Registration of ‘Almonga’ Planchada Dry Bean

‘Almonga’, a white large (57 g 100 seed−1) dry bean (Phaseolus vulgaris L.) (Reg. no. CV-243, PI 638593) in the planchada market class, was developed and released in 2002 by the Instituto Tecnológico Agrario de Castilla y León (ITACyL), Valladolid, in cooperation with the Instituto Nacional de Investigación y Tecnología Agraria y Alimentaria (INIA), Spain. Almonga has good culinary quality and is resistant to halo blight [caused by Pseudomonas syringae pv. phaseolicola (Burkholder 1926) Young, Dye & Wilkie 1978], Bean common mosaic virus (BCMV, potyvirus), and Bean common mosaic necrosis virus (BCMNV, potyvirus).

Almonga, tested as COM-20-39_99, was derived from the cross ZJ-724/4J-132-1_92 made in 1992. Landrace ZJ-724 has large white flat seeds and indeterminate growth habit Type III, high culinary quality, and moderate resistance to halo blight. Early maturing halo blight tolerant F1 breeding line 4J-132-1_92 was derived from the cross ‘Cueto’/’Jules’ using the pedigree method. Cueto is a white kidney selection from a landrace. Cueto has growth habit Type I, high culinary quality, and is susceptible to BCMV, BCMNV, and halo and common bacterial blight [caused by Xanthomonas campestris pv. phaseoli (Smith) Dye] (Asensio Vegas et al., 1990). Jules is a great northern dry bean cultivar tolerant to common and halo bacterial blights (Coyne and Schuster, 1970). F2 plants of ZJ-724/4J-132-1_92 were selected in the greenhouse for halo blight resistance. Individual F3 and F4 plants were selected in the field for halo blight resistance and earliness. Selection for desirable seed traits was done in F5 and subsequent generations.

Almonga was tested in replicated yield trials in five locations in Spain during 5 yr. Mean seed yield for Almonga was 2976 kg ha−1 compared with 1719 kg ha−1 for Cueto. Almonga bloomed in an average of 50 d and matured in 102 d after planting.

Almonga possesses the recessive bc-F resistance allele derived from great northern Jules via breeding line 4J-132-1_92. Thus, in greenhouse tests, Almonga was resistant to BCMV (US-6 strain) and BCMNV (NL-3K strain) and was also resistant to races 1, 2, 5, 7, and 9 of P. syringae pv. phaseolicola in both leaf and pod, and moderately resistant to race 6 in pod. Almonga is susceptible to common bacterial blight.

Almonga plants have an indeterminate prostrate growth habit Type IIIb, dull green leaves, and white flowers. Almonga pods are 170 mm long and have an average of five seeds per pod. Almonga has rhombohedral, shiny white seeds, high culinary quality with very soft tegument, and highly buttery albumen, tested by a trained sensory panel. These characteristics are highly desired by Spanish consumers.

Breeder and Foundation Seed of Almonga will be maintained by Instituto Tecnológico Agrario de Castilla y León (ITACyL), Subdirección de Investigación y Tecnología, Departamento de Hortofruticultura, Ctra. Burgos Km. 1189, 47071 Valladolid, Spain. Small samples for research purposes can be obtained from the corresponding author.

C. Asensio,* M.C. Asensio S-Manzanera, R. López

References


Dep. de Hortofruticultura, Subdirección de Investigación y Tecnología, Instituto Tecnológico Agrario de Castilla y León (ITACyL), Ctra. Burgos Km. 119, 47071 Valladolid, Spain. Support from Instituto Nacional de Investigación y Tecnología Agraria y Alimentaria (INIA), Spain, and European Regional Development Fund, EU. Registration by CSSA. Accepted 31 Mar. 2005. *Corresponding author (asevegma@itacyl.es).

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677 S. Segoe Rd., Madison, WI 53711 USA