Registration of Parental Lines

REGISTRATION OF PEARL MILLET INBRED
TIFT 383 AND TIFLEAF 1 PEARL MILLET
(Reg. PL 8 and Reg. No. 60)

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Tift 383 and 'Tifleaf 1' pearl millet [Pennisetum americanum (L.) Leeke.] were developed cooperatively by AR, SEA, USDA, and the University of Georgia Coastal Plain Experiment Station at Tifton, Ga. They were released by the two agencies in 1975.

Tift 383, the male parent of Tifleaf 1, was developed by backcrossing selected F2 plants of the cross 239 × 'Tift 186' to Tift 186 and testing 80 F2 lines in test crosses with 'Tift 23DA' for 3 years. Tift 383 is a dwarf inbred rarely exceeding 2 m in height. Bristles on the heads extend about 4 to 8 mm beyond the florets. Its yellow anthers shed an abundance of pollen. Its leaves and stems are free of the hairs and colors (other than green) that characterize some inbred lines. Tift 383 is resistant to the leaf spot caused by Pyricularia grisea (Cke.) Sacc.

Tifleaf 1 is a first-generation hybrid between Tiff 23 DA and Tift 383. It is a short, very leafy hybrid (60% more leaves than 'Gahi 3' at first anthesis) with smooth (non-hairy) leaves and stems. Its nodes and sheaths develop the reddish color of the female Tift 23DA parent as they approach maturity. Tifleaf 1 matures later than Gahi 1 and furnishes excellent grazing for a longer period in the summer. It is resistant to Pyricularia grisea and sting and lesion nematodes.

For 3 years, Tifleaf 1 led a group of 80 dwarf hybrids in forage yield and in vitro dry matter digestibility. Because of its short stature, Tifleaf 1 cannot be compared with tall hybrids in the usual small plot clipping trials. In adjacent square clipping tests, Gahi 1 has yielded more forage than Tifleaf 1. However, in grazing trials, Tifleaf 1 has significantly better daily gains (ADG’s) and has given weight gains per ha than Gahi 1. In a 1974 group of nine heifers on Tifleaf 1, Gahi 3, and Gahi 1, ADG’s of 0.84, 0.73, and 0.47 kg, respectively.

In 1974, 45.5 kg (100-pound) pigs on full feed concentrate grazed young Tifleaf 1 for 35 days as those in dry lot, and required less concentrate. The concentrate (costing $0.18/kg) saved by grazing made the millet crop worth $250/ha.

Tifleaf 1 is easier to manage and lasts longer when grazed. It is also highly resistant to lodging, and with its high leaf percentage should make it superior to tall millets for silage production.

Breeder seed of pearl millet inbred Tift 383 will be maintained by AR, SEA, USDA, Coastal Plain Exp. Stn., Tifton, GA 31794.

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