REGISTRATION OF 'UI 906' BLACK BEAN

'UI 906' BLACK BEAN (Phaseolus vulgaris L.) (Reg. no. CV-94, PI 549091) was developed by the Idaho Agricultural Experiment Station at the Kimberly Research and Extension Center, Kimberly, ID, and was released in 1988. UI 906 was an F2 selection made by J.J. Kolar in 1984 from the 1981 cross 'Midnight'/07055 F5. The pedigree of 07055 is PI 209621/2/RT5/RR27/97/3 F. 'Aurora'.

The breeding lines used to develop 07055 had high levels of rot tolerance as caused by Rhizoctonia solani Kühn, Fusarium solani (Mart.) Sacc. f. sp. phaseoli (Burkholder) W.C. Snyder & H.N. Hans, and/or Pythium spp.

UI 906 was grown at Kimberly, ID in 1985 to 1987, and at both Kimberly and Parma, ID, in 1988 and 1989. Yield trials in New York were at one location in 1986 (1) and three locations in 1987 (2), and at two locations in Michigan in 1988 (3) and six locations in 1989 (4). Midnight and UI 906 yields were equivalent in Idaho, but in New York and Michigan a longer growing season permitted Midnight to reach its full yield potential. Under these conditions, UI 906 yielded less than Midnight. In tests at 16 locations in the Cooperative Dry Bean Nursery (5), in 1989, seed yield was 9% higher than Midnight. UI 906 is particularly well suited to short growing seasons found in the Pacific Northwest, North Central States, and Central Canada.

UI 906 has an upright short vine (Type III) growth habit. Maturity ranges from 78 to 114 d, with a mean of 92 d. In Idaho, it matures ~6 d earlier than Midnight. UI 906 has smaller seed than other black bean cultivars, with a mean of 17.3 g 100 seed-1 vs. 18.3 g 100 seed-1 for Midnight. The seed coat possesses a dull luster, as is desirable in this market class.

Tests for resistance to bean common mosaic virus (BCMV) were performed at Prosser, WA, by Matt Silber-nagel in 1987 and at Kimberly Research Center in 1989. UI 906 was resistant to the NY-15 and NL-4 races of BCMV, but exhibited necrotic tip kill when inoculated with the NL-15 or NL-8 races of BCMV. This hypersensitive response is conferred by the J gene.

Field infection of beet curly top virus indicated that UI 906 is moderately susceptible to this disease. Disease incidence was intermediate to that of susceptible cranberry and resistant pinto beans, suggesting that UI 906 had resistance to some strains of beet curly top virus. Data from 1988 Uniform Dry Bean Rust Nursery in Maryland and Michigan indicated that UI 906 was susceptible to bean rust [Uromyces appendiculatus (Pers.:Pers.) Unger] races in Maryland, but resistant to highly resistant to the races found in Michigan. In the 1989 Cooperative Dry Bean Nursery, UI 906 showed moderate resistance to bean rust races in Nebraska.

Breeder seed is maintained at the University of Idaho Kimberly Research and Extension Center, 3793 North 3600 East, Kimberly, ID 83341. Small quantities of seed for breeding and experimental purposes may be obtained from the Director of the Idaho Agricultural Experiment Station. This cultivar is protected under Title V of the Plant Variety Protection Act.

J. R. MYERS,* R. E. HAYES, AND J. J. KOLAR (6)

References and Notes


REGISTRATION OF 'SUNLAND' TRITICALE

'SUNLAND' TRITICALE (X Triticosecale Wittmack) (Reg. no. CV-11, PI 550576) was cooperatively developed and released by the Georgia and Florida Agricultural Experiment Stations as a cultivar in 1989. Sunland is a spring-type triticale selected from the cross B-2736, Merino "S"/Juanillo, made at the International Maize and Wheat Improvement Center (CIMMYT) in Mexico. Sunland was selected in 1983 as a high-yielding advanced line from CIMMYT's 14th International Triticale Screening Nursery grown at Quincy, FL, and Plains, GA. From 1984 to 1987, the line was reselected and tested further in both states. Seed from a single greenhouse-grown plant of Merino "S"/Juanillo was selected in 1987 as the source of breeder seed and increased in Yuma, AZ, and Aberdeen, ID, during 1987 and 1988. Sunland has been extensively yield tested in Florida and Georgia since 1985.

Sunland is an early-maturing, photoperiod-insensitive, hexaploid cultivar. Sunland is similar in appearance to 'Beagle 82' and 'Florida 201' triticale, having an upright growth habit, long broad leaves, large stems, and long, bearded heads. Heads have long rough awns, white glumes, and a distinct nodding appearance at maturity. Floret fertility is high. Sunland is tall, averaging 114 cm across 21 environments, but has strong straw and moderate lodging resistance. Sunland heads 4 to 5 d later than Florida 201 and ~7 d earlier than 'Florida 303' wheat (Triticum aestivum L.), in the southeastern USA. Sunland has poor cold tolerance, which limits its suitability and adaptation for fall planting to the Coastal Plain area of the Southeast and similar environments where mild winters occur. Kernels of Sunland are reddish in color, large, and less wrinkled than those of Beagle 82.

In south Georgia and Florida, Sunland has performed consistently well with high grain yields and grain volume weights. In nine Florida environments (1985-1990), average grain yield of Sunland (3265 kg ha-1) was 8% higher than Florida 201 and 40% higher than Beagle 82. In 39 south Georgia trials (1986-1990), average grain yield of Sunland (3800 kg ha-1) surpassed that of Florida 201 (3658 kg ha-1) and Beagle 82 (3567 kg ha-1). Average grain volume weight (47 trials) of Sunland (677 kg m-3) is greater than that of Florida 201 (638 kg m-3) and Beagle 82 (602 kg m-3). When planted late, as is common in double-cropping systems of the southeastern USA, grain yields of Sunland are similar to those of the best early soft red winter wheat cultivars. Sunland can be utilized as forage in a one-cut silage system, but is not well adapted to temporary wintergrowth. Average seasonal forage yield of Sunland (4135 kg dry matter ha-1) in 14 Georgia and Alabama clipping trials was 5 and 20% greater than Beagle 82 and Florida 201, respectively, but 41, 37, and 26% lower than the adapted forage-type cultivars 'Coker 227' oat (Avena sativa L.), 'Wrens Abruzzi' rye (Secale cereale L.), and 'Stacy' wheat, respectively.

Sunland will be used primarily as feed grain for swine and poultry. Crude protein and lysine content of Sunland (4 environments) have averaged 13.4 and 4.7 g kg-1, respectively, on a dry-matter basis, equivalent to that of Beagle 82 and slightly higher than that of Florida 201.