

Grazing and Haying

To optimize the productivity of your forage, livestock should be rotated among several paddocks (individually fenced pastures). By doing so, the health and vigor of the forage is maintained and enhanced by avoiding excessive grazing of any particular paddock and by facilitating a more even distribution of nutrients from manure across all paddocks. Such a strategy also benefits wildlife by providing better cover and enabling them to utilize paddocks that are not being grazed for nesting. Rotational grazing simply involves periodically moving livestock from one paddock to another. Such systems can be very intensive, in which livestock are moved every few days, or they can be set up on a more leisurely pace of seasonal movements over larger pasture units.

Native warm season grasses* are an important part of a rotational grazing system. These “summer grasses” actively grow when the temperature is above 65 degrees Fahrenheit, whereas cool season grasses like fescue, orchardgrass, and timothy are semi-dormant at that time, sometimes even brown during droughts, providing very unattractive forage for animals. Fescue has also been proven to reduce birth rates and weight gains in livestock, as well as to

produce a fever, known as fescue toxicosis or summer syndrome, which causes cattle to loiter in creeks and ponds instead of feeding. This commonly leads to erosion and water quality problems as well. In contrast, native warm season

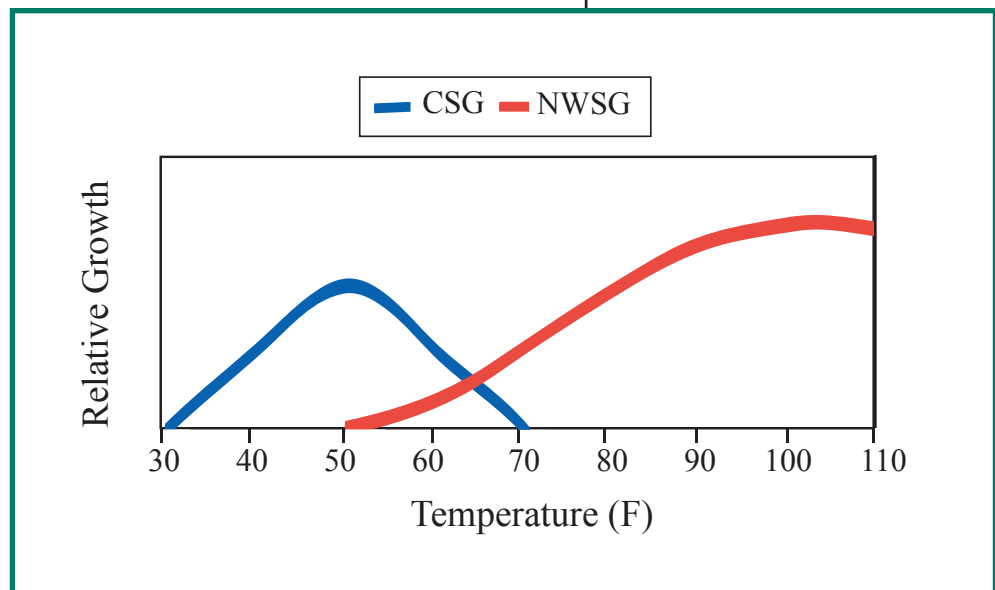


Figure 1. Relative growth of cool season grasses (CSG) vs. native warm season grasses (NWSG) at different temperatures.



Research has shown that fescue decreases birth rates and weight gains in livestock, and also causes a fever that indirectly contributes to water quality problems.

grasses are quite palatable to livestock (6-12% protein) and have been shown to produce weight gains of 2 pounds per day in cattle, compared with an average of 1 pound per day for fescue. They also make excellent hay, capable of producing 5-10 tons per acre per year with two cuttings.

The amount of warm season grass needed on farms will vary depending on the number of livestock present there. The total amount of pasture land available on the property will determine the optimal number of livestock that should be kept there. To facilitate the establishment of a rotational grazing system, it is recommended that 25% of your pasture land be converted to native warm season grasses such as eastern gamagrass, switchgrass, big bluestem, and indiangrass. The remaining paddocks can be converted to wildlife-friendly cool season grasses*, such as orchardgrass and timothy, for use as spring and fall forage for livestock. Periodic enhancement of cool season pastures by addition of legumes* is also necessary to maintain maximum productivity.

When planning your rotational grazing system, keep in mind that the different species of native warm season grasses mature at slightly different times. Gamagrass and switchgrass mature in early summer (June), big bluestem matures in midsummer (July), and Indiangrass matures in late summer (August). To optimize production, establish several different paddocks, each containing 1-2 species of native grass, to cover all the summer months. If you wish to maximize benefits both to livestock and wildlife, use a mixture of 3 or more species in each paddock.



Figure 2. Gamagrass is an excellent choice for summer pasture.

Five to eight paddocks total usually optimizes efficiency and productivity with regards to rotating livestock.

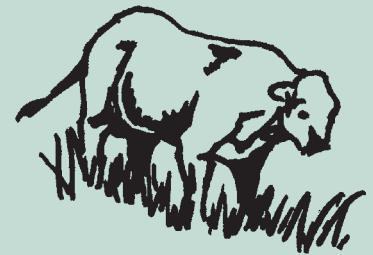
Paddocks should be laid out across your fields in such a way as to facilitate the movement of livestock throughout the year. If needed, temporary electric fencing* can be used to subdivide larger paddocks into smaller units. Fields that already exist as independent units can be permanently fenced off from each other by using high-tensile or barbed wire fencing.* Keep in mind the need to provide shade for livestock in each of the various paddocks. Although it is certainly unwise and unnecessary to allow livestock full access to large amounts of woods, fencing off a couple acres of low-quality woods for shade is acceptable.

Grazing of native warm season grasses should begin in the second year when they are about 18 to 24 inches tall. If desired, gamagrass can be planted with corn in alternating rows to avoid losing a year's worth of production from the site. The grasses can be grazed from June through August. Follow the old adage: take half, leave half. They definitely should not be grazed lower than 8 inches! This technique maximizes productivity for livestock, ensures the overall health of the stand, and provides good wildlife habitat. Allow 4-6 weeks for them to regenerate before bringing livestock back to any particular paddock. Grazing of native warm season grasses should cease by September 1.

Obviously, a reliable water source will be needed for each paddock. Depending on the situation, it may be feasible to use a single pond as a focal point, with several paddocks located adjacent to it. The pond itself should be fenced off from livestock, with pipelines running outwards to watering troughs in each individual paddock. It may also be possible to use creeks as water sources, with access limited to a few points. Fencing most of the bank along creeks is recommended to minimize erosion, improve water quality, and provide streamside habitat.*

If using native warm season grasses for hay, be sure to cut them while the seed heads are in the early boot stage (approximately mid June – mid August, depending upon the species) to capture maximum nutritional content. Fiber content increases and digestible energy and protein content decrease rapidly after that point. Actually, the timing of cutting native grasses for hay is often beneficial to farmers by coming after the regular planting season. It is also helpful for wildlife by allowing some early season nesting to occur without disturbance.

Native warm season grasses are quite nutritious (6-12% protein), can produce 5-10 tons an acre per year of hay with two cuttings, and can produce weight gains of up to 2 pounds a day in cattle.



Native grasses can be moderately grazed or cut for hay beginning in the second year.

SUMMARY OF OPTIONS:

Number of NWSG Paddocks
5, 6, 7, 8

Size of Paddocks

Variable/site specific;
approximately 25% of
pasture land in NWSG

Location of Paddocks

Site-specific; should be
adjacent to each other for
easiest rotation

Grass Mixture for Paddocks

Need multiple mixtures to
cover all summer months
Gamagrass/Switchgrass
Switchgrass/Big bluestem
Big bluestem/Indiangrass

Water Source for Paddocks

Present
Needed

Length of Rotation

3 days, 1 week, 2 weeks,
monthly

Timing of Haying

June, July, August



Figure 3. Switchgrass can be used for pasture or hay.

Hopefully, this handout has provided you with an overview of the basic concepts involved in prescribed grazing and of utilizing native warm season grasses (NWSG) for hay. For more detailed information, consult the publication entitled "Grazing and Haying of Native Warm Season Grasses for Livestock and Wildlife" available at your county Natural Resource Conservation Service (NRCS) office.

*Related *Habitat How-To* references:

Fescue Eradication
Native Warm Season Grasses
Cool Season Grasses
Legumes
Soil Amendments
Fencing
Streamside Management



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Planning for My Property