Registration of 'Georgia 5' Tall Fescue

*G*eorgia 5* tall fescue (Festuca arundinacea Schreb.) (Reg. no. CV-53, PI 562695) was developed by the Georgia Agricultural Experiment Stations and released jointly with the USDA-SCS in June 1992. It was tested experimentally as GA-5, GA-5+, GA-5-EI, and GA-5-FI.

Georgia 5 tall fescue is a five clone synthetic cultivar. Twenty-one clones were collected by the USDA-SCS from areas subjected to water and temperature stress throughout the eastern USA and maintained in a field at the Americus Plant Materials Center, Americus, GA, for approximately 10 yr from 1967 to 1977. In 1977, the nine best surviving plants were polycrossed at Athens, GA, and their polycross progeny were tested for survival and forage yield for 2 yr at Americus. The five best clones were then selected based on their polycross progeny performance to constitute the parents of Georgia 5. Seed from the five parental clones were increased through the syn 3 generation. The syn 3 generation is designated as breeder seed of Georgia 5.

Georgia 5 tall fescue is an endophyte-infected cultivar (causal fungi: Acremonium coenophialum Morgan-Jones and Gams) with level of infection in the breeder’s seed >75% [i.e., >75% of the germinating seedlings are infected with the endophyte as determined by analyzing a random sample of 8 wk old seedlings for the presence of the endophyte as described previously (1)]. It is adapted to the Southern Coastal Plain region of the southeastern USA (region from southern Texas through southern Georgia, northern Florida, and the eastern Carolinas) and low maintenance, stress areas subject to high temperature and low rainfall in the transition zone (northern Mississippi through northern Georgia including Tennessee). It has wide leaf blades and medium early maturity with an average heading date 5 d earlier than “Kentucky 31”, and 7 d later than “AU Triumph” at Athens, GA.

When tested against other endophyte-infected and endophyte-free tall fescue cultivars, Georgia 5 showed superior forage yield and persistence in clipped plots in the Southern Coastal Plain region (2). The endophyte-infected version of Georgia 5 is superior in forage yield and persistence to its endophyte-free version in the Southern Coastal Plain (1). Persistence is very evident when mixed with warm-season grasses and grazed (3). Weight gain of stocker heifers indicated that Georgia 5 provide supplemental forage for winter maintenance grazing, thereby reducing the amount of hay and grain required for winter feeding of cattle (4). Yield and persistence in the fescue growing region of northern Georgia were similar to other cultivars, while distribution of forage yield was more similar to Kentucky 31 than AU Triumph (5). Turf performance and quality were similar to Kentucky 31 for non-stress environments (R.N. Carrow, 1992, unpublished data), but may provide a superior turf in areas of high temperature and water stress. Georgia 5 is being released to replace Kentucky 31 for use as winter maintenance pasture in mixtures with warm-season grasses in the Southern Coastal Plain and as a general purpose turfgrass in the tall fescue transition zone.

Application has been made for Plant Variety Protection (application no. 9,300,080). The field producing syn 3 breeder seed will be maintained by the University of Georgia Agronomy Dep. for the life of the cultivar. Foundation (syn 4) and certified (syn 5) classes of seed will be recognized. Seed production and marketing rights were exclusively assigned to Pennington Seed Company, Madison, GA.

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References and Notes


Registration of ‘Norstar’ Navy Bean

*N*orstar* navy bean (Phaseolus vulgaris L.) (Reg. no. CV-106, PI 548701) was developed and released by the North Dakota Agric. Exp. Stn. in 1991. It was tested as NX-041, and combines early maturity, an upright growth habit, and yield potential.

Norstar was derived from the cross ‘C-20’ / ‘Fleetwood’. The generations were advanced in bulk to the F3, when an upright, indeterminate, early maturing plant was selected. The F, plant row was grown in 1984 and seed from five plants of similar phenotype were bulked. Norstar was tested extensively for yielding and agronomic traits from 1985 to 1990 at 25 locations. Norstar outyielded the popular commercial navy bean cultivar Upland by 7% and outyielded cultivars of comparable maturity Albion, Midland, and Seafarer by 6, 5, and 7%, respectively.

Norstar has an indeterminate, upright-short vine (type 2) architecture, coupled with a narrow plant profile. Norstar matures 2 d, 4 d, and 9 d earlier than Upland, Midland, and C-20, respectively. Norstar is similar in plant height to Fleetwood and Upland, and is 17 cm shorter than C-20. Seed weight of Norstar is 17.5 g/100 seed, which is well within the range of seed weights (16.0–19.2 g/100 seed) of commercial navy bean cultivars grown in the northern plains.

Norstar is resistant to the prevalent races of bean rust [causal organism Uromyces appendiculatus (Pers.:Pers.) Unger] found in North Dakota, but shows moderate damage to infection by both Sclerotinia sclerotiorum (Lib.) de Bary, and Xanthomonas campesiris pv. phaseoli (Smith) Dye. Norstar carries the single, dominant hy-