

FORAGE: BAHIAGRASS

Mississippi's Summer Pasture



MISSISSIPPI STATE
UNIVERSITY
EXTENSION SERVICE

Bahiagrass, a warm-season perennial grass, is grown on more than 1 million acres in Mississippi. Most of this acreage is in central and south Mississippi and is mainly used for grazing and hay, with some of it harvested for seed. Bahiagrass is ideally adapted to the droughty, sandy soils of the lower Coastal Plain. It produces good grazing on upper Coastal Plain soils, except in extreme north Mississippi, where temperatures are lower in winter.

Bahiagrass forms a deep, extensive root system in which few other plants are able to invade after a sod has developed. It tolerates a wider range of soil conditions than other grasses, produces moderate yields under low fertility, and withstands close grazing. It is planted from seed, and it is also a heavy seed producer that begins putting up seed heads in early summer. In fact, it is often spread by cattle grazing the heads and carrying the seed to new pastures where it germinates in the manure after passing through the cattle.

Cultivars

Nine types of bahiagrass with eight named cultivars are planted across the South. Pensacola is the most widely grown cultivar in Mississippi. Escambia County Extension Agent Ed Finlayson found it growing near Pensacola, Florida, in 1935. It has long, narrow leaves and taller seed culms (stems) than other cultivars. Pensacola is more widely planted than others because of its persistence, ability to grow on poor soils, and excellent seed production.

Glenn Burton at the Coastal Plain Experiment Station, Tifton, Georgia, developed Tifton 9 bahiagrass, a larger growing selection of Pensacola, and it was released in March 1987. It is reported to have similar digestibility but stronger seedling vigor than Pensacola. It also develops longer leaves. Tifton 9 is about 30 percent higher yielding than Pensacola, and its quality is the same.

Argentine is a broadleaf variety introduced in 1944 from Argentina, with seeding and spreading characteristics similar to Pensacola; it usually puts up fewer seed heads than Pensacola, however. Argentine is better adapted to fairly well-drained soils that maintain good moisture during the summer. Its quality is the highest of all cultivars. The only recommended area for

its use is south Mississippi because it is easily damaged by hard freezes and does not begin growth as early in the spring.

Cultivars Paraguay and Paraguay 22, Tifhi-1 and Tifhi- 2, and Wilmington are not recommended for Mississippi because of their productivity and seed difficulties.

Planting Dates and Rates

The best seeding dates for bahiagrass are February 1 to June 1. The earlier you seed in the spring, the better your chance is for getting a sod the first year. Protect newly seeded bahiagrass fields from overgrazing, and allow them to produce seed the first year. It usually takes one growing season for a good sod to develop.

Plant bahiagrass into warm soil on a well-prepared, firm seedbed and cover about one-half inch deep. The optimum temperature range for seed germination is 85 to 95 °F. Broadcast seed at 15 to 20 pounds per acre; a higher rate of up to 30 pounds results in a quicker establishment. Prepare land that is established in bahiagrass in the fall for seed planting with a winter annual, such as ryegrass. However, use the higher seeding rate, and remove the ryegrass from the pasture by late April. Seedlings are not very competitive with weeds. Therefore, weed control is important during the first months in the life of a new bahiagrass pasture. Use herbicides to control only broadleaf weeds. Clipping is the best alternative until grass seedlings are 2 to 3 inches tall. Do not graze for about 3 months or until the stand has covered the bare soil.

Fertilization and Lime

Lime the soil to a pH of 5.8. You may not need to lime again for several years. For new plantings, as soon as plants have emerged, apply 30 pounds of nitrogen (N) per acre, all of the phosphorus (P), and 50 percent of the potassium (K) that is recommended by the soil test. If a good stand is present after 30 to 45 days of growth, put out the remaining potassium plus 60 pounds of nitrogen. With normal rainfall, use about 1 pound of actual nitrogen for each day of active growth, which should be from May through August. Apply up to 200 pounds of nitrogen per acre annually if you

graze or harvest the forage as hay. Apply 60 pounds of nitrogen after each cutting; plan to get at least four cuttings, with five possible during most years, south of Highway 84. Apply extra nitrogen only to produce forage that can be used for grazing or hay. If nitrogen is applied only one time during the season, an April or May application gives best results; under this type of management, a pH of 5.5 is sufficient. Where phosphorus and potassium are needed, apply in the spring as a complete fertilizer mixture, such as 13-13-13 or equivalent, at the rate of 400 to 600 pounds per acre.

Management Practices

For good quality, graze or clip bahiagrass to keep it tender and succulent. When properly fertilized, this grass tolerates close grazing without damage. When bahiagrass has grown 10 to 12 inches tall, it produces little new growth and the quality drops the longer it stands. Harvest for hay or grazing about every 30 to 35 days to maintain forage quality. Pensacola bahiagrass that is adequately fertilized and harvested at least three and preferably four times annually produces up to 5 tons of hay per acre with average rainfall. Each ton of hay removes about 30 pounds of potassium per acre. Inadequate potassium results in low hay yields, especially if hay is harvested from the same pasture for several years.

High stocking rates and rotational grazing are required for best use of bahiagrass. Graze at a pressure of three to five cows per acre on a 10- to 14-day rotation for high-quality grazing. After each grazing, clip the tall "spot grazed" areas to allow uniform regrowth, and scatter manure piles as needed to encourage uniform grazing.

On old bahiagrass pastures that have become compacted, renovate or subsoil to break the compaction layer. Response will be similar to a light fertilizer application adjacent to disturbed areas resulting from organic matter decay and water infiltration. Renovate on the contour, using either a single shank subsoiler or, preferably, a spring-tine harrow. A chisel plow is not recommended because a chisel plow tears up the sod and requires disking to level the field, making the erosion potential much higher on hill pastures. Additionally, grass regrowth is delayed. This renovation works well where ryegrass and clover are overseeded. Refer to Extension Information Sheet 829 *Overseeding and Sodseeding Permanent Summer Pastures* for more information. Clovers may be overseeded on bahiagrass pastures alone or in combination with ryegrass. In this situation, a pH above 6.0 is needed for good success with clovers.

Bahiagrass accumulates nutrients in its stolons. The stolons in a mature stand of well-fertilized bahiagrass may contain a 2- to 3-year reserve of nutrients. The quality of bahiagrass is adequate for mature beef cattle, but weaned calves or stockers make relatively low gains, especially in late summer when grass quality is reduced. Within any season, the older the grass, the lower the protein and digestibility. For its cost of establishment and stand persistence, bahiagrass is a forage grass worth having when managed properly.



MISSISSIPPI STATE
UNIVERSITY
EXTENSION SERVICE

msucares.com

Distributed by **Dr. Rocky Lemus**, Assistant Extension Professor, Plant and Soil Sciences. Revised by Malcolm L. Broome, Ph.D., Former Extension Forage Specialist, Department of Plant and Soil Sciences, based on an earlier version by E. Lamar Kimbrough, Ph.D., Extension Forage Specialist (retired).

Discrimination based upon race, color, religion, sex, national origin, age, disability, or veteran's status is a violation of federal and state law and MSU policy and will not be tolerated. Discrimination based upon sexual orientation or group affiliation is a violation of MSU policy and will not be tolerated.

Information Sheet 843

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. MELISSA J. MIXON, Interim Director

POD -06-10