dom from disease, and a bright, dark-green color. The eight selected clones were transferred to a replicated, isolate, spaced-plant nursery on the Cook College campus, New Brunswick, NJ. Bulked seed from this nursery was used to establish an isolated spaced-plant nursery of 500 plants near Post Falls, ID. Approximately 25% of the plants were removed from this nursery to improve uniformity. Further selection was made for an attractive, dark-green color, an upright growth habit, short leaves and resistance to lodging. Jacklin DB-1 and DBC were the experimental designations of Mesa. The first certified seed was produced in western Oregon in 1987.

Mesa is a leafy, persistent, turf-type tall fescue. It is capable of producing an attractive turf of medium density and medium texture with a rich, dark green color. Mesa has good heat and drought tolerance. It is moderately tolerant of close mowing. Like other tall fescues, Mesa produces little or no thatch. Mesa has shown good winterhardiness in New Jersey tests. It retains an attractive green color into the cold weather of late fall and shows medium-to early-spring greenup. Mesa performs well under varying light intensities ranging from full sun to moderate shade. It shows medium good resistance to the netblotch disease caused by Drechslera dictyoides f. sp. dictyoides (Drechs.) Shoem., and the large brown patch disease caused by Rhizoctonia solani Kuhn. Mesa should perform well as a medium-low maintenance turf in most regions where tall fescue is well adapted for turf use.

Breeder seed of Mesa will be maintained by Jacklin Seed Co. with the cooperation of the New Jersey Agricultural Experiment Station. Propagation is restricted to two generations of increase from breeder seed, one each of foundation and certified.

United States Plant Variety Protection Certificate no. 8800082 has been issued for Mesa.

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References and Notes
2. R.H. Bailey, R.H. Bailey Seeds, Inc., 2700 19th Street, S.E. No. 1, Salem, OR 97302; L.A. Brilman, Dep. of Biology, California State College-Bak- erfield, 1001 Stockdale Highway, Bakersfield, CA 93311; A.W. Jacklin and A.D. Brede, Jacklin Seed Co., West 5300 Riverbend Ave, Post Falls, ID 83854-9499; B.K. Green II, Jonathan Green and Sons, Inc., P.O. Box 326, Farmingdale, NJ 07727; and C.R. Funk, Soils and Crops Dep., New Jersey Agric. Exp. Stn., Cook College, Rutgers Univ., New Brunswick, NJ 08903. Publication no. D15166–3–9, New Jersey Agric. Exp. Stn. Some of this work was conducted as part of N1AES Project no. 15166, supported by New Jersey Agric. Exp. Stn. funds, other grants, and gifts. Additional support was received from the U.S. Golf Assoc. Green Section Res. and Education Fund, Inc. Registration by CSSA. Accepted 31 Mar. 1989. *Corresponding author.


REGISTRATION OF 'MAYFLOWER' NAVY BEAN

'MAYFLOWER' navy bean (Phaseolus vulgaris L.) (Reg. no. 80; PI 531235) was developed and released cooperatively by the Michigan Agricultural Experiment Station and USDA-ARS in 1987 as an upright, midseason navy bean cultivar. Mayflower, formerly known and tested as MSU no. N84024, was a selection from the cross between MSU breeding line N80043 and the navy bean cultivar 'C-20', made in 1981 and coded 81N029. Parental breeding line N80043 originated as an F2 selection from the cross of 61627 (NEP-2/Black Turtle Soup) with 2W–33–2, a small white line obtained from the USDA-ARS program at the Tropical Agriculture Research Station, Mayaguez, Puerto Rico (PR). Cross number 81N029 was advanced through the F2 and F3 generations without selection in PR during the winter of 1982/83 using the single-seed descent procedure. Breeding line no. 15 was selected and advanced as an F4 seed during 1983 at the Bean and Sugarbeet Research (B & B) Farm near Saginaw, MI, and further advanced as a mass-selected F4, row during the winter of 1983 to 1984 in PR. Selection number 81N029–00–15–01 entered yield tests at the B & B Farm as an F4-generation breeding line in 1984 and was coded with the permanent MSU accession no. N84024.

Mayflower was extensively tested for yield and agronomic characteristics for five seasons (1984–1988) over 37 locations. Based on data from these 37 tests, Mayflower possesses the same yield potential as C-20, the predominant full-season navy bean cultivar grown in Michigan, and exceeds the yields of 'Seafarer,' a popular early-maturing cultivar in Michigan, by 20% or 0.56 Mg ha⁻¹.

Mayflower exhibits a type II, upright and short-vine plant habit with the architectural characteristics based on the bean ideotype concept developed by Adams (1). Mature plants are erect, narrow in profile with few basal branches, and average 53 cm tall, about 15 cm taller than Seafarer. Mayflow- er generally reaches maturity in 93 to 98 d after planting.

Mayflower carries the single dominant I-gene hypersen- sitive form of resistance to all strains of bean common mosaic virus (BCMV), is resistant to the beta and gamma races of anthracnose disease caused by Colletotrichum lindemu- thiannum (Sacc. & Magn.) Scrib., has hypersensitive, necrotic resistance to the indigenous rust, races prevalent in Michi- gan, incited by Uromyces appendiculatus (Pers. ex Pers.) Un- ger var. appendiculatus [syn. Uromyces phaseoli (Reben) Wint.], and most of the races prevalent in Nebraska, North Dakota, and Colorado. Stavely (1988, personal communi- cation) has demonstrated that Mayflower carries dominant resistance to rust races 38 to 42, 51 to 57, 59 to 61, 63, 64, and 68 to 70 (2). The cultivar exhibits tolerance to ozone, the oxidant air pollutant present in Michigan to which all standard determinate dry bean cultivars are susceptible. Mayflower is tolerant to Michigan isolates of halo blight incited by Pseudomonas syringae pv. phaseolicola (Burk-holder) Dye, a common leaf spot caused by Phaeo- ariopis sissalica (Gesca.) Ferraris.

Mayflower has an ovoid white seed averaging 20.3 g/100 seed, which is within the acceptable range of 18.4 to 21.3 g/100 seed characteristic of standard navy bean cultivars. It has an acceptable bright white dry seed color and, when measured by a Hunter Lab color and color difference meter (Model D25 D21, Hunter Assoc., Fairfax, VA), was 63.2 units on the L-scale. This value is within the acceptable range of 57.8 to 66.0 L-units exhibited by standard navy bean cultivars grown across the same locations and years. Mayflower produced a cooked color of 49.3 L-units, a washed drained weight ratio of 1.1, and a processed texture of 78.8 kg 100 g⁻¹. Ranges for all navy bean cultivars processed similarly were: color, 47.9 to 50.8 L-units; washed drained weight ratios, 1.3 to 1.4; textures, 61.4 (soft) to 85.9 (firm) kg 100 g⁻¹. The USDA-MSU food legume quality lab- oratory evaluations indicate that Mayflower produces a pro- cessable product that meets industry expectations with quality traits within the range of values acceptable to processors for other commercial navy bean cultivars.

Variety protection has been applied for under the Plant Variety Protection Act, Public Law 91–577 (PVP application no. 8900186), with the option that Mayflower may be sold for seed by name only under the certified class. Breeder seed