

References and Notes

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Registration of 'Multistar' Alfalfa

'Multistar' alfalfa (*Medicago sativa* L.) (Reg. no. CV-193, PI 593650) was developed by FFR Cooperative and released in 1992. The cultivar was tested experimentally as A9004.

Multistar is a 146-clone synthetic cultivar with parental clones selected for resistance to one or more of the following: bacterial wilt [caused by *Clavibacter michiganense* subsp. *insidiosum* (McCulloch) Davis et al. 1984], fusarium wilt [caused by *Fusarium oxysporum* Schlechtend.:Fr. f. sp. *medicaginis* (J.L. Weimer) W.C.

Snyder & H.N. Hans.], phytophthora root rot [caused by *Phytophthora sojae* M.J. Kaufmann & J.W. Gerdemann; syn. *P. medicaginis* (Drechs.) E.M. Hans. & Maxwell], spotted alfalfa aphid [*Therioaphis maculata* (Buckton)], and tolerance to potato leafhopper yellowing [caused by *Empoasca fabae* (Harris)]. Parent clones trace predominately to the cultivars Legend, Chief, Verta+, Edge, and Summit, with minor contributions from Salute, WL-316, 5432, and 5444. Germplasm sources of Multistar include 5% *M. falcata*, 5% Ladak, 26% *M. varia*, 4% Turkistan, 53% Flemish, and 7% Chilean.

Fall dormancy of Multistar is similar to that of 'Ranger'. Multistar is highly resistant to anthracnose (Race 1) (caused by *Colletotrichum trifolii* Bain & Essary), bacterial wilt, fusarium wilt, and phytophthora root rot and resistant to verticillium wilt (caused by *Verticillium albo-atrum* Reinke & Berthier), spotted alfalfa aphid, and stem nematode [*Ditylenchus dipsaci* (Kühn) Filipjev]. Multistar has been tested and is adapted for use from the Upper Midwest through the mid-South production areas. Flower color is approximately 95% purple, 5% variegated, and a trace of cream, yellow, and white. About 54% of the plants exhibit some level of multi-foliolate expression in the autumn regrowth.

Seed increase is limited to one generation of breeder (Syn 1), two generations of foundation (Syn 2 or 3), and three generations of certified (Syn 2, 3, or 4) classes. Foundation seed production is limited to the northwestern USA. A maximum of 1, 3, and 5 harvest years is permitted on stands producing breeder, foundation, and certified seed, respectively. Multistar was favorably reviewed by the National Alfalfa Variety Review Board in 1993. Application was not made for U.S. plant variety protection.

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REGISTRATION OF GERMPLASM

Registration of High-Protein Pigeonpea
Elite Germplasm ICPL 87162

ICPL 87162 (Reg. no. GP-166, PI 593894), a high-protein pigeonpea [*Cajanus cajan* (L.) Millsp.] elite germplasm, was developed at the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) Asia Center (IAC), Patancheru, India. It was released in 1993 by the Plant Material Identification Committee of ICRISAT, because of higher protein content in its *dhal* (dehusked split seed) than all the available pigeonpea cultivars in India. ICPL 87162 is being used as a high-protein donor parent in the pigeonpea improvement programs in India.

ICPL 87162 has an indeterminate growth habit, with a plant height of 150 cm, and is green-stemmed. It belongs to the medium maturity group and takes 112 DAP (days from planting) for flowering and 169 DAP for maturity. Flowers are yellow with purple streaks, and the pods are green with maroon streaks. Seeds are dark gray, with a seed mass of 6.9 g 100 seed⁻¹.

ICPL 87162 was developed by pedigree breeding. It was derived from a single F₆ plant selected from an interspecific cross between a pigeonpea cultivar, Baigani, and a wild relative of pigeonpea, *C. scarabaeoides* (L.) Thouars [syn. *Alyosia scarabaeoides* (L.) Benth]. The pedigree of ICPL 87162 is ICPX 75560 (Baigani × *C. scarabaeoides*) F₅-37_⊗-9_⊗-5_⊗.

Dhal protein content of ICPL 87162 tested over 5 yr at IAC ranged from 29.3 to 33.8%, compared with a range from 22.6 to 25.3% for the control cultivar BDN 1. Similarly, it showed significantly higher protein content when compared to another control cultivar, C 11, in all the six environments in 2 yr of testing. ICPL 87162 had a mean protein content of 32% in 1985 and 31.1% in 1986, compared with 23.0 and 23.1% for C 11. ICPL 87162 is resistant to sterility mosaic disease, but susceptible to wilt disease (caused by *Fusarium udum* E.J. Butler).

ICRISAT Asia Center, Patancheru, India, maintains the breeder seed of ICPL 87162. Limited quantities of seed, without limitation on uses, can be obtained upon request from the Principal Pigeonpea Breeder, ICRISAT.

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