Registration of 'Pinto Villa' Common Bean

‘Pinto Villa’ common bean (Phaseolus vulgaris L.) (Reg. no. CV-118, PI 583796) was released for commercial production in the semiarid highlands of Mexico by the National Research Institute for Forestry and Agriculture (INIFAP) in 1990. Pinto Villa was developed by the pedigree method. It originated from the three-way cross II-25D-M-34 = II-925-M-29-1 × ('Canario 101' × Mex-4-2) made in 1980 at the Valle del Guadiana Experimental Station, Durango, Mexico. The F1 was bulk selected for uniform maturity and seed color. From the F2 to F4 generations, it was yield tested along with other entries under rainfed conditions. Subsequently, the F4-derived F5 line was increased and yield tested in regional trials in the semiarid highlands from 1987 to 1990. Pathogen-free seed was produced in the winter of 1989–1990 in Los Mochis, Sinaloa.

Pinto Villa possesses an indeterminate prostrate Type III growth habit, with 6 to 10 basal branches and a mean canopy height of 35 cm. It has white flowers with medium-sized corollate bracteole and ovate leaves. Pinto Villa has shown broad adaptation and yield stability in the semiarid highlands; adaptation that is partially due to its phenological plasticity and tolerance to low night temperatures during seed filling (1). Under normal rainfed conditions, it requires =95 d to reach maturity. Under the variable semiarid environments, maturity ranges from 75 to 110 d. This variability in maturity may be partially due to its photoperiod sensitivity (1). Under normal rainfed conditions, it requires =95 d to reach maturity. Under the variable semiarid environments, maturity ranges from 75 to 110 d. This variability in maturity may be partially due to its photoperiod sensitivity (1). It is highly resistant to anthracnose [caused by local isolates of Colletotrichum lindemuthianum (Sacc. & Magn.) Lams.-Scrib.]. It is tolerant to races of rust [caused by Uromyces appendiculatus (Pers.:Pers.) Unger var. appendiculatus] in the drier locations of the Mexican highlands, to halo blight [caused by Pseudomonas syringae pv. phaseolicola (Burkholder) Young et al.], to common bacterial blight [caused by Xanthomonas campestris pv. phaseoli (Smith) Dye], and to low soil fertility.

Pinto Villa was tested at four to eight locations each year from 1987 to 1992 in the highlands of Mexico (from Chihuahua to Valle de Mexico). It is classified as a drought-tolerant cultivar (2). On the basis of yield response, it is better adapted to early planting dates in the less productive rainfed environments of than all other available cultivars. Under favorable rainfed environments of the humid highlands its mean yield has been above 2.0 mT ha⁻¹ and it has outyielded all landraces in the Pinto seed class.

Pinto Villa has medium seed size (30 to 32 g 100 seed⁻¹). Its seed color pattern of cream with brown spots is acceptable as a Pinto cultivar. Environmental conditions during maturation, however, may influence seed size and color intensity. Protein content and cooking time of Pinto Villa is within the average for this class (3).

Pinto Villa has been released without plant protection rights to organized bean growers and registered public and private seed companies in Mexico. Breeder seed is maintained by the Valle del Guadiana Experimental Station of INIFAP-SARH, and is available upon request from F. Ibarra-Pérez.

References and Notes

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Registration of ‘Top 76-6’ Sweet Sorghum

Top 76-6 is a sweet sorghum [Sorghum bicolor (L.) Moench] (Reg. no. CV-131, PI 583832) cultivar adapted to the southeastern USA and was developed for syrup production in the Appalachian Mountain region. Initial emasculation crosses were made at the USDA Sugar Crops Field Station (now closed) at Meridian, MS, during 1970. Preliminary evaluations were conducted in Mississippi during the early generations of selection, and Georgia evaluations began in 1974 (3). The cultivar was jointly released by the University of Georgia and Mississippi State University during 1994.

Top 76-6 was selected from the F2 progeny of the emasculated cross Mer. 60-2/’Brandes’. The parentage of Mer. 60-2 was PI 154844/PI 152967. PI 154844 is MN 1500 [i.e., ‘Grassl’ (B)]; PI 152967 is MN 1056 (6). The parentage of Brandes was Collier 706-C/PI 154844 (1). The pedigree method of breeding was used to advance the progeny. The cultivar has been periodically evaluated as Mer. 76-6 at the Georgia Mountain Branch Experiment Station, Blairsville, GA, since 1974.

The seed of Top 76-6 are phenotypically white, with a corneous endosperm. The sienna-colored glumes cover about one-third of the caryopsis. The exposed seed surface is usually sprinkled with red or dark-red specks. The seeds are elliptically shaped and contain no pigmented tests. The panicle is erect and semicom pact.

Top 76-6 is highly resistant to foliar anthracnose [caused by Colletotrichum graminicola (Ces.) G.W. Wils.] (Table 1) at the Blairsville location. A 10-location disease evaluation during the late 1970s and early 1980s (in Griffin and Blairsville, GA; Alcorn & Crossville, AL; Verona and Newton, MS; Orange, VA; Quincy, FL; Goldsboro, NC; Beatrice, NE; and Bakersfield, CA) revealed good to intermediate (noninjurious) resistance to gray leaf spot [caused by Cercospora sorghi Ellis & Everh.], zonate leaf spot (caused by Gloecerospora sorghi Bain & Edgerton ex Deighton), rough leaf spot (caused by Ascochyta sorghina Sacc.), bacterial leaf stripe [caused by Pseudomonas andropogonis (E.F. Smith) Stapp], and pokkah