REGISTRATION OF CULTIVARS

Registration of ‘UI 911’ Black Bean

‘UI 911’ black bean (Phaseolus vulgaris L.) (Reg. no. CV-136, PI 594324) was developed by the Idaho Agricultural Experiment Station at Kimberly, ID, and released in 1994. UI 911 is intended to fill a gap among black bean cultivars for the Pacific Northwest between the earlier-maturing ‘UI 906’ (1) and later-maturing traditional black bean cultivars. As a consequence of slightly later maturity than UI 906 and adaptation to Idaho environments, it is the highest yielding black bean cultivar in this region. Its larger seed also rectifies a problem of small seed size found in UI 906.

UI 911 is a sister line of UI 906. It was selected in the F6 by John Kolar in 1984 from the cross ‘Midnight’/07055 F3 made in 1981. The pedigree of 07055 is PI 209621/2/R75/RR27/797/3/‘Aurora’. Midnight was a composite of three single plant selections made from CIAT germplasm lines at Cornell University (2). UI 911 was tested under the experimental number 83B11.

UI 911 has been in advanced trials at Kimberly and Parma, ID, since 1986. It has been one of the best performing black bean cultivars in Idaho yield trials with significantly earlier bloom date and longer seed fill period than any other black bean cultivar. In Idaho, it matures 1 to 2 d later than UI 906, but 2 to 4 d earlier than other black bean cultivars. In the 1994 and 1995 National Cooperative Dry Bean Nurseries, UI 911 was grown at 24 and 21 locations, respectively (3,4). Yields over all locations were less (97 kg ha−1) than Midnight. In 1994, UI 911 was the highest yielding black bean cultivar in the North and Northwest (231 and 262 kg ha−1) greater than Midnight, respectively, but yielded less in the Midwest and East.

UI 911 has an upright, medium vine growth habit (CIAT classification Type IIB). Its vine length is longer than UI 906 and Midnight, but similar to the check cultivar ‘T-39’. Lodging is intermediate to T 39 and Midnight. Flowers are purple, and anthocyanin pigment is found in stems and pods. Pods are set in the upper two-thirds of the plant. Leaf shape and size resembles Midnight, but leaf color is dull green, similar to UI 906. Unlike other black bean cultivars, yields of UI 911 are determined in a way similar to that of medium-seed-size classes adapted to the Pacific Northwest. UI 911 has moderate vegetative and seed growth rates, with high biomass production and medium maturity.

UI 911 has uniform, dull black seed. Seed size (18.8 g 100 seed−1) is significantly larger than UI 906 (15.5 g 100 seed−1) and slightly larger than Midnight (17.5 g 100 seed−1). Canning tests done at Kimberly indicate that UI 911 has fewer splits and better color retention than Midnight.

Tests performed at Kimberly, ID, and Prosser, WA, showed that UI 911 has / gene resistance to bean common mosaic virus (BCMV) and bean common mosaic necrosis virus (BCMNV) (5,6). UI 911 exhibited immunity to temperature-sensitive necrosis-inducing strains of BCMV in field tests at Prosser in 1994, and to the 1994 Cooperative Dry Bean Nursery Prosser locations UI 911 received a rating of 2 on a scale of 1 (immune) to 9 (dead). The resistant check ‘Gold Crop’ received a rating of 2, while the highly susceptible check ‘Top Crop’ was rated 9.

UI 911 was evaluated for reaction to rust [caused by Xanthomonas appendiculatus (Pers.:Pers.) Dye] in tests performed at Scottsbluff and North Platte, NE, in conjunction with the 1994 Cooperative Dry Bean Nursery. UI 911 had intermediate ratings for white mold (probably due to architectural avoidance) and 1.7% incidence of rust infection, compared with about 50% incidence in susceptible cultivars; it was susceptible to common blight.

UI 911 was field tested for root rot reaction [caused by Rhizoctonia solani Kühn, Fusarium solani (Mart.) Sacc. & F. de Hoog, and Pythium phaseoli (Burkholder) W.C. Snyder & R.N. Hans.] at Prosser in 1994 (3). It received a rating of 2, of 1 (healthy) to 7 (severe root damage). Resistant checks ‘A55’ and ‘N203’ included with this trial were rated 2.5, and 3.5, respectively; the susceptible checks Gold Crop and T-39 were rated 6.2 and 6.4, respectively.

Breeder and foundation seed are available from the Idaho Agricultural Experiment Station Foundation Seed Program, 3793 North 3600 East, Kimberly, ID 83341. U.S. plant variety protection (Title V option) is pending. The cultivar will be maintained as a public cultivar with a tag fee assessed on the sale of foundation seed.

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References and Notes


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