



Factsheet

Fire-Safe Farm Building And Renovation



Farm Design

- ! Plan for adequate spacing between buildings to prevent the spread of possible fires.
- ! All major farm buildings should be equipped with lightning rods. Some provinces have regulations requiring this, but it is good safety planning anywhere!
- ! Carefully design access roads to/from farm structures and water sources to enable easy and timely access by emergency vehicles.
- ! Whenever possible, barns should be designed with provision for a straight run outside to enable livestock to be released and buildings evacuated quickly with a minimum of assistance.
- ! Barn gates should have the ability to swing open in either direction. Gate and door fastenings should be easy to operate under both hurried and poor visibility conditions.

Farm Construction

- ! Masonry is generally more fire-safe than wood. Plan a metal roof if possible/practical, or one topped with concrete or clay tile.
- ! Use a fire retardant paint or stain on wood surfaces of the barn, especially on wooden roof trusses.
- ! Wiring should always be installed according to the codes and protected in conduits, and should always be installed and inspected by licensed professionals only.
- ! Initial building construction is the most economical time to install sprinkler and alarm systems.
- ! Use firewalls to divide blocks of stalls, extending to 1m above the ridge line.

Permanent Equipment

- ! Crop dryers should be equipped with controls to automatically shut off blowers or dampers when temperatures get too high.
- ! Incinerators should be located at least 15-30 metres from major buildings. Only incinerators equipped with spark arrestors should be installed/used.

Improving Safety In Older Wooden Barns

- ! Install fire breaks where barns are closer than 15m from each other.
- ! Invest in good lightning rods – make sure they're well grounded.
- ! Treat wooden structures and surfaces with fire-retardant paint.
- ! Have the wiring and electrical equipment inspected regularly, and any unsafe items replaced.
- ! Investigate the feasibility of a sprinkler system... the cost can often be offset over time by reduced insurance premiums.
- ! Insurers will often make other fire safety recommendations that can result in reduced rates, such as separate hay storage, improved water availability & pressure, alarm systems, etc... have an insurer inspect the premises, then follow as many of the recommendations as are financially feasible.
- ! **Fire-safe practices in daily farm operation are doubly important in older structures. See our poster on the subject, or contact your local fire department for ideas.**

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PERMANENT FIRE SAFETY EQUIPMENT

Detectors, Monitoring and Alarms

Consult your local fire department and/or fire safety equipment provider to determine the best type of smoke and heat detectors for your operation. In general, it is best to select photo-electric or ionization smoke detectors that won't be fooled into a false reading by dust or debris. Heat detectors should be the "rate of rise" type, not overall temperature alarms, as barns can get quite warm in the summer sun. Smoke and heat detectors should be connected to alarm systems designed to notify relevant parties

even if no one is in or near the barn. In small facilities detectors should ideally be interconnected to an occupied building (or farm house) where someone will be available to respond to emergencies 24 hours a day. If the alarm is not transmitted to another building, it should at least be loud or visible enough to be easily noticeable for some distance from the barn in all directions regardless of weather conditions or time of day. In larger facilities, a single stage fire alarm system suitably zoned, equipped with manual pull stations, smoke detection, strobe lights in place of bells and monitored 24 hours a day is likely more appropriate.

Sprinklers

Sprinkler systems are the single most effective form of defense against barn fires, and should be installed wherever funding permits and where water supply and pressure are adequate. In Canadian winters, dry pipe systems (filled with air, will flood with water on demand) are safer than wet pipe systems, as they avoid freezing complications. The most cost-effective time to install sprinklers is during initial barn construction.



PORTABLE EXTINGUISHERS: A multi-purpose 2A-10BC rated portable fire extinguisher approved for use in all climates should be mounted outside each exit door from buildings in smaller facilities. In larger facilities it may be necessary to place additional fire extinguishers in readily visible and accessible locations for prompt response. No farm should be without this essential piece of safety equipment, and all employees should be trained in its use.

Tips on Water Supply

While portable extinguishers can be quite effective against small farm fires, they are less useful when faced with a larger blaze. Water, in quantity, is still the best resource for controlling and combating large-scale fires. For this reason, each barn should have at least one exterior water source – a faucet and hose that originate on the outside of the building, a fire hydrant, or an accessible pond. If such a source is not available, or if the supply is inadequate, then a static water tank should be maintained wherever possible.

The UK Ministry of Agriculture, Fisheries and Food suggests the following minimum criteria for static water tanks and our homegrown experts concur:

- ✓ static tanks should be located in a convenient position between a minimum of 6 metres and a maximum of 100 metres (but preferably closer) from the stock housing
- ✓ they should hold a minimum of 20,000 litres of water and be clear of debris
- ✓ tanks should be covered for safety and kept full of water
- ✓ a hard access to the tank (i.e. supported road, not just flat grassy field) should be maintained in order to enable the fire appliance to safely get close to both the water supply and the stock houses



Also, it is a good idea to ensure that water pumps are powered by a circuit separate from the barn panel to keep pumps working during a fire.

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