

Pasture/Hayland Management for Wildlife and Livestock



Habitat change through natural and/or human caused disturbances, such as grazing, has always been an important management factor in maintaining quality wildlife habitat. In native grasslands (prairie) throughout North America, including Ohio, large herbivores such as bison, elk, and white-tailed deer have grazed the prairie for eons, creating a diversity of habitat that supported a variety of wildlife from badgers to regal butterflies. In Ohio, grazed grasslands are especially valuable for birds such as the grasshopper sparrow and upland sandpiper. Pastures also provide hunting grounds for the endangered barn owl

and northern harrier. Refer to the Prairie Grassland Habitat Management publication for more information on grassland birds.

During European settlement times, a few pioneer farmers recognized the native prairie's potential for pasture and hay. One Midwestern farmer wrote "I can stand on one of these beautiful high mounds and see meadow and grass enough to feed all the cattle ... The prairie grass makes much better pasture and hay than I had any idea of." Unfortunately, most early farmers were unfamiliar with these native grasses and misunderstood their value as forage for domestic livestock. As a result, they converted Ohio's native prairie to cropland and to non-native cool-season grass/legume pasture and hay. Today, only 1% of the native prairie remains in Ohio and few livestock operators have yet recognized the benefits of prairie pasture and hay for livestock production. This publication is designed to introduce you to a "new" way of managing pasture and hayland. A way that provides both quality forage for livestock and habitat for wildlife.

WHAT PASTURE/HAYLAND MANAGEMENT SYSTEM IS BEST FOR WILDLIFE?

The system that most duplicates "natural" grassland disturbance regimes is best for wildlife. Pasture and hayland management factors such as the timing of hay harvest and pasturing, stocking rates and kinds of livestock on the pasture affect wildlife use and abundance. Grazing and haying can positively influence wildlife use if these factors are controlled

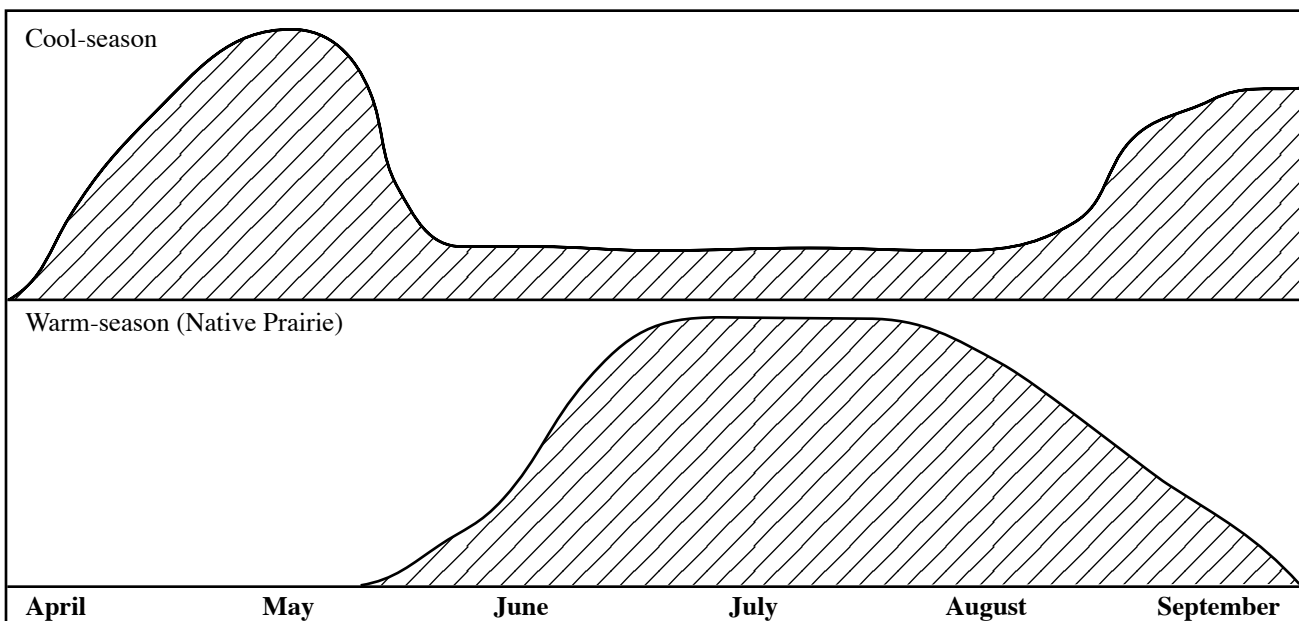


Figure 1. Seasonal productivity of cool and warm-season grasses.

to modify the habitat structure (i.e., vegetative height and density, plant species composition) in a way that provides for the habitat needs of wildlife. A rotational grazing/haying management system is currently the best all around management approach for furnishing quality forage and providing wildlife habitat.

WHAT IS ROTATIONAL GRAZING AND HAYING?

Rotational grazing is a sustainable farming practice that involves dividing an area of land into several paddocks or units and moving livestock from one paddock to another as the season progresses. This provides adequate recovery time between grazing and haying events for maintaining grass vigor and permits undisturbed nesting use by wildlife. This also allows for utilizing the forage at its most productive period and improves the pasture's ability to attract wildlife. The designated management area is divided up between cool-season grasses and warm-season grasses (native prairie) pasture, hayland, and refuge (rest) paddocks. The management area should be composed of at least of 30% native prairie grassland. The advantages of setting up your forage management system this way includes the following benefits: increased forage carrying capacity because cool-season grasses peak maturity occurs before June 1 and native prairie grasses peak growth occurs after June 1, hence the title - warm-season grasses. (Refer to Figure 1).

This extends the length of time the pasture is providing quality forage without the need for supplemental feed, thereby lowering management cost. Native prairie grasses also have a higher digestibility,

which allows animals to process food faster leading to faster forage intake resulting in faster weight gain per animal unit. In addition native grasses also produce high yields and high crude protein percentages during the hot summer months when traditional cool-season grasses are dormant. Refer to Table 1. The table provides a comparison of warm-season grasses to a major cool-season pasture/hayland grass. These advantages mean that a rotational pasture will create an overall net income per acre of \$100.00 vs. \$36.00 for a traditional continuous cool-season pasture.

Table 1. Comparison of warm-season grasses to a major cool-season pasture/hayland grass.

Species	Average Yield (Tons per acre) 1 harvest	Percent Crude Protein
Switch grass	3-4 T/acre	10
Big bluestem	2-2 1/2 T/acre	15
Indiangrass	2-3 T/acre	10
Eastern gamagrass	3-6 T/acre	12-15
Orchardgrass w/o alfalfa	3 T/acre - 4 harvests	10-18

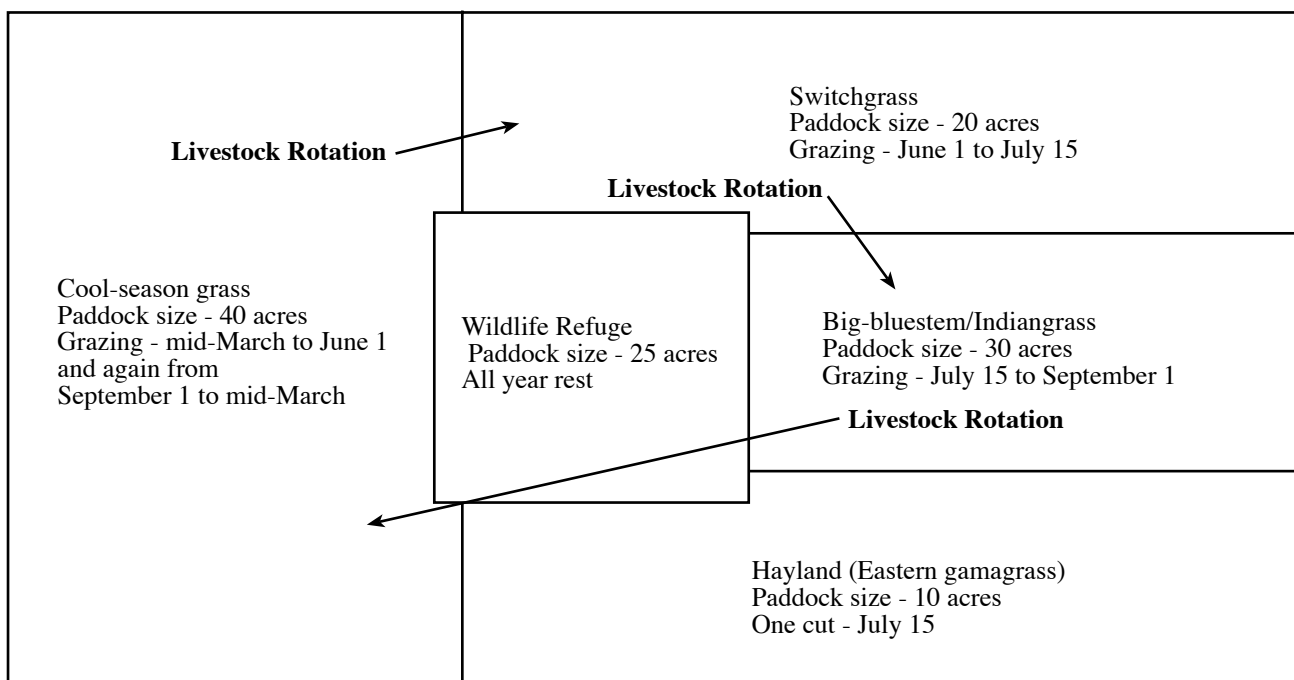


Figure 2. Paddocks with grazing and haying seasons and acres at 1.5 animal units per acre (1 Animal Unit = 1,000 # live weight) for a 20-animal unit/125-acre management area (includes adults and young).

HOW DO YOU SET UP A ROTATIONAL PASTURE?

Divide the management area into at least four fenced paddocks, including warm-season grass paddocks planted to switch grass (Blackwell variety), mixed big bluestem (Roundtree variety)/Indiangrass (Rumsey variety), Eastern gamagrass and a cool-season grasses paddock planted to a combination of bluegrass, orchardgrass and timothy. Refer to Figure 2 for an example.

Information on planting methods, seeding rates etc., for prairie grasses can be obtained in the Prairie Grassland Habitat Management publication. Cool season grass establishment information can be obtained by contacting your County Cooperative Agricultural Extension Agent.

MANAGEMENT GUIDELINES FOR GRAZING PADDOCKS

1. Do not graze newly planted prairie grass stands until two years after establishment.
2. The optimum time to graze in order to maximize use of forage is when the grasses are in the “boot stage” of development. The “boot stage” occurs when the seed heads are within the sheath of the grass stem.
3. Do not start grazing prairie grasses until they are at least 12” to 18” high.
4. Remove livestock when grass height reaches 6” to 8”.
5. Do not graze any of the prairie paddocks later than September 15.
6. Do not overgraze!

MANAGEMENT GUIDELINES FOR HAYLAND Paddock

1. Do not harvest hay on newly planted prairie grass until two years after establishment.
2. Mixed plantings are the best for the prairie hayland paddock such as a combination of Indian-grass and the legume - bush clover. Legumes such as partridge pea and Illinois bundleflower are also suitable to plant with grasses for hay.
3. Big bluestem and Indiangrass can be harvested in late July / August 1. Eastern gamagrass should be harvested from early July to mid-July.
4. Leave a 50’ wide uncut strip around the perimeter for nesting and brooding wildlife.
5. Do not take more than one cutting of hay per year.
6. Leave a 6” to 8” stubble when cutting for hay.

MANAGEMENT GUIDELINES FOR REFUGE Paddock

1. Do not hay or pasture refuge paddock annually. Refuge paddock is to be rested and provide undisturbed habitat for wildlife.
2. Plant refuge paddock to a mixture of prairie grasses and flowers. Refer to Prairie Grassland Habitat Management publication for information on species to include in this planting.
3. Maintain prairie in refuge paddock by harvesting one cutting of hay every third year.

NOTE: Long-term prairie pasture and hayland productivity can be enhanced by periodic fertilization. Nitrogen can be applied before grasses reach 4-5 inches in the spring, apply 40-60lbs. of N/acre. Refer to Prairie Grassland Habitat Management publication for more information on prairie maintenance.