

Extinguish the Risk of Combine Fires with Proactive Maintenance

Byline: Canadian Agricultural Safety Association

It only takes a small spark to potentially turn a productive harvest day into a costly and dangerous situation.

That's why proactive combine maintenance and fire prevention, both before and during harvest, are essential for preventing machinery fires, which can jeopardize land and lives.

Think taking a bit of time during harvest to inspect and clean combines creates costly delays? The reality is that skipping routine maintenance could have significantly higher cost implications if a combine fire were to damage crops or equipment, or cause physical injuries.

Crop residue, heat, and dry conditions that are typically present during harvest can unfortunately create a perfect storm for combine fires. And considering that some combines can hold upwards of 1,500 litres of fuel, combine fires are a significant hazard during the harvest season that should never be overlooked.

Fortunately, combine fires are often preventable with proactive maintenance, a safety mindset, and fire awareness.

Before harvest

The best time to start mitigating the risk of a combine fire is well before harvest even begins. Think of proactive maintenance as your first line of defence against combine fires.

Plan ahead by carefully inspecting equipment and allowing time to order parts and schedule repairs. Make sure to thoroughly clean the machinery, using a pressure washer to remove oil, grease, and any old debris, which will help with spotting parts that need to be repaired or replaced.

This is also an ideal time to have fire extinguishers inspected annually by a certified technician. It's important to have extinguishers professionally inspected every year, because no one ever wants to find out that an extinguisher isn't working properly once a fire breaks out. Keep in mind that it's best practice to have combines outfitted with a fire extinguisher in the cab and another on the exterior, accessible from the ground.

Before harvest season is also a good time to review safety and emergency preparedness plans and ensure that everyone on the farm knows what to do in the event of a combine fire or other emergency.

During harvest

When harvest season is underway, preoperational machinery inspections should be a critical part of the daily routine on your farm. When inspecting combines, keep an eye out for:

- Buildup of crop residue, dust, and debris around the engine, exhaust system, and belts and chains.
- Any damaged or worn parts.

- Leaking fluids, oils, or fuel.
- Clogged air filters.
- Parts that are poorly lubricated.
- Excess lubricant around heat sources.
- Low fluid levels.
- Signs of wear on electrical wiring or loose connections.

Be sure to take care of any cleaning and maintenance before heading to the fields for the day.

Even if everything looks good during the preoperational inspection, it's crucial to keep tabs on machinery throughout the day. Use breaks to walk around the combine to ensure everything remains in good working condition. (Tip: Unusual smells from machinery are often a key indicator that something needs to be remedied.)

It's also essential to take time during the day to clean off crop residue, dust, and dirt. Use a portable leaf blower or air compressor to regularly remove accumulated crop debris. A buildup of crop residue is one of the most common causes of combine fires, as heat and friction can easily ignite debris, so make time to clean off machinery at least a couple of times throughout the day.

Another potential cause of combine fires is improper refueling. Although harvest is a busy time on the farm, improper fueling can result in a costly fire. Before refuelling machinery, always turn off the engine and allow it to cool. Clean up spills right away and let any fuel spilled on the engine. Never refuel equipment with the engine running, and do not enter machinery during fueling, which can create static electricity that could ignite fuel vapours.

What to do in case of a combine fire

If a fire starts on a combine that is in use, immediately shut off the engine, grab the fire extinguisher, and get out. Call for help as soon as you have safely exited the combine. Everyone working during harvest should have a cellphone or two-way radio with them in case of emergencies.

Once you're safely away from the combine, you can use a fire extinguisher to attempt to put out the fire. But always approach any fire, even small ones, with extreme caution, as it can take very little time for a fire to become out of control. Do **not** attempt to put out any fire until you are safely away from the machinery.

Safety is the top priority with any fire. If a fire starts in a hard-to-reach area or seems to be out of control, don't risk your own safety— the combine is replaceable, but you are not. Instead, wait at a safe distance from the fire for firefighters to arrive.

While it's impossible to eliminate every risk on the farm, taking proactive steps with maintenance and fire prevention can go a long way towards protecting everyone on your farm from combine fires.

Remember that no equipment or task is ever worth risking a life.

About the BeGrainSafe Program

The BeGrainSafe program is a grain safety initiative of the Canadian Agricultural Safety Association. In 2026, BeGrainSafe Week takes place August 10-16 and is presented by

Corteva Agriscience. The program is also supported by G3, CN, Farm Credit Canada, Agriculture Financial Services Corporation, Alberta Canola Producers Commission, Alberta Grains, Canadian Canola Growers Association, Nutrien Ag Solutions, SaskOilseeds, Saskatchewan Wheat Development Commission, Bunge, Grain Farmers of Ontario, Manitoba Canola Growers Association, and Prairie Oat Growers Association. For more information about BeGrainSafe, visit www.casa-acsa.ca/BeGrainSafe.

About the Canadian Agricultural Safety Association

The Canadian Agricultural Safety Association (CASA) is a national, non-profit organization dedicated to improving the health and safety of farmers, their families and agricultural workers. CASA is funded in part by the Sustainable Canadian Agricultural Partnership. For more information, visit www.casa-acsa.ca.