

The Grazier



Brush Control Coaxes a Wealth of Lush Grass

Brush-infested pastures can be cleaned up with a management plan that includes the use of herbicides and a system of prescribed burning, according to Gary Kilgore, Southeast Kansas Extension agronomist.

"Here in eastern Kansas and over into Missouri, we have a lot of land that is covered by an overstory of mixed brush and understory of weeds. But beneath all that, there's a wealth of productive native grass that can be coaxed back to life," Kilgore says.

Through history, wildfires kept the brush at bay and maintained the prairie ecosystem. But this cycle has been interrupted and the land is at what Kilgore calls an ultimate phase of ecological succession — a thick mix of sometimes stunted deciduous trees that block sunlight to lower vegetation, leaving only broadleaf weed and forbs growing in the shade.

This can be a problem for producers, wildlife and the land itself he says.

Producers need productive pasture for livestock, but grasses are choked and brush-infested land is of low value. Wildlife needs edge habitat — where grassland and stands of brush and trees meet — for forage and cover. And the land itself needs a thick blanket of grass to prevent soil erosion.

"If our goal is to return the land to its natural state, it isn't desirable to see a return of the wildfires that swept through here and maintained the grassland," Kilgore says. "We have to rely on a combination of management tools to suspend the succession of brush species. Fire is one, but it is used on a controlled basis."

Kilgore has been working for the past two seasons on a management plan to accomplish this. Trials in various locations of southeast Kansas were started in spring 1990, and follow-up research continues.

"We selected several sites that are representative of the major topographical areas within the region, and that contain representative brush species," he says. "There we applied various rates and com-

binations of herbicides to defoliate the brush and allow grasses to return below the trees. Then we put a prescribed burn through the plots in order to clear away plant litter and stimulate the grasses."

Native warm-season grasses are stimulated by burning, he says. While grasses may not have been evident before the trial, they were after the remnant crowns of grass received sunlight.

"The response was very dramatic. In general, the grass bounced right back. We had very lush stands of many warm-season native and cool-season introduced grass species," he says.

They also had brush species coming back. "These types of plants can reproduce from roots. What you started with was brush totally infesting the area, so thick you couldn't walk through it. Then, after herbicides and burning, much of that was cleared out and the grass responded with lush growth. Then shoots of plants like blackberry started popping out, or you'd have a vine-type plant spreading in the branches of a dead multiflora rose. This response was expected. Years of neglect don't go away overnight," he explains.

Once the basic job of clearing out the pasture is done, he says, the producer needs to maintain a management plan to get the job done.

What we would like to see is that producer continue to put a prescribed burn through the pasture to keep the brush under control. You'll have to adjust grazing plans to allow for enough fuel to grow, but much of this land has little grazing now. After several seasons of grass management and burning, the brush will be suppressed and the land returned to a healthy, native grass pasture. Then you can stock land accordingly."

Alternatives include mechanically clearing the land with a Kansas Klipper, a to-mounted device that clips the brush off at the base, or clearing the land with a bulldozer. A Kansas Klipper can be time-

consuming to use, he adds, noting that many parcels contain thousands of brush stems per acre. And a bulldozer can rip up ground, leading to erosion, as well as causing compaction. Mechanical methods also can be dangerous and costly on hilly land.

Aside from these factors, he says, chopping brush and certain kinds of saplings off at the base actually encourages them to send up a thick stand of shoots. And this regrowth can be even more difficult to control than the original plant, he adds.

From an economic standpoint, brush-infested land has little value, he says. Costs of returning it to production vary, but in general, the first year of applying herbicides will cost the producer about \$25 per acre plus application. Prescribed burning generally costs about \$1 per acre, but can be more, depending on topography and crew size needed.

"Take this basic cost and then look at the pasture rental rate for your area," he suggests. "This will give you an idea of how fast the payback comes. You'll be able to amortize these costs over a period of several years, since your operation will receive the benefits of the treatment over that same period."

"Use this rough calculation as a guide to your plan. Then, in a systematic manner, perhaps using SCS maps, create a land management program you will follow, targeting some acres for treatment and leaving others for control at a later date or for wildlife edge habitat," he says. "You can also look at the increased market value of the land as an appreciation of your assets. You're going from basically zero value to the market value of native pasture in your area. That could be important if you're counting on that land value for retirement or investment."

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