Mayflower Navy Beans

Michigan State University Extension Service
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Issued April 1989
2 pages

NEW from MSU

Mayflower Navy Beans

- Upright short vine growth habit
- Superior yield performance
- Mid season maturity
- Excellent seed and canning quality
- Rust and virus resistance
- Uniform maturity and dry down
- Good lodging resistance

Mayflower Navy Bean was released cooperatively by Michigan State University and USDA–ARS in 1987. It became available to commercial growers in 1989.

Mayflower is a mid season, upright short vine navy bean variety evaluated under the experimental number N84024. In the tradition of navy bean varieties released by MSU, N84024 was named Mayflower, after the famous ship which carried the pilgrims to the new world and in recognition that 40 percent of the Michigan navy bean crop travels across the Atlantic to old world markets.

History and Pedigree

Mayflower was derived from the cross between the MSU breeding line N80043 and the navy bean variety C-20, made in 1981 and coded 81N029. The parental breeding line N80043 originated from the cross of 61627 (Nep-2/BTS) with 2W-33-2, a small white variety from TARS program in Puerto Rico (PR). Cross number 81N029 was advanced through the F_2 and F_3 generations without selection, using the single seed descent procedure in PR during the winter of 1982/83. Breeding line number 15 was selected and advanced as a single F_4 row during 1983 in Saginaw, Michigan, and further advanced as a mass selected F_5 row during the winter of 1983/84 in PR. Selection number 81N029-00-15-01 entered yield tests in Saginaw as an F_6 generation breeding line in 1984 and was given the permanent MSU accession number N84024.

Michigan State University

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EXTENSION BULLETIN E-2176 APRIL 1989

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Yield Performance and Maturity

Mayflower is a mid-season variety and matures in 95 days. During five seasons (1984-1988) of testing over 37 locations in Michigan, Mayflower has shown the same yield potential as C-20. Both cultivars yielded 24 cwt per acre, exceeding the yield of Seafarer by 5 cwt per acre over the same locations.

Plant Architecture and Agronomy

Mayflower has an upright type II, indeterminate short vine growth habit. Plants average 22 inches high, about 8 inches taller than Seafarer, with an erect, narrow profile and few basal branches. These modified plant characters, coupled with a vigorous root system, contribute to excellent lodging resistance and offer growers good opportunity for direct harvest.

Disease Resistance

Mayflower carries the single dominant hypersensitive I-gene form of resistance to all strains of bean common mosaic virus (BCMV). It is also resistant to the gamma race of anthracnose, a seedborne pathogen in Michigan. Mayflower is resistant to all of the indigenous rust races prevalent in Michigan. It shows tolerance to Michigan isolates of halo blight and tolerance to the oxidant air pollutant, ozone. Most other standard bush navy varieties grown in Michigan are susceptible to ozone injury.

Seed and Canning Quality

Mayflower has an ovoid white seed averaging 20.3 g/100 seeds which is within the acceptable range of 18.4 to 21.3 g/100 seeds, characteristic of standard navy bean varieties. Dry seed color measured by a Hunter color meter was 63.2 on the L-scale, well within the acceptance range of 57.8 to 66.0 exhibited by the Seafarer variety grown across the same locations and years. In cooking tests, Mayflower is similar to other acceptable navy bean varieties with drained weight and hydration ratios like other standard navy varieties.

Plant Variety Protection

Variety protection has been applied for under the Plant Variety Protection Act, Public Law 91-577, with the option that Mayflower may be sold for seed by name only as a class of certified seed. This provision should help maintain varietal identity and help control serious seedborne diseases such as common blight.

Seed Availability

Breeder seed and a percentage of foundation seed is grown and maintained in dry, disease-free areas of the western United States by the Michigan Foundation Seed Associations in cooperation with the Michigan Agricultural Experiment Station. Most certified seed is produced in Michigan, although some may also be available from out-of-state.

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Issued in furtherance of Cooperative Extension work in agriculture and home economics, acts of May 8, and June 30, 1914, in cooperation with the U.S. Department of Agriculture. J. Ray Gillespie, Interim Director, Cooperative Extension Service, Michigan State University, E. Lansing, MI 48824.

New-4:89-5M-TCM-UP. Price 25¢, single copy free to Michigan residents.

O-18012

File 22.2 (Field Crops—Navy Beans).