

Hay and Pasture Management

UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
COLUMBIA, MISSOURI

EASTERN GAMAGRASS

MAY 1996

Introduction

The interest in eastern gamagrass (*Tripsacum dactyloides*) increased significantly during the late 1980's and early 1990's. Interest increased because of this native grass' ability to produce large quantities of quality forage during the summer months.

With the formal release of selections such as 'Pete' (Manhattan, KS, Plant Materials Center, 1988) and common selections, commercial seed sources are available.

Eastern gamagrass has a long history. Early settlers coming to the tall grass prairie regions described "seas of grass so tall that you could lose cattle in it." Some of that grass was eastern gamagrass.

General Information

Eastern gamagrass is a native, perennial, tall, warm-season bunch grass. It has short, thick, rhizomes. It is known as an "ice cream" grass because of its high nutrition and palatability. It is readily eaten by all livestock, especially cattle.

Eastern gamagrass produces seed from June through September. The seed heads are six to ten inches long, consisting of one to several spikes. Similar to corn, the female part is below the male part. When mature, the seed-bearing parts break at the joints so that each part contains one seed.

Adaptability

The grass is native to the eastern half of the United States. Eastern gamagrass has "cousins" (*Tripsacum* spp.) in the southwestern U.S., Mexico and Florida. Eastern gamagrass has been planted in the far southwest and in Iowa. The range of adaptation still is being explored.

Soil adaptability is another area where additional information is needed. It grows on a variety of soils, but prefers a loamy soil with moisture conditions favorable to good plant growth. Several selections available on the commercial market come from plants grown on uplands under dry conditions. Eastern gamagrass is not necessarily a bottomland grass, but production on such a site would be expected to be better.

Establishment

Eastern gamagrass can be planted using dormant seedlings or stratified "treated" seed seedlings.

To plant dormant seedlings, use a firm seedbed prepared in the fall, or no-till the plant into clean crop residue or killed sod. Plant between December 1 and March 1. Use

a corn planter or grain drill to plant the seeds one-half inch to one-inch deep. Maintain good soil contact.

Rows of eastern gamagrass should be planted no farther than 40 inches apart. Row width should be decreased - as slope increases - to a minimum of 10 inches. Obtain a soil test, and amend the soil fertility in accordance with the recommendations for native, warm-season grass.

An alternative method of establishing eastern gamagrass that provides erosion control, weed control and provides income during the establishment year is to seed eastern gamagrass directly into a reduced seeding of corn, grain, sorghum, or sorghum/sudan grass hybrid. The eastern gamagrass can be seeded in alternate rows with the nurse crop, in the middle or in a separate planting operation at a 25 - 45 degree angle to the nurse crop. The nurse crop should be planted at the rate of 50-75% normal rates. During the establishment year, fertilize, control weeds and manage based on the management recommendations of the nurse crop. The nurse crop can be harvested for hay, grain or silage. Do not cut below six inches. During the second growing season, follow standard eastern gamagrass management recommendations.

Use only approved chemicals at recommended rates to control weeds. Do not use surfactant for first year plantings. Eastern gamagrass should not be clipped lower than four inches. When grazing use enough livestock to remove weedy vegetation in three days. Grazing should be when seeds are succulent and the field is not wet.

To establish eastern gamagrass using stratified seed, place the seed in a poly or burlap sack, and soak it in a 1 percent solution of fungicide (Captan or equivalent) and water. Use 2.5 pounds of fungicide to 35 gallons of water. Soak the seeds for eight to ten hours, then drain, seal, and keep the seed in cold storage for six to eight weeks. Check the seed for heating, and stir if necessary.

The seeds should be drilled within 24 hours of their removal from cold storage. Seeding should be between May 1 and June 15, when the soil temperature is at least 65 degrees F.

As with the dormant seeding method, plant one-half inch to one inch deep, and space rows 10 to 40 inches apart. Fertilizer and weed control also is the same as with dormant seedings.

Several commercial seed producers can provide treated seed. For specific seeding rates and management contact your local NRCS office.

Management

Eastern gamagrass starts its spring growth earlier than most common, native, warm-season grasses. That, and its high palatability, makes it hard to manage in mixtures. It probably is best managed as a pure stand under a planned grazing system.

Grazing should begin before the new spring growth reaches 16 inches. Leave a minimum of six inches of leaf area to maintain plant health. Soils should be tested and amended to meet the demand of planned production. In single applications, up to 100 pounds of actual nitrogen per acre produces the most grass.

Eastern gamagrass has excellent potential for hay production. Hay can be harvested more than once during the growing season at about six-week intervals, depending on weather conditions and fertility levels.

The best quality hay is cut in the boot stage. Crude protein of up to 17 percent has been found. Waiting until flowering (May 15 to June 1) can reduce crude protein to less than 10 percent. Do not cut hay shorter than six to eight inches. Row spacing during initial establishment of a hay meadow may need to be wider. “Crowns” of this grass can make a field rough.

Seed production remains one of the areas that needs additional research. Fertility levels must be maintained according to soil test recommendations. Fertilizing with more than 50 pounds per acre of nitrogen will increase leaf production, cause possible lodging problems and lower seed yields. Seed harvest usually is between June 15 and July 15. Row spacings of 30-40 inches have worked well for seed-producing fields.

Burning helps remove excess residue in the spring, stimulates growth and improves forage quality. Fields may be burned when new spring growth has reached about one inch. Opening the canopy cover can cause erosion on steeper slopes and release a flush of weeds.

Before burning obtain a prescribed burn plan that follows all local and state requirements.

Where to Get Help

Contact your local Natural Resources Conservation Service office for more information about eastern gamagrass. Look in the telephone book under “United States Government.”

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