Registration of ‘Maverick’ Pinto Bean

‘Maverick’, a new pinto bean (Phaseolus vulgaris L.) cultivar, was developed by the North Dakota Agricultural Experimental Station and released in January 1996. ‘Maverick’ tested as 88-048-03, was derived from the cross PX-087/PX-049-01. PX-087 was an F6 selection from the cross 83-003/83B229. 83-003 was an F4 line from the cross ‘Fiesta’/‘Black Magic’, selected for erect plant growth habit and pinto seed type. 83B229 is a germplasm release from the University of Idaho (1). 87-049-01 was an F1 line derived from the cross CO81-12034/T295, advanced selections from Colorado State University and Michigan State University, respectively. Line 88-048-03 was selected from the F2 generation grown at Hatton, ND, in 1989. The F3 and F4 generations were grown in Puerto Rico in 1989-1990 winter nurseries, with preliminary yield tests beginning in 1990 on F2.5 lines. F4.5 lines were grown simultaneously for selection purposes. 88-048-03 was further selected as a bulk of 100 F5.8 lines selected in 1993 for similar phenotype, with final selection occurring among 200 F6.9 lines for uniform seed characteristics and rust resistance.

‘Maverick’ was tested for 6 yr (1990-1995) in 29 environments in North Dakota and other bean growing regions of the USA as an entry in the Midwest Regional Performance Nursery (2). In these environments, the seed yield of ‘Maverick’ was 13% higher than the commercial pinto bean ‘Othello’. At 24 North Dakota environments from 1990 to 1995, ‘Maverick’ yielded 14.5 and 17.6% more than Othello and ‘Topaz’, respectively. Yield data from 21 environments in North Dakota indicate that Maverick outyields Fiesta by 28%.

In North Dakota, Maverick is medium-early in maturity, with the same maturity as Othello (95 d). It is 3 d later than Topaz, and is well within the maturity range of other pinto cultivars grown in the northern Great Plains. Maverick has a semi-prostrate indeterminate architecture (Type IIa), with pods well distributed throughout the plant profile. In this respect, Maverick is most similar to Topaz (Type IIIa), rather than Othello or Fiesta, both of which possess strict Type III architecture. When erect, plant height is similar to the erect Type IIb pinto bean ‘Sierra’.

Maverick is homozygous dominant for the Ur3 rust resistance gene, which confers resistance to the prevalent races of bean rust [caused by Uromyces appendiculatus (Pers.:Pers.) Unger] in North Dakota, but is susceptible to bean common mosaic virus (BCMV). Maverick is susceptible to infection by Sclerotinia sclerotiorum (Lib.) de Bary, the causal organism of white mold disease, and the plant response is similar to that of other commercially grown pinto bean cultivars.

The seed of Maverick has traditional pinto size, shape, and color. Seeds are moderately large, with a mean weight of 36.8 g 100 seed−1 (vs. 36.3 g 100 seed−1 for Topaz, 33.7 g 100 seed−1 for Othello, and 38.3 g 100 seed−1 for Fiesta). In canning tests at the North Dakota State University Bean Quality Lab, Maverick was rated as very good, with excellent appearance. Washed drained weight, a measure of hydrated canned bean weight from 100 g of dried beans, was 279.4 g 100 g−1 for Maverick, which was similar to that of Othello (274.1 g 100 g−1) and Topaz (278.8 g 100 g−1) when grown in the same year and location. Texture of the canned product, estimated from shear values using a Kramer Shear Press (Instron Corp., Canton, MA) (3), averaged 71.3 kg 100 g−1 for Maverick, which was similar to Topaz (71.7 kg 100 g−1) and firmer than Othello (42.8 kg 100 g−1), but well within the range of values expected for canned pinto bean from cultivars grown in the northern plains. The canned bean integrity score of 1.4 for Maverick compared favorably with scores of 2.9 and 3.3 for Topaz and Othello, respectively, based on a subjective evaluation scale of 1 to 5, where 1 = excellent and 5 = poor integrity and appearance.

Application has been made for cultivar protection under the U.S. Plant Variety Protection Act of 1970, Public Law 91-577, with the option that Maverick may be sold for seed by varied name only as a class of certified seed. Breeder seed and foundation seed will be maintained by the Seedstocks Project, North Dakota State University, Fargo, ND 58105-5051.

K. F. Grafton,* J. R. Venette, and K. C. Chang (4)

References and Notes

3. Mention of a trademark does not constitute endorsement.
4. K. F. Grafton, Dep. of Plant Sciences, J.R. Venette, Dep. of Plant Pathology, and K.C. Chang, Dep. of Food and Nutrition and Dep. of Cereal Science, North Dakota State Univ., Fargo, ND 58105. Research supported in part by the North Dakota Bean Growers Assoc. Registration by CSSA. Accepted 30 Apr. 1997. *Corresponding author (graham@plains.nodak.edu)

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Registration of ‘Tatanka’ Buffalograss

‘Tatanka’ buffalograss (Buchloë dactyloides [Nutt.] Engelm. (Reg. no. CV-190, PI 595095) was developed through cooperative efforts of the Native Turfgrass Group and the University of Nebraska. ‘Tatanka’ was released in March 1995 by the Institute of Agriculture and Natural Resources, Agricultural Research Division, University of Nebraska, Tatanka was evaluated under the experimental designation NTDG-1.

Tatanka is a maternal half-sib family generated from a modified backcross of male selections on ‘315’, which is a single female clone adapted to the northern Great Plains (1). Male parents were randomly selected from progeny of a crossing block of four clones. The crossing block consisted of a male and female (cultivar 315) adapted to the northern Great Plains and a male and female adapted to the southern Great Plains. Male plants produced in the crossing block were selected based on similarity to 315, as well as pollen production and timing. The selected male plants were then crossed with 315 to produce breeders seed of Tatanka. The four parent clones were selected from a heterogeneous collection of buffalograss accessions maintained at the John Seaton Anderson Turfgrass Research Facility on the University of Nebraska Agricultural Research and Development Center near Mead, NE.

Tatanka is a turf-type buffalograss with improved turfgrass quality, density, and leaf spot (caused by Helminthosporium sp.) resistance compared with other currently available seeded buffalograss cultivars when grown in central and northern portions of the USA. Tatanka exhibits dwarf characteristics, such as significant reduced vertical growth rate and female flowers that form close to the ground and are less visible in the surface canopy. High turfgrass performance rankings in the National Turfgrass Evaluation Program tests during 1993 to 1995 indicate good performance and stability over years and locations. Tatanka goes dormant earlier than southern-adapted buffalograsses, but greens up earlier in the spring. This early fall dormancy contributes to the excellent winter hardness of Tatanka. Tatanka also has significantly smaller buds than other cultivars which facilitates seed processing. When turf of Tatanka is not mowed, it will produce inferences above the turf canopy in a ratio of approximately one female to one male inflorescence. Male flowering in unmowed turf is most prominent in late spring and again in early fall when nights are cool and days are warm.