Registration of Crop Cultivars

REGISTRATION OF C-20 NAVY BEAN

‘C-20’ NAVY BEAN (Phaseolus vulgaris L.) (Reg. no. 43) was developed and released cooperatively by the Michigan Agricultural Experiment Station and USDA-ARS in 1982, as an upright, full season navy bean cultivar.

C-20 originated from the three-way cross ‘JAMAPA’/‘NEP-2’/73130-E2-B (W-20/‘KENTWOOD’) made in 1976. The cross was coded 76706 and was advanced to the F4 generation using single seed descent; breeding line 76706-D6 was selected as a single F4 row in Ohio, and reselected as a single F5-row in Sinaloa, Mexico. This selection work was performed by J.D. Kelly, formerly of the Campbell Institute for Agricultural Research, Napoleon, Ohio. In 1980, 76706-D6-B was unconditionally released to the Michigan Agricultural Experiment Station by Campbell Soup Company as an F7-generation navy bean breeding line coded C-20.

C-20 exhibits a type II, upright short vine plant habit; plants average 50 cm tall, about 15 cm taller than ‘Seafarer’, are erect, narrow in profile with few basal branches. The modified plant architectural characters of C-20 are based upon breeding for the ideotype concept proposed by Adams (1). C-20 requires a full season to reach maturity, usually 98 to 104 days and has exceeded yields of the standard ‘Sanilac’, Seafarer, and ‘Fleetwood’ navy bean cultivars by 22 to 33% over 4 years and 16 locations in Michigan. Similar high yielding performance has been recorded in North Dakota, New York, and Ontario.

C-20 carries the single dominant I-gene form of resistance to all strains of bean common mosaic virus (BCMV), is resistant to the beta, gamma, and delta races of anthracnose caused by Colletotrichum lindemuthianum (Sacc. & Magn.) Scrib.; is essentially immune to the indigenous rust [incited by Uromyces phaseoli (Reben) Wint.] races prevalent in Michigan, Nebraska, North Dakota, and Colorado (2). It carries tolerance to the air pollution oxidant, ozone present in Michigan and to which all standard cultivars are susceptible. C-20 is tolerant to Michigan isolates of halo blight incited by Pseudomonas phaseolicola (Burr.) Dows., and angular leaf spot caused by Isariopsis griseola Sacc., and black pod disease in Ontario incited by Alternaria alternata (Fr.) Keissler (3). C-20 exhibits field tolerance to white mold caused by Sclerotinia sclerotiorum (Lib.) de Bary, and to root rot incited by Fusarium solani (Mart.) Appel and Wr. f. sp. phaseoli (Burr.) Synd. and Hans.

C-20 has an ovoid white seed averaging 19.2 g/100 seeds and is within the acceptable range of 17.5 to 20.5 g/100 seeds characteristic of standard navy bean cultivars. Dry seed color as measured by a Hunter Lab color and color difference meter (4) was 68.7 on the L-scale and is within the acceptable range of 70 to 80 for navy beans. The modified plant architectural characters of C-20, the modified seed size and color, and resistance to BCMV, anthracnose, and halo blight make C-20 an excellent improved RV-generation navy bean cultivar.

C-20 may be sold for seed by name only under the Variety Protection Act, Public Law 91-577, with the option tested simultaneously.

Agric. Exp. Stn., East Lansing, MI 48824 with the Michigan Foundation Seed Assoc.

J.D. KELLY, M.W. ADAMS, A.W. SAETTLER

References and Notes


REGISTRATION OF MIDNIGHT KENTUCKY BLUEGRASS

‘MIDNIGHT’ Kentucky bluegrass (Poa pratensis L. var. rubra), (Reg. no. 26) was developed by Pure-Seed Testing Inc., P. O. Box 449, Hubbard, OR. Published July, 1984. by Pure-Seed Testing Inc., P. O. Box 449, Hubbard, OR. Published July, 1984.

‘MIDNIGHT’ Kentucky bluegrass (Poa pratensis L.) var. rubra was developed by Pure-Seed Testing Inc., P.O. Box 449, Hubbard, OR. Published July, 1984.


‘MIDNIGHT’ Kentucky bluegrass (Poa pratensis L.) var. rubra was developed by Pure-Seed Testing Inc., P.O. Box 449, Hubbard, OR. Published July, 1984.

Midnight is a persistent, low growing, turf-type cultivar with the ability to produce a compact, dense, fine texture, a slow leaf extension, and good tolerance of close mowing and a moderate nitrogen fertility requirement. This cultivar shows excellent growth and canopy development in light shade for lawns, parks, or sports turf in regions where it is resistant to the leaf spot and crown rot disease caused by Sclerotinia sclerotiorum (Lib.) de Bary, and to root rot incited by Fusarium solani (Mart.) Appel and Wr. f. sp. phaseoli (Burr.) Synd. and Hans.

C-20 has an ovoid white seed averaging 19.2 g/100 seeds and is within the acceptable range of 17.5 to 20.5 g/100 seeds characteristic of standard navy bean cultivars. Dry seed color as measured by a Hunter Lab color and color difference meter (4) was 68.7 on the L-scale and is within the acceptable range of 70 to 80 for navy beans. The modified plant architectural characters of C-20, the modified seed size and color, and resistance to BCMV, anthracnose, and halo blight make C-20 an excellent improved RV-generation navy bean cultivar.