Registration of ICPM 93006, ICPM 93007, and ICPM 93008, Three Short-Duration Genetic Male-Sterile Parental Lines of Pigeonpea

Three short-duration genetic male-sterile parental lines of pigeonpea [Cajanus cajan (L.) Millsp.] designated as ICPM 93006 (Reg. no. PL-1, PI 586684), ICPM 93007 (Reg. no. PL-2, PI 586685), and ICPM 93008 (Reg. no. PL-3, PI 586686) were developed at the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) located at Patancheru, India. These genetic male-sterile lines were released by the ICRISAT Plant Materials Identification Committee (PMIC) in 1994. The basis for their release was the stable nature of their male-sterility, extensive usage in development of hybrids, and their use in the population improvement programs at ICRISAT Asia Center (IAC) and the Indian national programs. The world's first pigeonpea hybrid, ICPH 8, was developed by using ICPM 93006 as the female parent and the second hybrid, IPH 732, was developed by using ICPM 93008 as the female parent at IAC. Several other pigeonpea hybrids involving ICPM 93006, ICPM 93007, and ICPM 93008 are in multi-location trials. These male-sterile parental lines were developed by transferring a recessive male-sterile gene ms1 from a medium-duration indeterminate pigeonpea male-sterile stock (MS 3A) through backcrossing ICPM 93006 (= ms Prabhat (DT)) and ICPM 93007 (= ms Prabhat (NDT)) were developed by backcrossing MS 3A to a short-duration determinate cultivar Prabhat as the recipient parent. Heterozygous (MS ms) segregants in the F2 generation were backcrossed to Prabhat to produce BC1F1. From the BC1F2 population, determinate and indeterminate male-sterile (ms ms) plants were selected for further backcrossing to Prabhat. After five backcrosses, determinate (ICPM 93006) and indeterminate (ICPM 93007) male-sterile lines were developed and further maintained by sibbing. Using a similar procedure, ICPM 93008 (= ms T 21), with indeterminate growth habit, was developed by backcrossing MS 3A to an indeterminate short-duration cultivar, T 21, as the recurrent parent.

ICPM 93006 has a determinate plant habit, is 114 cm tall, and matures in about 110 d at IAC. ICPM 93007 is indeterminate, 138 cm tall, and matures in about 124 d at IAC. ICPM 93008 is indeterminate, 218 cm tall, and matures in about 125 d at IAC. All the three male-sterile lines have green stems, medium-sized leaves, yellow flowers with medium to dense red streaks, green pods with dark brown streaks, and dark brown oval seeds. The 100-seed weight is 7.5 g for ICPM 93006, 6.9 g for ICPM 93007, and 8.9 g for ICPM 93008. All three male-sterile lines produce numerous pods under open pollination.

The Genetic Resources Division of ICRISAT (Patancheru, AP, India) maintains and supplies breeder seed of these lines upon request.


References and Notes
1. ICRISAT, Patancheru 502 324, Andhra Pradesh, India. ICRISAT Journal Article no. 1738. Registration by CSSA. Accepted 31 May 1995. *Corresponding author (Email: icrisat@cgnet.com).

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