



A prescribed burn at UW's James C. Hageman Sustainable Agriculture Research and Extension Center (SAREC) near Lingle. Photos by David Keto.

Why all the burning during “weed season”?

In some parts of Wyoming, the smell of smoke is one of the first signs that spring is near. Before the landscape fully greens up, smoke rises from fields, ditches, and pastures as what some people call “weed season” begins. Most of these fires are set on purpose, and it’s worth understanding the many reasons it’s done and what it accomplishes.

When is weed season?

“Weed season” isn’t defined by a date on the calendar so much as a window in the weather. It opens in late winter or very early spring, once last year’s growth has dried out enough to burn, and it closes as soon as the land starts to green up.

Despite the name, most of what’s burning during those weeks isn’t weeds at all. It’s dead vegetation from the previous growing season. Weed control is sometimes part of the goal, but the more important job, in most cases, is getting rid of last year’s buildup.

Why burn?

If you look closely, you’ll see that people are burning for different reasons: sometimes to directly support agricultural production, sometimes to maintain

agricultural infrastructure, and sometimes for reasons that have little to do with farming at all.

For crops growing on flood-irrigated ground, water moves across fields through shallow furrows. Anything left on the surface can disrupt the flow, so producers burn off last year’s dead vegetation to get the surface smooth and cooperative again.

Alfalfa seed fields face a different hurdle: the crop is typically treated with a desiccant before harvest, which means it can’t be fed to livestock, and it’s expensive to remove any other way. Fire is the cheapest option.

Along irrigation canals, few herbicides can be used, and mowing on steep banks is dangerous. However, the moist conditions along these ditches produce a dense buildup of grass that dies at the end of the season and can impede water flow if it’s not cleared. Fire becomes the practical tool by default.

Fence lines and ditches can also accumulate troublesome buildup. Dry grass growing up into an electric fence can short it out and tumbleweeds can pile against fences once the wind gets going, sometimes enough to knock sections down. Like irrigation canals, ditches offer moisture that supports plant growth, leaving behind a lot of biomass the

following year. Fire can clear all of it away and keep things in working order.

Burning is also done on pastures, which tend to look rough by the end of winter. There might be dead grass, Canada thistle and kochia skeletons from last summer, and Russian thistle that blew in over the winter. A controlled burn can take care of all that dead stuff; what's left behind looks clean and uniform, with the promise of fresh green growth that could look almost lawn-like in a few weeks. The weeds, at that moment, are gone.

What about the weeds?

As dramatic as the immediate before-and-after looks, fire often does less to weeds than people expect. A quick burn usually removes only what's aboveground.

Perennial weeds like Canada thistle hold most of their living tissue below the surface, where the fire doesn't reach, and resprout readily. The seeds of annual weeds like kochia, Russian thistle, and mustards mostly sit in or on the soil; in many scenarios, small fires might not get hot enough, or burn long enough, to kill most of the seeds.

Furthermore, timing the burn is important. If a burn happens before seedlings have emerged, they could remain safe as seeds, only to emerge later on, unharmed. Burn too late, of course, and those plants might have already set seeds of their own.

So, the land might look clean right after a fire, but as far as weeds are concerned, the seedbank and belowground plant parts can still remain, waiting to emerge. Circumstances vary, of course, but other weed management tactics, like mowing, spraying, or pulling, might be much more effective in the long run.

Safety on a small acreage

There's a lot to know about burning safely on a small acreage, whether you're working on a pasture, fence line, or ditch bank. A fire that remains controlled depends on many factors lining up at once: wind speed and direction, moisture, and the slope and shape of the ground.

Experienced folks talk about fire "behavior," almost like it's a living thing, because it can be unpredictable and there's always risk involved. Fire departments in the Bighorn Basin, for example, get three to five calls a week during weed season, mostly about small acreages



where a fire got away from someone. If a fire moves onto a neighbor's property and causes damage, the person who lit it is liable.

The burns you see on fields used for agricultural production tend to be fairly large and set on windier days than you'd expect would be safe. But these fires most often stay contained because the practice of burning crop fields safely has been handed down through generations of agricultural producers. They know, for instance, that it's important to have a fuel break (a break in flammable vegetation that can carry the flames) before a fire is started, which is often done in crop fields by disking a perimeter.

Burning on small acreages can be more complicated—space is tighter, fuel is less uniform, and it can be harder to create a sufficient fuel break. The method for burning a crop field isn't necessarily a good template for a small acreage.

If you decide you want to burn, call your local fire department ahead of time. They'll let you know what permits are required and help you think through whether you can do it safely on your property. Letting them know also prevents a planned burn from being mistaken for an uncontrolled fire.

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For **Kelsey Brock**, UW Extension invasive plant specialist and assistant professor of plant sciences, it's always weed season. Contact her with questions about weed management and identification at kbrock5@uwyo.edu or (307) 766-3113.