Managing Native Hay Prairies for Wildlife

Tallgrass prairie once covered 140 million acres of North America, but today less than 4 percent remains and two-thirds of that is in Kansas. The largest swath of remaining tallgrass prairie is in the Flint Hills; it survived because the soil was too rocky to plow and it made good pasture for cattle. But tallgrass prairie also covered the rolling land east of the Flint Hills, where the soil is deeper and annual rainfall is higher. Today, only small remnants of these prairies remain, dotted among the farm fields, forests, cities, and towns of eastern Kansas. Prairie hay provides relatively inexpensive supplemental forage for livestock and is a valuable asset to Kansas producers. Native hay meadows, however, require careful management for sustained high quality and forage yield. Private landowners can improve native prairie hay production and wildlife habitat by using the following guidelines.

Time of Cutting: Harvest date is the most important factor in hay meadow management. It affects forage quality, yield, stand composition and regrowth. Maximum tonnage and highest quality do not occur at the same time of the year. Hay quality peaks early in the growing season, which is early May, and progressively declines during the summer. Highest tonnage occurs late in the growing season, which is in August. Cutting in early July in southern Kansas or mid-July in northern Kansas is the best compromise between yield and quality. Cutting after mid-July reduces the ability of the plants to rebuild root reserves for next year's growth, thereby reducing next year's hay yield by as much as 50%. Repeated late-season harvesting diminishes the vigor of perennial grasses, and undesirable weeds and annual grasses invade. Total hay yield and production of desirable species decline over time. If a meadow cannot be harvested by August, it is best not to cut at all. Waiting till mid -July to harvest the hay is also good for upland game birds and other ground nesting birds leaving them adequate time to hatch their eggs and raise their broods. Cutting in June could result in destroying their nest and removing habitat and food for the young chicks that have hatched.

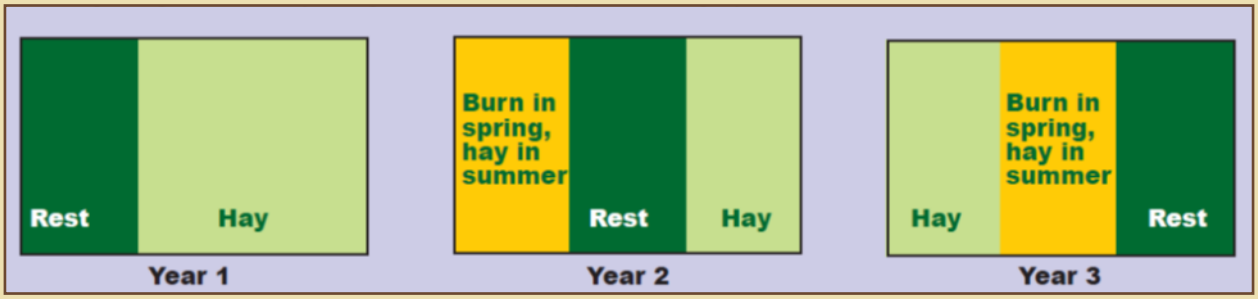
Cutting Height: Cutting height is also important to long-term hay yields. In a normal year, prairies should be cut at a height of three to four inches, which leaves sufficient stubble for re-growth and soil cover. In a dry year, five to seven inches is more appropriate. The goal is to leave enough for the plants to rebuild carbohydrate root reserves before frost. This regrowth will also aid in upland game birds winter and nesting cover.

Fertilization: Fertilizing is not recommended for native hay meadows. Nitrogen fertilizers may increase hay growth slightly during the year of application, but cause long-term problems. Nitrogen causes rapid growth of undesirable cool-season grasses, which can become invasive. Other weedy species can proliferate with fertilization. The desirable native grasses and forbs don't respond well to fertilization. Simply adjusting the time of the cutting to early-July through mid-July, maintaining cutting heights of at least 3 inches AND introducing prescribed burning will significantly improve forage production.

Herbicides: Most of the herbicide use on prairie hay meadows is the result of the mistaken belief that the prairie's broadleaf plants, or forbs, are "weeds" that need to be eradicated. In fact, most forbs are valuable plants that play an important role in the prairie ecosystem and provide livestock with high protein forage. Forb are also an important food and cover source for many wildlife species. Regularly scout for invasive weeds like sericia lespedeza and spot treat as soon as they are found. Spot treating invasive weeds is more economical than broadcast treatments and saves prairie diversity. Some wildflowers can take decades to recover from being sprayed with herbicide, some species may never return after being eliminated through indiscriminate herbicide use. If you do use herbicides, apply only those labeled for the target species and for use in hay meadows. Pay particular attention to the waiting period between spraying and hay harvest. Contact your county extension agent for advice.

Prescribed Burning: Prescribed burning is critical to maintaining or restoring a prairie. Burning will help improve production, control cedar sprouts, reduce undesirable cool-season grasses that can reduce production by competing for soil moisture, and improve wildlife habitat. Spring burning two or more years in succession will usually control invading cool-season grasses. Summer or early fall burning will increase forb diversity, but may also reduce native warm-season grass yield but usually not total yield. Periodic burning will also benefit wildlife by improving nesting and brooding habitat. Plan to burn no more than one-half of the prairie each year so to leave some previous year's growth for nesting cover. Burn the other portion the following year.

Hay Rotation: Rotate haying so that some portion of the meadow is rested each year. This portion may be from 10% to 50% as the owner prefers. Haying only a portion of a prairie and resting (not harvesting or grazing) the other half for an entire year can dramatically improve production and provide excellent wildlife habitat. While this management practice seems wasteful, prairies managed under this scenario can produce as much tonnage from one-half of the prairie as when the entire prairie is hayed annually. The rested portion will often produce up to a ton more of forage the year after resting to compensate for production lost the year of rest. The previous year's growth will usually have settled below the 3- to 4-inch cutting height by early July so that little old growth is picked up in the new hay. This technique is especially valuable for restoring abused prairies. Brushy vegetation will not be a concern even in a rest-hay rotation, especially if prescribed burning is introduced. A rest-hay rotation will also help lower equipment and fuel cost for the operator.



Key Management Points

- For the best compromise between wildlife benefits, forage quality, and forage quantity, hay in early-July to mid-July. Leaving un-hayed corners, odd areas, or 30 to 60 foot borders along field edges gives ground nesting wildlife time and available habitat to complete nesting activities.
- Consider establishing a rest-hay rotation on 10 to 50% of the prairie each year to improve production, improve wildlife habitat and reduce overhead costs.
- Reintroduce prescribed burning by burning 1/2 to 1/3 of the prairie each year. Spring burns will help control invasive cool-season grasses, while summer or early fall burning will increase forb diversity, control some woody vegetation and increase wildlife use. If possible burn on a 3 year rotation.
- Leave all regrowth following haying for winter and nesting cover.
- Avoid all broadleaf herbicides except for spot treatment of noxious weeds.

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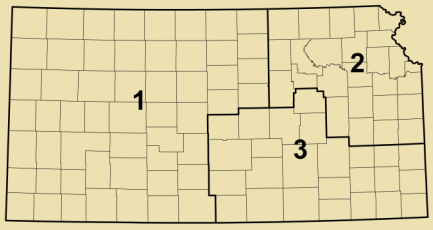

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