Registration of 'UI 537' Pink Bean

'UI 537' PINK BEAN (Phaseolus vulgaris L.) (Reg. no. CV-103, PI 554602) was developed by the Idaho Agricultural Experiment Station, Kimberly, ID, and was released in 1990. It was evaluated under the experimental numbers 55037 and 6519. UI 537 is an F5 selection made by John Kolar in 1982 from the 1977 cross 'UI 37' × 'Viva'. UI 37 is an early-maturing cultivar in the red Mexican market class. Viva is a popular pink bean cultivar released by USDA-ARS, Prosser, WA, in 1974 (1). Viva possesses agronomically desirable characteristics for the pink market class except that seed size is small. Both UI 37 and Viva possess bc-12 resistance to bean common mosaic virus (BCMV).

UI 537 was grown in preliminary trials in 1984 and 1985, and in advanced trials at Kimberly and Parma, ID, in 1986 through 1991. It was tested for 3 yr in the Cooperative Dry Bean Nursery at 16 locations in 1989, 18 locations in 1990, and 21 locations in 1991 (2,3,4). In 1989, it was also tested at two locations in California.

UI 537 combines large seed size with high yield, medium to early maturity, good canning characteristics, and bc-12 resistance to BCMV. In Idaho trials, UI 537 has consistently had the highest seed-filling efficiency or yield efficiency rate of any pink bean cultivar. Seed-filling efficiency is calculated as yield/seed fill duration and yield efficiency is calculated as yield/maturity. Both are measures of reproductive or seed growth rate.

UI 537 is similar to or slightly better than Viva for yield, and 1 to 2 d earlier in maturity. Seed size of UI 537 is significantly larger than Viva (33.5 vs. 27.8 g 100 seed−1).

Tests for resistance to BCMV were performed at Prosser in 1987 and at Kimberly in 1991. In tests at Prosser, UI 537 was resistant to the NY-15 and NL-5 strains of BCMV (Pathogroups 5 and 6, respectively), but exhibited symptoms when inoculated with the NL-4 strain (Pathogroup 7) (M. Silbernagel, USDA-ARS, Prosser, WA, personal communication, 1987). At Kimberly, UI 537 was symptomless when inoculated with NY-15 and NL-8 strains (Pathogroups 5 and 3, respectively), and showed symptoms when inoculated with a Mexican strain (Pathogroup 7). Mild symptoms were observed only on some plants inoculated with NL-3 (Pathogroup 6). Visual observations in the tests at Kimberly were verified by ELISA (enzyme-linked immunosorbent assay) (G. Mink, WSU, Prosser, WA, personal communication, 1987), and with the exception of NL-3, were in general agreement with the 1987 test. Plants inoculated with NL-3 had high virus titers, indicating that UI 537 is a symptomless carrier of this strain. Other bean cultivars that show this pattern of resistance also carry the bc-12 gene for resistance to BCMV (5).

No curly top symptoms have been observed in field tests for resistance to beet curly top virus at Prosser, WA, Kimberly, or Parma, ID. In tests at Scottsbluff and North Platte, NE, in 1989 and 1990, UI 537 showed reaction similar to those of other pink bean cultivars to common blight [incited by Xanthomonas campestris pv. phaseoli (Smith) Dye], white mold [incited by Sclerotinia sclerotiorum (Lib.) de Bary], and bean rust [incited by Uromyces appendiculatus (Fries) D. Diet.] in general, pink bean is susceptible to these diseases; however, these diseases are not a problem in areas where pink bean is typically grown.

Canning tests were performed by American Home Foods, Vacaville, CA, in 1988 and 1989, and American Fine Foods, Payette, ID, in 1989. UI 537 canned satisfactorily and performed similar to Viva in those tests.

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

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References and Notes


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