

2007

## Preventing Farm Equipment Fires

Bob Vogltance  
*Nebraska Forest Service*

Larry Wiles  
*Nebraska Forest Service*

Follow this and additional works at: <http://digitalcommons.unl.edu/nebforestpubs>



Part of the [Forest Sciences Commons](#)

---

Vogltance, Bob and Wiles, Larry, "Preventing Farm Equipment Fires" (2007). *Publications, etc. -- Nebraska Forest Service*. 31.  
<http://digitalcommons.unl.edu/nebforestpubs/31>

This Article is brought to you for free and open access by the Nebraska Forest Service at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Publications, etc. -- Nebraska Forest Service by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.



# Preventing Farm Equipment Fires

## Fire Extinguishers

Fires on farm and ranch equipment are not uncommon, so all machinery should contain an approved fire extinguisher of adequate size. The cost of a fire extinguisher is minimal when compared to the replacement cost of a tractor or combine.



Fire extinguishers should be easily accessible. On equipment place them in the operator compartment. Pick-ups and trucks should have a fire extinguisher within easy reach of the driver. Always have a fire extinguisher on hand when using torches and welders.

All fire extinguishers should be checked weekly, if not more often, to make certain they are properly charged. Dry powder extinguishers should be removed and turned upside down several times to prevent the powder from becoming packed.

## In Case of Fire

When a fire is discovered, call the fire department immediately. DO NOT attempt to fight the fire before calling the fire department. Those precious minutes spent attempting to extinguish a fire can mean a delay in the arrival of the fire department and could result in a fire becoming much more serious.

Keep the fire department telephone number posted prominently near the telephone. Keep the directions to your farm or ranch posted near the telephone for

those visiting and not familiar with the area.

If it becomes necessary to use a fire extinguisher, follow these steps:

1. THINK
2. Pull the safety pin
3. Aim the nozzle at the base of the fire
4. Slowly squeeze the handle AND
5. Sweep the spray from side to side.

DO NOT discharge the entire fire extinguisher initially. Check to see if the fire is out. If not, you will have more extinguishing agent to use.

Always keep yourself between the fire and a path to safety.

## For more information

Nebraska Forest Service  
Rural Fire Protection Program  
P.O. Box 830815  
Lincoln, NE 68583-0815  
(402) 472-2944  
(402) 472-2964 (Fax)  
[www.nfs.unl.edu](http://www.nfs.unl.edu)

Written by Bob Vogltance and Larry Wiles,  
Nebraska Forest Service.

Cover and combine photos courtesy  
University of Nebraska Institute of Agriculture and  
Natural Resources.

Fuel tank photo courtesy Mary Schlegelmilch.



The University of Nebraska-Lincoln does not discriminate based on gender, age, disability, race, color, religion, marital status, veteran's status, national or ethnic origin or sexual orientation.



Every farm and ranch in Nebraska operates with multiple pieces of expensive agricultural equipment. Unfortunately many of these machines are damaged or destroyed by fire each year. Most, if not all, of these equipment fires are preventable.

## Machinery Fires

Checking for fire hazards before starting work each day will reduce the chance of costly fire to expensive equipment. All equipment needs to be checked for:

- Any build up of crop residue around the engine, exhaust system, belts and chains.
- Damaged exhaust system components.
- Worn or badly frayed drive belts.
- The odor of burning electrical wiring.
- Worn or out of alignment moving parts that can indicate a lack of lubricant.
- Signs of leaking fluids, oil and fuel.

Some types of machinery found on the farm and ranch can present a special type of fire hazard. Elevators, conveyers and augers need to be checked before and during their use for:

- Friction on belts and/or worn belts.
- Signs of discolored or hot metal near bearings.
- Crop residue near heat producing parts.
- Excessive buildup of grain dust on bearings.

Combines and balers can present other types of problems unique to their operation. Operators of these specialized machines should check for:

- The buildup of combustible crop residue around the engine and exhaust system.
- Concealed drive belts and pulleys which can contribute to the accumulation of crop residue which can overheat due to friction.
- Electrical wiring and connectors can become worn or frayed resulting in sparks which can ignite grain dust or fuel vapors.

## What to Do

Preventive maintenance is the key to preventing many of the fires which occur on farm and ranch equipment. Good preventive maintenance not only prolongs equipment life but also reduces fire hazards. Here is what YOU can do to prevent equipment fires:

- Keep all bearings and gears well lubricated to prevent heat buildup.
- Remove crop residue from areas prone to generate 'normal' heat.
- Replace worn and broken belts as soon as discovered.
- Keep lubricants at proper levels.
- Repair any leaks in fuel systems.
- Repair or replace damaged or worn out exhaust systems. In addition to a good exhaust system, a spark arrester can be installed to catch burning particles. They are easy to install and require little maintenance.
- Repair damaged electrical wiring.
- Keep oily rags in covered metal containers to prevent spontaneous combustion.
- Monitor static electricity, especially if large amounts of grain dust are present.

## Safe Fueling

Too often during the busy planting or harvesting seasons on the farm and ranch, safe fueling practices are ignored in an effort to save a little time. The few seconds saved are insignificant when compared to the loss of expensive farm equipment or many weeks or months spent in a hospital burn ward due to carelessness.

Follow these safety practices:

- Never refuel equipment with the engine running. Always shut engine off.
- Allow hot engines to cool 15 minutes before refueling.
- Extinguish all open flames and smoking materials before refueling.
- If fuel spills on an engine, wipe away any excess and allow the fumes to dissipate.
- Never put flammable liquids in glass or non-approved plastic containers.



## Vehicles

Don't forget the pickups or cars used around the farm. Faulty exhaust systems and catalytic converters can cause a wildfire in areas with tall vegetation.

- Manifolds and exhaust pipes can easily reach temperatures of 500°F to 1000°F. Dry grass will ignite within minutes at temperatures as low as 400°F.
- Catalytic converters reach temperatures of 1400°F to 1600°F and can ignite dry vegetation, such as tall grass, weeds or stubble, instantly.
- Vehicles with low ground clearance are especially prone to causing wildfire. Keep all vehicles in good repair.