These germplasm lines will be valuable to breeders attempting to develop cotton cultivars having superior fiber quality and for combining yield potential and fiber quality for production in the drought-prone areas of Central and South Texas.

Twenty-five seeds of each of these germplasm lines will be available for distribution from the corresponding author until seed supplies are exhausted.

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References and Notes

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Research and development of these germplasm lines were supported in part by Cotton Incorporated and the Texas Food and Fiber Commission. Fiber properties were determined by the International Center for Textile Research and Development of Texas Tech University, Lubbock, TX. Published in Crop Sci. 34:1413-1414 (1994).

Registration of TEM-SV1 Kleingrass Germplasm

TEM-SV1 kleingrass (Panicum coloratum L.) germplasm (Reg. no. GP-67, PI 573097) was developed at the Grassland, Soil, and Water Research Laboratory, Temple, TX, and released by the USDA-ARS on 2 Sept. 1993. TEM-SV1 is the first kleingrass germplasm specifically selected for rapid seedling growth and will be useful for cultivar development and the study of genetic and physiological mechanisms contributing to early seedling development in warm-season, perennial grasses. Because of the high temperatures required for germination and growth, kleingrass is planted when conditions can be hostile to young seedlings. Abrupt changes in weather patterns can subject newly emerged seedlings to drought and wind erosion, and stands often fail to establish. Seedlings that grow and develop rapidly in the first few days or weeks after emergence may be more tolerant of adverse environmental conditions and, consequently, may have a greater chance of survival. Although selection for larger seed improved seedling growth rate and resulted in the cultivar Verde, selection for increased seedling growth rate in kleingrass has not been attempted.

TEM-SV1 was derived through three cycles of recurrent selection for increased seedling shoot growth using Selection-75 as the initial germplasm source. For each cycle, 1000 seedlings were grown in individual small pots in a controlled environment chamber. At 14 d after emergence (DAE) the roots were removed from each seedling and the shoots weighed. The 50 seedlings with the greatest shoot mass were saved, and placed in water to regenerate roots. Seedlings were then vegetatively propagated, and seed for the next cycle was produced by recombining the selected plants in an isolated, replicated crossing block. Seed produced from recombining the 50 plants selected in Cycle 3 were bulked and designated TEM-SV1.

In comparisons with Selection-75, using seed of the same age, seedlings of TEM-SV1 had a faster growth rate and accumulated significantly more forage dry matter in both controlled environment and field tests (87% more at 14 DAE in a growth chamber and 33 and 16% more at 16 and 30 DAE in the field, respectively). Although TEM-SV1 was selected for greater shoot growth, there was a concomitant and significant increase in root growth rate. In two experiments, the length of the longest adventitious root in TEM-SV1 was 14 and 19% greater than Selection-75 at 11 and 14 DAE, respectively. In the same experiments, the number of adventitious roots for TEM-SV1 was significantly greater than for Selection-75 at 11 and 14 DAE.

Average seed mass of TEM-SV1 is 0.93 mg seed"1, 11% greater than Selection-75; however, seed starch content (energy reserves) of TEM-SV1 was = 21% greater than Selection-75. Adult plants of TEM-SV1 are morphologically indistinguishable from Selection-75, and dry matter yield of established plants does not differ significantly from Selection-75.

Seed of TEM-SV1 will be maintained at the USDA Grassland, Soil, and Water Research Laboratory at Temple, TX. Upon request, small quantities will be provided to breeders and geneticists. It is requested that appropriate recognition of the source be given when TEM-SV1 contributes to the development of a new germplasm, cultivar, or hybrid.

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References and Notes


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Registration of RRL(H)84, An Aroma-Type Hop Genotype

The hop (Humulus lupulus L.) (Reg. no. GP-33, PI 576180) genotype RRL(H)84 resulted from a 1981 cross between a local female and male seedling. The female was collected from the wild, where it grows as a garden escape. It is a low-alpha hop with a mild Fuggle-type aroma. The male is an open-pollinated genotype RRL(H)84 was selected on the basis of its morphological characteristics like growth, lateral (side-arm) development and a characteristic hop aroma. The genotype was first tested as a single nursery plant from 1982 to 1984 at the Regional Research Laboratory (RRL) Branch, Srinagar, India. As a mature plant it produced 2 to 2.5 kg fresh hops per plant. In a replicated trial plot, it produced a calculated yield of 1999 kg ha"1 (under 2- by 1-m spacing) and 1314 kg ha"1 (under 2- by 2-m spacing). The selection performed equally well when grown under a shorter trellis of 2.5 to 3 m. The cones are conical measuring 3.36 cm in length with an average single cone fresh weight of 185 mg. The bines are deep purple in color. The lateral development is very profuse. The length of laterals averages about 80 cm. The burl initiation (flowering) starts in the last week of June and the crop is ready for harvest = 8 wk later. The genotype is free from diseases and insect pests.

The density of lupulin glands is moderate, and α-acids content is medium. The chemical analysis was done at RRL, Srinagar; Oregon State University, USA and the Hop Research Institute, Zatec, Czechoslovakia. The average α- and β-acids content is 5.7 and 5.3%, respectively, on a dry weight basis. The composition of α- and β-acids as analyzed at the Hop Research Institute, Zatec was 23% cohumulone, 76.4% humulone + adhumulone, 47.1% colupulone, and 52.9% lupulone + adlupulone.

The oil content of a moderately aged cone sample ranged...