TEFF GRASS

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DESCRIPTION

Teff grass *(Eragrostis tef)* is a warm-season annual grass that is native to Africa. It has been used in the past as a grain crop, but has recently received increased interest in use as a forage crop. It is a fine-stemmed, fine-leaved grass with a relatively shallow root system that grows 15-18 inches tall.

ESTABLISHMENT

Teff grass should be planted in mid-May through June. It is very sensitive to cool soils and frost, so later plantings will help improve seedling emergence when soil temperatures are above 55 to 65 degrees Fahrenheit. It has an extremely small seed, so seeding depth is critical. The seed should be planted no more than 1/8 inch deep. If conventional planting is chosen, the ground should be cultipacked prior to planting to provide a firm seedbed. If no-till planting is used, be sure to check seeding depth several times during the seeding process. Drill calibration will be critical to ensure a proper seeding rate. Including a seed carrier such as sand is a planting method used to slow down the rate at which the seed is carried in a planter and also allows proper seed distribution if mixed well. Adjustments to the flow in the planter will be necessary to accommodate the carrier with the recommended 6-8 pounds per acre seeding rate. Teff grass seedlings are relatively slow to establish. Plants generally grow very slowly over the first few weeks. Once the plants reach 4-5 inches tall, rate of growth increases rapidly.

FERTILIZATION

Fertilization requirements are similar to other warm-season annual grasses. Potash and phosphate should be applied according to soil test results. A soil pH of 6.0-6.5 is desired. Nitrogen fertilizer with 30-60 pounds of N per acre should be applied at planting. A second application of 30-60 pounds of N per acre can be applied following the first harvest.

HARVEST

Teff grass has been used mostly as a hay crop. The fine stems and leaves make it a very palatable hay crop that should be harvested when the plants reach a height of 15 inches. It is important to leave 4-5 inches of stubble height to improve teff grass regrowth. This can cause optimal harvest timing before seedhead production to come on quickly. Once seedhead is produced teff grass will not regrow. Delaying harvest or excess nitrogen fertilization can result in lodging, making hay harvest difficult. Two to three harvests can be expected during years that receive normal rainfall.

Seed size comparison for sorghum x sudangrass hybrid (left) and teff grass (right).

Teff grass could be used as a grazing crop, however with a shallow root system makes it sensitive to overgrazing. As a result, proper grazing management is critical, particularly early in the season. Care should be taken to prevent overgrazing and plants being pulled from the ground.

FORAGE NUTRITIVE VALUE

Just as with any forage crop, the nutrient content of teff grass is dependent on the stage of maturity at harvest. If harvested before seedheads begin to develop, this forage

nutritive value can be expected to average 12-14 percent crude protein, 35 percent acid detergent fiber, and 60 percent neutral detergent fiber. Total Digestible Nutrient levels can be expected to fall within the mid-60 range. Delayed harvest can be expected to result in a significantly lower level of protein and energy, and a higher level of fiber.

TOXICITIES

Teff grass does not produce prussic acid after a frost. In fact, frost kills teff grass. Drought accompanied with high levels of nitrogen fertilization can result in nitrate buildup in the forage. However, teff grass is generally less likely to accumulate nitrates when compared to sorghum x sudangrass hybrids or johnsongrass. The nitrate level in teff grass and other forages can be tested by the UT Soil, Plant and Pest Laboratory, Nashville, Tennessee. If concerned, contact your local UT Extension office for more information about nitrate testing.

YIELD EXPECTATIONS

Data from the UT Forage Variety Testing program showed that teff grass yields ranged from 2-4 tons per acre over the last decade. In general, teff grass yields less than sorghum x sudangrass hybrids, but the fine stems allow for easier drying down to the proper moisture for baling. Be sure to dry to 20 percent moisture if square bales, or 18 percent moisture for round bailing. For more information on yields, check the variety test results at UTBEEF.COM.

Professor Joe Burns

Funding for this publication was provided by the Joe Burns Memorial Endowment. Professor Joe Burns spent his career educating forage producers in Tennessee and across the Southeast. He was a nationally renowned forage specialist with University of Tennessee Extension and served in that role for 37 years before retiring in 1992. During his career, he was honored as the Tennessee Man of the Year in agriculture by Progressive Farmer magazine and was awarded both the Merit Award and the Distinguished Grasslander Award from the American Forage and Grassland Council. Burns was well-known not only for his knowledge but also for his kind and encouraging attitude. He was a role model and mentor for many faculty at UT and producers across the state.

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