Registration of Four White Mold Resistant Dry Bean Germplasm Lines: 19365-3, 19365-5, 19365-31, and 92BG-7

Dry edible bean (*Phaseolus vulgaris* L.) germplasm lines 19365-3 (Reg. no. GP-183, PI 603035), 19365-5 (Reg. no. GP-184, PI 603036), 19365-31 (Reg. no. GP-185, PI 603037) and 92BG-7 (Reg. no. GP-186, PI 603038) were released by the USDA-ARS in 1997. A major advantage of these lines is their moderate resistance to white mold [caused by *Sclerotinia sclerotiorum* (Lib.) de Bary]. White mold is a major disease problem of dry edible beans grown worldwide, and cultivars grown throughout the United States are susceptible. These four lines also exhibited high yield potential in both tropical (Puerto Rico) and temperate (Michigan, Nebraska, North Dakota, Washington) environments, resistance to bean common mosaic and necrosis viruses (BCMV and BCMNV), and resistance to rust [caused by *Uromyces appendiculatus* (Pers.) Unger var. *appendiculatus*; syn. *U. phaseoli*]. These four lines were evaluated for physiological reaction to white mold in straw tests conducted at the University of Nebraska (2), Cornell University (M.H. Dickson), North Dakota State University, and the USDA-ARS at Prosser, WA, from 1995 to 1997. Reactions of these four lines to white mold were evaluated in Michigan, Nebraska, and North Dakota in the field from 1995 to 1997 (3).

19365-3 is a small, red dry bean developed from an interspecific Population II (Florida 6-19/Pc-46) using a modified bulk selection of 10 plants for three continuous generations. Population II was cooperatively released in 1985 by the USDA-ARS and the Agricultural Experiment Stations of Puerto Rico and Florida as a heterogeneous *F₃* bulk possessing different disease resistances, plant habits, and seed sizes, shapes, and colors (4). The common bean parent, Florida 6-19, was an *F₄* bulk selection for reclining foliage and short internodes from the cross Guatemala 14-2 (Cambridge collection) *Pc-46*. The *Phaseolus coccineus* L. parent, Pc-46, was developed by recurrent selection for multiple disease resistance by N.G. Vakili in Puerto Rico and released by the USDA-ARS in 1979. 19365-3 averaged 98 d to harvest maturity at Othello, WA (1997), and exhibited an upright indeterminate Type IIa prostrate growth habit (5). Weight of 100 seeds averaged 24 g. In field and greenhouse tests the reaction of 19365-3 to white mold was comparable to ‘Bunsi’ (known in Canada as ‘Ex Rico 23’). Bunsi navy bean has been widely used as a check cultivar because it has some resistance to white mold. 19365-31 is a black dry bean developed from an interspecific triple cross KH (‘Colorado’/*P. coccineus* subsp. *purpurascens*/*P. vulgaris*). KH was released in 1985 by Mayagüez, PR, and by INRA, Versailles, France, as an advanced-shipper market snap bean. 19365-5 is comparable to Bunsi for harvest maturity and exhibited an indeterminate semi-upright Type IIIa growth habit. Weight of 100 seeds averaged 22 g. In some field and greenhouse tests, 92BG-7 segregated for the *Ur-6* rust resistant gene (7) present in ‘Olathe’ pinto bean but not the *Ur-3* gene (7) present in ‘Chase’ pinto bean.

19365-5 is a small, pink dry bean developed from an interspecific cross (*P. vulgaris*/*P. coccineus*#233B) using a modified bulk selection of 10 plants, from the *F₃* to *F₄* generations. The original *P. vulgaris* parent was a dry bean derived by recurrent selection for seed yield and resistance to diseases endemic to Puerto Rico, from INRA, Versailles, France, as an advanced-shipper market snap bean. 19365-5 is a small, pink dry bean developed from an interspecific cross (*P. vulgaris*/*P. coccineus*#233B) using a modified bulk selection of 10 plants, from the *F₃* to *F₄* generations. The original *P. vulgaris* parent was a dry bean derived by recurrent selection for seed yield and resistance to diseases endemic to Puerto Rico, from INRA, Versailles, France, as an advanced-shipper market snap bean. 19365-5 is a small, pink dry bean developed from an interspecific cross (*P. vulgaris*/*P. coccineus*#233B) using a modified bulk selection of 10 plants, from the *F₃* to *F₄* generations. The original *P. vulgaris* parent was a dry bean derived by recurrent selection for seed yield and resistance to diseases endemic to Puerto Rico, from INRA, Versailles, France, as an advanced-shipper market snap bean. 19365-5 is a small, pink dry bean developed from an interspecific cross (*P. vulgaris*/*P. coccineus*#233B) using a modified bulk selection of 10 plants, from the *F₃* to *F₄* generations. The original *P. vulgaris* parent was a dry bean derived by recurrent selection for seed yield and resistance to diseases endemic to Puerto Rico, from INRA, Versailles, France, as an advanced-shipper market snap bean.