

Prairies and Fire

AGRI-VIEWS

by Chuck Otte, Geary County Extension Agent

From the time that we are born we are taught to fear fire. Fire burns down houses and destroys property so it is a bad thing. People of my generation remember a certain character bear telling us to stop forest fires. Avoiding fire became a driving force for many of us. But it's a very human centered view. We view fire as the ultimate destructive force.

Ecosystems "view" fire differently. In the absence of human beings, virtually all ecosystems experience periodic fire and most depend on it for control and regeneration of that ecosystem. The fires may be every year or two, or they may be once every 20 years. But fire is a defining force, in a positive way, for most ecosystems. Decades of extinguishing every fire that started in western forests led to some of the massive disasters that we have seen today due to an accumulation of fuel that previously would have been burned up by low intensity fires.

Probably more so with tall grass prairies than almost any other ecosystem, fire is a necessary and regular management tool. Grasses are well suited to fire. They keep growing points on the crown of the plant just under the soil surface. Even if a fire occurs during the growing season, if there is adequate soil moisture, the grass plant will generate new growth. This adaptation occurred over millennia of random fires started by natural causes like lightning.

Many other plants are not as effective at dealing with periodic burns. Cedar trees (and other coniferous plants like pines and spruces) have their growing points above ground, at the tips of their branches. If a cedar tree is completely burned, it dies. Many deciduous woody plants can re-sprout from the base of the plant, but it may take several consecutive years of burns to deplete root reserves to where the plant dies. Many invasive annual weeds can be controlled by a fire as they start to grow in the spring. So fire becomes a crucial brush management tool.

Cedar trees are the only native evergreen in Kansas. They are well adapted to our climate and in the absence of fire they can quickly turn a tall grass prairie into a cedar forest. If fire was removed as a control option it would entail a great deal of mechanical labor or herbicides. Unfortunately, while herbicides could work, they also increase the likelihood of water contamination. A fire, depending on the weather conditions will show a temporary short term increase in ozone and particulate matter within the area of the fire and downwind. Yes, it can cause problems for those with breathing impairments. My late brother had mesothelioma and I am very cognizant of those issues. But the situation improves in a few days. Once water becomes contaminated with anything, it takes a long time to un-contaminate it.

Late April burning also can improve livestock performance for some classes of cattle. Remember, we still have these grasslands in the Flint Hills because the soil is too shallow and rocky to plow and farm. Cattle are the harvesting equipment. Routine prescribed burning also reduces wildfire risk. By burning off all of the old accumulated growth and ground level thatch every one to three years, it means that wildfires are harder to get started and easier to fight if they do get started. A pasture that hasn't burned in 10 years will be a slow and hot fire to deal with.

Yes, we've had some smoky days already and we may have some more over the next three weeks. It can be an inconvenience or risk to a few people, greatly curtailing their activities. To most everyone else, it's an annoyance. But in the long run it's the best option for maintaining this amazing ecosystem known as the tall grass prairie and the Flint Hills.