

Use as planting guide

KLEINGRASS (*Panicum coloratum* L.)

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VARIETIES - Kleingrass, Selection 75, is the variety that has been extensively tested in Texas. It was approved for certified seed production in 1968, and is recognized as the variety that is best adapted to Texas soil and climatic conditions. The use of certified seed of Kleingrass 75 is preferable, as this will insure the consumer that he is planting this proven strain. The following information was obtained from studies conducted on Kleingrass 75 by the Soil Conservation Service and Texas Agricultural Experiment Station. New varieties of kleingrass are being developed and will be named and released when they show sufficient promise.

DESCRIPTION - Kleingrass is a warm-season perennial bunchgrass introduced into this country from Africa. Introductions were made as early as 1942, but it was not until the 1950's that desirable types were introduced and evaluated. It is fine-stemmed, leafy, and grows to a height of 3 to 4 feet at maturity. It is of the same genus as switchgrass and blue panicgrass, but bears only a passing resemblance to them. Kleingrass is quite variable in its makeup, with some plants displaying abundant pubescence, while others are relatively smooth. Plants vary from prostrate to erect in growth form, but most are upright. Kleingrass spreads by tillers or short rhizomes, and will root at the nodes where the stems come in contact with wet soils.

ADAPTATION AND PERFORMANCE - Kleingrass appears to be adapted to a wide range of soil and climatic conditions. Plantings have done well on heavy soils in Central Texas under dry conditions and on wet soils in the Gulf Coast. The grass also has been grown successfully on shallow, sandy soil near College Station, deep sand and medium-textured soils in the Rio Grande Plains and Rolling Plains.

Growth of kleingrass is influenced by available moisture, but it seems to be tolerant of a rather wide range of moisture conditions. It is being grown successfully in trial plantings from the high rainfall areas of East Texas and the Gulf Coast to the limited rainfall areas of the Rio Grande Plain and the Grand Prairie. The lower limits of moisture for survival and Growth have not been specifically determined. The northern limits of adaptation have not been established specifically, but it has survived for several years in plantings in the Lubbock and Hereford areas. Stand losses from winter killing have been reported in the Panhandle area during severe winters which occurred during the year of establishment. Established stands which survive the first winter appear to be able to tolerate the expected low temperatures in most of the State.

The leaves of kleingrass remain green in the fall until temperatures drop below 25 degrees; green leaves are usually present at the base during much of the winter. Active growth begins early in the spring. Kleingrass can be expected to respond favorably to irrigation and moderate to heavy fertilization. It does not have the potential for extremely high levels of production of such grasses as Coastal bermuda. However, it may equal or out-perform these grasses under moderate production conditions, especially in terms of livestock production.

Kleingrass is extremely attractive to livestock as either green forage or cured hay. Because of good palatability it is suggested for planting only in pure stands. Animal performance has been shown to be above average for a warm-season grass. In a grazing study at the Texas A&M University Experiment Station at Beeville, 500-pound steers averaged 1.7 pounds daily gain for a 180-day period from April 1 to October 1 in 1966 and 1968. Similar results were obtained at the Texas A&M University Research Center at McGregor in 1968. These were dry-land pastures stocked at the rate of one animal per acre. Young animals have been maintained without feed supplement on dormant kleingrass in the field during three winters at Beeville.

ESTABLISHMENT - Kleingrass is easily established from seed, and seedling plants are sturdy, have good root development, but grow slowly initially. The seedbed should be clean, firm, and well-prepared. The seed is small and smooth, and there are approximately 500,000 seed per pound. Stands are obtained with 3/4 to 1 pound PLS per acre in 38- to 42-inch rows or 2 pounds PLS broadcast, or close drilled. Seeding should be done in the spring after danger of frost is past or in early fall in South Texas. A planting mechanism capable of handling small seed is necessary, such as a vegetable planter or grass drill with depth bands. Cover the seed 1/2- to 3/4-inch deep in a firm, clean seedbed.

Kleingrass seed are low in viability immediately after harvest because of seed dormancy. Care should be taken to avoid planting freshly harvested seed. Viability increases with time and good germination is obtained after about 6 months.

Grazing should be restricted until new plants are well established. Because initial seedling development is slow, weed control in new plantings is highly important. Kleingrass seedlings will tolerate considerable weed competition, but plant development is retarded by such competition. Broadleaf weeds should be controlled with chemicals such as 2,4-D. Weedy grass and also broadleaf weed competition should be reduced by cultivation of row plantings, which is one of the advantages of row plantings.

MANAGEMENT - Fertilization is necessary for optimum growth and quality. Although kleingrass may not respond to high rates of fertilizer, essentially all soils, especially in the higher rainfall areas, will need fertilization to maintain production. A soil test is the best way to determine fertilization needs for establishment and production.

For best animal performance, kleingrass should be utilized before it is mature. Kleingrass appears to tolerate rather close grazing, but may be damaged and animal performance reduced by extended periods of close grazing. Fall growth can be allowed to accumulate, and has given good animal performance in South Texas when grazed after frost.

SEED PRODUCTION - Kleingrass seed mature unevenly and shatter as they mature. Although a satisfactory seed crop is produced, there is never a time at which all of the seed are mature and ready to harvest. Accordingly, seed yields per acre will not be large until better seed producing varieties are developed. A variety of harvesting and handling methods are being explored and developed by Texas A&M University, Soil Conservation Service, and specialized seed producers.