

Forage

Warm-Season Annual Grasses



Warm-season annual grasses can be grown from seed and are used during spring and summer months. Quite often these grasses are used as temporary forage for stockers and mature cows. These annual grasses provide excellent grazing for dairy cows, especially in warm months, when perennial grasses often decline in quality. Horses may also be grazed on these annual grasses except the sorghum x sudan hybrids.

Advantages of planting warm-season annuals—despite their high establishment cost and grazing management—are fast growth, high yields per acre, and quality forage. All summer annual grasses need a pH of 5.8 or higher. Weeds are generally not a problem with these forages. If weed control is needed, contact your county Extension agent for current recommendations.

Pearl Millet

This high-yielding, annual grass can be grown on any well-drained soil across the state. Pearl millet is a tall-growing, erect grass that produces several stems from a central plant. It tolerates acid soils better than sorghums. Plant in late April so it will be ready for grazing in 30 to 40 days after planting; it should provide grazing for about 90 days. Its greatest growth will occur during the first 60 days. An acre of pearl millet needs 150 to 200 pounds of nitrogen (N) per acre. Use a soil test to determine pH, phosphorus, and potassium needs. Apply 60 pounds of N per acre at or shortly after seeding, with another 40 to 60 pounds per month over the first 2 months. After the growth rate slows, reduce rates accordingly, especially if moisture is limited. Nitrate accumulation can cause toxic problems under periods of low moisture and high rates of nitrogen fertilizer. Prussic acid is not a problem with millets.

To maintain productive stands, do not begin grazing until plants are 18 to 24 inches tall. Graze to a stubble height of 6 to 8 inches, then remove animals and allow the millet to regrow before grazing again. With properly fertilized pearl millet, stock three to four stocker calves or two mature cows per acre during the first 60 days. As the season progresses, reduce the stocking rate. Based on these stocking rates, use additional plantings (May and June) to provide uniform, quality grazing. As the April planting declines, the May or June plantings will be in

peak production. Seeding rates are 12 to 15 pounds per acre drilled about one-half inch deep or 25 pounds per acre if broadcast.

Several hybrid millets are sold in Mississippi. Tifleaf-1 hybrid millet is a dwarf, low-growing millet that is excellent for grazing. It produces a leafy forage that gives higher daily gains than taller hybrids; however, it doesn't produce as much total forage, requiring a lower stocking rate per acre compared to tall hybrids. Tifleaf-2 is higher yielding than Tifleaf-1 and has resistance to pyricularia leafspot, which may reduce Tifleaf-1 yields in late summer. The latest release is Tifleaf-3, which has advantages over the earlier releases. Pennleaf is another excellent millet for grazing.

Browntop Millet

Browntop millet produces lower forage yields than pearl millet, resulting in less forage. It can be used for hay or for grazing. Browntop millet can become a pest if planted on row-crop land because of its reseeding ability and long period of seed viability in the soil. Browntop millet is best seeded by broadcasting at 20 to 25 pounds per acre on a prepared seedbed in late April or early May.

Sorghum x Sudangrass Hybrids

Sorghum x sudangrass hybrids are tall-growing annuals similar to pearl millet in growth habit, yield, and stocking rate. They tend to grow best on fertile soils, and they are more productive in late summer than millet. These hybrids can cause prussic acid poisoning of cattle when young forage is grazed after severely dry weather or when cold temperatures limit growth. As with pearl millets, nitrate accumulation can also occur. Use grazing management to prevent prussic acid poisoning; this is a disadvantage for sorghum x sudangrass hybrids.

Seed sorghum x sudangrass hybrids into a prepared seedbed at a rate of 20 to 25 pounds per acre drilled or 30 to 35 pounds broadcast. These hybrids respond to high rates of fertilizer; before planting, apply a complete fertilizer according to soil test recommendations. As with millets, apply 60 pounds of nitrogen about every 30 days during the growing season.

With good grazing management, plants should remain leafy; however, if plants become stemmy, clip them to a 10- to 12-inch height. Several commercial varieties are available that are thinner stemmed, providing an advantage over thicker stemmed ones when cut for hay.

Sudangrass

Another warm-season annual grass that produces lower yields than millet or sorghum x sudan hybrids is sudangrass. Newer varieties have been developed that produce satisfactory yields and quality comparable to the millets. Sudangrass is not planted on many acres across the state, but it could be used along with other warm-season annuals for hay, grazing, or silage.

Sudangrass needs a well-drained, fertile soil. Fertilize the same as for sorghum x sudan hybrids. This grass needs soil temperatures of at least 65°F before planting. Two different plantings about 4 to 6 weeks apart will provide forage throughout the summer. Sudangrass is seeded at 20 to 25 pounds per acre drilled and 30 to 35 pounds per acre broadcast.

Crabgrass

This low-growing, reseeding annual grass is present in most cultivated fields and pastures in the state. It is most often used for summer grazing following winter annuals like ryegrass or small grains. Crabgrass is highly dependent on good soil moisture conditions for best growth. This forage has excellent digestibility and is very palatable. Generally, crabgrass will provide grazing from May until early fall. Red River is the only commercially available variety. It has yielded 3 to 5 tons per acre of high-quality forage on both research plots and producers' farms.

Harvesting for Hay

All of these annual grasses—except browntop millet and crabgrass—should provide two or three cuttings of hay. Browntop millet or crabgrass generally provides yields too low to justify their use for hay except in special cases such as excess forage or hay shortage. Harvest these other annual grasses when they are 30 to 40 inches tall, but don't cut any closer than 6 inches. This stubble height will help hold the cut forage off the ground, which improves air circulation and speeds drying. This height also allows for faster regrowth of the plant.

Weather (having enough time without rain) is often a problem in using these annual grasses for hay. Use some type of cutter conditioner for these annual grasses because they have large stems that are high in moisture. Crushing the stems helps shorten the drying time for the moisture content to reach 18 percent or lower. Without a conditioner, it may be 5 or 6 days from cutting until baling.

The information given here is for educational purposes only. References to commercial products, trade names, or suppliers are made with the understanding that no endorsement is implied and that no discrimination against other products or suppliers is intended.

Information Sheet 1616 (POD-09-15)

Distributed in Mississippi by **Dr. Rocky Lemus**, Associate Extension/Research Professor, Plant & Soil Sciences. Written by Dr. Malcolm L. Broome, former Extension Forage Specialist.



Copyright 2015 by Mississippi State University. All rights reserved. This publication may be copied and distributed without alteration for nonprofit educational purposes provided that credit is given to the Mississippi State University Extension Service.

Produced by Agricultural Communications.

We are an equal opportunity employer, and all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, disability status, protected veteran status, or any other characteristic protected by law.

Extension Service of Mississippi State University, cooperating with U.S. Department of Agriculture. Published in furtherance of Acts of Congress, May 8 and June 30, 1914. GARY B. JACKSON, Director