



Grazing Management

Native Warm Season Grass

Illinois

What are Native Warm Season Grasses?

Native warm season grasses (NWSG) are plants that grow most vigorously during the late spring and summer; in contrast to the grasses many of us are more familiar with—orchardgrass, timothy brome, fescue, and bluegrass, which do most of their growth during the spring and fall. The ones discussed here grew in the prairie areas of Illinois before the European settlers came—big and little bluestem, indiangrass, switchgrass, eastern gamagrass, and sideoats grama. They grew with other plants of the prairie—native cool seasons like Canada and Virginia wildrye and western wheatgrass, legumes like Illinois bundleflower, leadplant, purple clover, and catclaw sensitivebriar, and forbs such as gayfeather, coneflowers, maximilian sunflower, pitcher's sage and compassplant.



Why they are important

To the livestock producers, they can provide high quality forage in the late spring and summer after their cool season pastures have quit growing, cutting down or even eliminating summer haying. To the hay and crop producer, they can enable them to cut high quality hay in June and July, (instead of May, when cool seasons should be cut). To the crop producer, they can reduce erosion if planted as contour strips on sloping ground or improve water quality as filter strips along streambanks, rivers, and pond banks—an added advantage here is that these plants are tolerant to many herbicides used on corn, unlike cool season grasses. To the person interested in wildlife, their later haying season and more open upright growth habit makes them great nesting and brood-rearing places for quail, pheasants, prairie chickens, ducks, upland plovers, and other wildlife. These benefits are magnified even more if mixtures of prairie plants, or even compatible introduced legumes such as alfalfa, birdsfoot trefoil, or Korean or Marion lespedeza, are planted with them.

What are the differences between NWSG and traditional forage species?

(1) Cost of seed can be expensive, although switchgrass can be cheaper than seeding fescue, due to the lower rates of seed and fertilizer required. Costs should be looked at over the long haul. Alfalfa is much costlier, since it often has to be replanted every 4-8 years. Native plants do not require reseeding once established. (2) Planting big and little bluestem and indiangrass can be difficult because of the awns and appendages attached to the seed. It may be best to pay an extra 50¢ to \$1 per pound to get the seeds debearded. Either way, a drill with oversized seed tubes and agitator in the seed box should be used, or broadcast the seed over a clean, firm seedbed. (3) Establishment periods are often long. Sometimes a person gets lucky and has a great stand the first year—more often it takes 2 or 3 years to get a good stand. A plant every square foot the end of the second growing season can become a successful stand. (4) NWSG requires different management practices than traditional forage species. NWSG grow more upright than prostrate; therefore, they should not be grazed less than 9 inches of stubble height. Grazing shorter than 8 inches limits regrowth and reduces stand life.

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What are the yields?

NWSG yields varies greatly, just as cool season forages, on the management, fertility, depth of soil, and weather—all the way from 1.5 tons/acre/year on poorer soils to 10 tons/ac with eastern gamagrass on well managed, highly fertile bottomland soils. Under moderate management with most soils, one may expect 3-7 tons/acre. Forage tests on warm season grasses often show them very low in protein. Animal performance, though, doesn't bear this out. The scientific community widely accepts the fact that the testing equipment is calibrated for cool season grasses and alfalfa, and will be consistently low for NWSG (Frank Ireland, U of I DSAC). Studies in Missouri and Kansas have shown steers gaining 0.8 to 2.5 lbs/head/day during the summer on warm season forages. This is compared to similar animals gaining less than 1 lb/head/day on fescue with a legume. It is unclear why the forage tests are not accurate—theories range from a bypass protein not measured by the instruments, but absorbed by the livestock; or perhaps the livestock are eating more NWSG. The addition of compatible legumes will add nitrogen to feed the grasses and improve the nutritional value for the livestock.

Where to plant

If you take care in selecting the right grass for the site, NWSG can be planted almost anywhere. On wet sites, Kanlow switchgrass (if not too wet, Cave-in-Rock) and eastern gamagrass do well. The bluestems, Blackwell switchgrass, sideoats, and indiangrass do well on dry, rocky sites. In between, you have many choices. They do need sun, so avoid planting them in shaded areas.

How to plant

As mentioned earlier, you can use a specialized warm season grass drill for the fluffy seeds of the bluestems and indiangrass (or a mixture). Indiangrass and Bluestem seeds are rough to debarred. Even then, they may or may not work in a regular grass drill. Eastern gamagrass can be planted on 10"-40" rows with a corn planter. A regular grass drill can be used for switchgrass and sideoats gama. Switchgrass can also be planted with a Brillion-type seeder on a clean seedbed.

Broadcasting seed on a firm, clean seedbed is preferred if erosion is not severe. "Clean" seedbeds—those with little residue—give good consistent results when rolled with a roller or a cultipacker; the seed is broadcast and then the field is rolled again. This almost always insures that the seed will not be planted too deep and there will be good soil to seed contact.

Planting depth should be no deeper than ¼ inch. A firm seedbed can help keep the seed from being planted too deep. Good soil to seed contact is a must, as it is when planting anything. Dates to plant vary depending on whether you are in northern, central, or southern Illinois. Northern Illinois planting season is from around mid-April to June 15. Planting times in central Illinois range from mid-April to June 5, and in southern Illinois from early April until June 1. Planting methods and dates are the same with native forbs (flowers) and legumes.

Find out more

For more information on planting warm season grasses on your land, contact your local USDA Service Center, NRCS office. Someone there can give you the information you need or direct you to someone who can.

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