels such as hay, straw and grain. The final element, the heat source, can take the form of sunlight, friction, electricity, open flame, gas compression and/or chemical reactions. Measures on how to help prevent farm fires are outlined below.

### PREVENT FIRES ON YOUR FARM

- 1. START WITH A PLAN:** It is a good idea to contact your local fire department to find out how to effectively prevent fire on your farm. Most fire departments will visit your farm and point out areas where you can decrease the risk of a fire. They will also provide advice on access routes to all areas of your property. Use this information to develop a plan for your farm. Introduce the plan to everyone who frequents your farm and ensure that procedures are up to date and practiced. If possible, make arrangements with neighbouring farmers to provide shelter for your livestock if the event they need to be evacuated from your farm.
- 2. ABSOLUTELY NO SMOKING:** There should be **no smoking** permitted in any barn or farm buildings at any time. Strictly enforce a **no smoking** policy by posting signs and informing people who work or visit with you. Make sure that any cigarettes are extinguished thoroughly in a safe location prior to entering the barn or farm buildings.

- 3. PRACTICE GOOD HOUSEKEEPING IN THE BARN:** Keeping a clean, organized barn is not only crucial to farm life: it is an excellent way to prevent fires from occurring. Loose hay and straw should be swept up. After using hay drops, always cover the opening with plywood, or better yet, cover the plywood with flame-retardant, one-hour gypsum board.
- 4. PROVIDE ADEQUATE VENTILATION:** Chemical reactions, found in baled, damp hay, can be a cause for barn fires. Mows of tightly packed bales do not allow this build-up of heat to dissipate. Smouldering fires can go unnoticed for some time. Spontaneous combustion can occur when the smouldering fire has reached a high temperature and is exposed to oxygen, resulting in a full-blown fire. Store dry hay in barns and monitor the internal temperature of hay bales. Hazardous products should also be stored in well-ventilated areas to reduce risk of fire.
- 5. PRACTICE ELECTRICAL SAFETY:** 'Electrical malfunctions' are a leading cause of fires. Wires should be enclosed in metal or PVC conduit (pipe) to protect them from exposure to weather, animals, and from mechanical damage from machinery and equipment. Keep combustibles away from heating appliances, and never leave them unattended. Regular cleaning of electrical appliances and equipment will prevent build-up of dirt and dust, which can contribute to overheating and malfunction. A regular maintenance cycle can also identify worn or defective parts, which can be repaired or replaced before they become a problem.
- 6. INSTALL AND MAINTAIN LIGHTNING RODS AND GROUNDING CABLES:** Lightning can enter a building via metal objects such as antennas, cupolas or anything that extends upward. Lightning rods are the best solution to preventing lightning-source fires. These rods give lightning a direct path to follow to the ground, keeping your barn and the livestock inside safe. Check grounding cables frequently and repair if worn or damaged.
- 7. KEEP YARD AREAS FREE OF BRUSH AND DEBRIS:** Clear the immediate areas surrounding all barns and farm buildings by removing brush, debris and machinery. Remove weeds and trim/prune under trees and bushes. Keep grass along a roadway closely mowed (a motorist's stray cigarette could be a source for fire).
- 8. REFUEL EQUIPMENT SAFELY:** Refueling tractors and machinery should be done well away from buildings: so flammable vapours can dissipate. Always refuel equipment outdoors, away from open flames and sparks. Make sure engines or motors are turned off and cool before refueling.

- 9. INSTALL AND MAINTAIN PORTABLE FIRE EXTINGUISHERS:** Install fire extinguishers in your barn, tool shed and other farm buildings. You should also have fire extinguishers on all mechanical equipment and machinery. Make sure that family members and farm employees know where the extinguishers are located and how to use them. Inspect your extinguishers regularly and recharge when necessary. Consult your local fire department for advice on the type, rating, and location of extinguishers. If you have water type fire extinguishers, protect them from freezing.
- 10. MAKE SURE EVERYONE FOLLOWS THE RULES:** Ensure anyone visiting or working on the property learns and obeys the fire safety rules.
- 11. SPREAD THE WORD:** Visit neighbouring farms and share what you know. Ask other farmers what kind of fire safety measures they have taken and participate in the exchange of information and ideas. Ensure your neighbours know your farm's municipal address and vice versa – it could be *their* call that saves *your* farm!

*This information was developed by the Office of the Fire Marshal and Emergency Management with the assistance of Perth East Fire Department and the Farm Safety Association.*