Registration of 'BEN' Durum Wheat

'Ben' (Reg. no. CV858, PI 596557), spring durum wheat (Triticum durum Desf.) was developed by the North Dakota Agricultural Experiment Station in cooperation with USDA-ARS and officially released on 27 March 1996. Ben was selected as D87130 from the cross D8024/Monroe made in 1983 by R.G. Cantrell. The parent D8024 was derived from the cross D76119/Vic. The pedigree of D76119 is D68111/Rugby//Ward. Ben was developed using the pedigree method and was bulked in the F_5 generation as an F_4-derived line in 1987.

Ben was released because of its high yield, high test weight, large kernels, strong gluten, and medium height. Ben is a stiff strawed daylength-sensitive durum wheat that is similar in heading date to Renville (1) and is 1 d Later than Vic (4). Ben's plant height averages 5.2 cm shorter than Vic and Renville and 20.3 cm taller than the semidwarf cultivar Lloyd (3). The culms are white and the peduncle is slightly recurved. Ben's spikes are long, awned, oblong, mid-dense, and erect. The awns are white and 13 to 16 cm in length. The glumes are glabrous, white, long, and wide. The kernels are amber, hard, long, and elliptical; the germ is mid-sized; the crease mid-wide and shallow; and the brush is absent.

The grain yield of Ben was 9.2% and 1.6% greater than Vic and Renville, respectively, based on 57 location-years of testing in the Uniform Regional Durum Nursery from 1991 to 1995. Ben exhibited a similar yield advantage over Vic and Renville based on 27 location-years in the North Dakota Research Extension Centers varietal trials from 1991 to 1995. Ben has good yield potential across the state of North Dakota and is recommended for the Minot, ND area. Ben has 772.2 kg m^{-3} grain volume weight and 42.4 mg kernel weight. The grain volume weight is 14.2 kg m^{-3} and the kernel weight is 4.9 mg greater than Renville.

Based on 32 location-years in North Dakota field plots (1991 through 1995), the semolina extraction rate of Ben on the Buhler-Maig laboratory mill is 0.4% less than Renville and 0.4% higher than Vic. Other milling characteristics and spaghetti color were favorable. Ben has strong gluten mixing characteristics (classification: 6.4) as estimated by mixograph, that was slightly stronger than Vic and Renville (classification: 5.8). Semolina protein of Ben was 137 g kg^{-1} which was similar to Vic and Renville.

Ben is highly resistant to most races of wheat stem rust (caused by Puccinia graminis Pers.). The adult plant resistance to leaf rust (caused by P. recondita Roberge ex Desmaz) is high and similar to Vic and Renville. Ben has a good level of resistance to tan spot (caused by Pyrenophora tritici-repentis) and moderate resistance to Fusarium head blight (caused mainly by Gibberella zeae (Schweinty) Petch anamorph Fusarium graminearum Schwabe).

Breeder seed will be maintained by the Seedstocks Project, Agric. Exp. Stn., North Dakota State Univ., Fargo, ND 58105-5051. Protection for Ben will be applied for under the U.S. Plant Variety Protection Act for foundation, registered, and certified seed.

E.M. ELIAS* and J.D. MILLER (7)
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References and Notes

7. Elias, E.M., Dep. of Plant Sciences, North Dakota State University, Fargo, ND 58105; J.D. Miller, USDA-ARS, Northern Crop Science Laboratory, Fargo, ND 58105. * Corresponding Author (Elias.Elias@ndsu.edu).