

Registration of ICPM 93003, a Short-Duration Wilt and Sterility Mosaic Disease-Resistant Genetic Male-Sterile Parental Line of Pigeonpea

A short-duration genetic male-sterile parental line of pigeonpea [*Cajanus cajan* (L.) Millsp.] designated as ICPM 93003 (Reg. no. PL-4, PI 597942) was developed at the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) Asia Center located at Patancheru, India. In 1994, ICPM 93003 was released by ICRISAT Plant Materials Identification Committee as a parental line. ICPM 93003 was developed by transferring a recessive male-sterile gene *ms₁* from ICPM 93007 through backcrossing to a short-duration wilt (caused by *Fusarium udum* Butler) and sterility mosaic resistant line ICPL 288 as the recurrent parent. About 5000 F₂ plants of the cross were grown in a combined wilt and sterility mosaic disease nursery. The susceptible checks in this nursery had 95 to 100% disease incidence. In an attempt to recover a male-sterile segregant with stable combined resistance to both the diseases in an early generation, 100 disease-free male-sterile F₂ segregants were identified for crossing to the recurrent parent to produce the BC₁F₁. In the subsequent generation, only three progenies showing resistance to both the diseases were retained. In the selected progenies, four backcrosses were made manually to recover important agronomic traits of the recipient line; in each generation, 15 to 20 plants were used for crossing and finally one progeny (No. 208) was selected, as uniform for most agronomic traits and completely free from both wilt and sterility mosaic

diseases. From 1991 to 1993, seeds of this progeny were multiplied in an isolated disease-sick nursery. In each year of screening, this line had neither wilt nor sterility mosaic disease.

ICPM 93003 is an indeterminate genetic male-sterile line, with long fruiting branches and sparse secondary branching. Plants are compact and attain about 1.75 m height at maturity at Patancheru. Green-colored pods are borne on the primary branches in clusters of five to six pods. The flowers are yellow and stems are green. At Patancheru, ICPM 93003 flowers in about 79 d. Seeds are brown, with 100-seed weight of 10.8 g.

ICPM 93003 is a short-duration genetic male-sterile line with resistance to wilt and sterility mosaic diseases. This line is currently being used in developing short-duration disease-resistant pigeonpea hybrids and in the male-sterile based recurrent selection schemes at ICRISAT and other research programs in India.

Seed of ICPM 93003 is being maintained by the Genetic Enhancement Division of ICRISAT Asia Center and small samples are available upon request.

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References and Notes

1. ICRISAT, Patancheru 502 324, Andhra Pradesh, India. ICRISAT Journal Article no. JA 1978. Registration by CSSA. Accepted 30 Sept. 1997. *Corresponding author (k.saxena@cgnet.com).

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Selected Internet Resources

Updated versions of many resources are available through the Internet, among them the following sites likely to be helpful to *Crop Science* and crop registration authors and readers.

National Plant Germplasm System (NPGS), Germplasm Resources Information Network (GRIN), Plant Variety Protection (PVP)

<http://www.ars-grin.gov/npgs/> [home page]
<http://www.ars-grin.gov/npgs/searchgrin.html> [accessions;
 crop registrations, descriptors, taxonomy; PVP]
<http://probe.nalusda.gov:8000/related/aboutpvp.html>
 [Plant Variety Protection: search certificate status]
 telnet://fungi.ars-grin.gov [fungal pathogens:
 login LOGIN USER, password USER]
<http://www.ars-grin.gov/cgi-bin/npgs/html/csrlst.pl?>
 [Reg. no., PI no., pedigree, narrative, contacts]

Other Taxonomic Resources and Databases

<http://www.rbge.org.uk/forms/fe.html> [Flora Europaea
 database, at the Royal Botanic Gardens Edinburgh]
<http://trident.ftc.nrcs.usda.gov/plants/plntmenu.html>
 [PLANTS Database Access Table, NRCS]

American Phytopathological Society

<http://www.scisoc.org/resource/common/> [Common Names
 for Plant Diseases 1994, updated 1996]

Virus Identification Data Exchange (VIDE) Project

<http://biology.anu.edu.au/Groups/MES/vide/>
<http://image.fs.uidaho.edu/vide/> (*U.S. mirror site*)
 (virus genera, species, acronyms, host plant spp.)

CGIAR

<http://www.cgiar.org/> [home page]
<http://www.cgiar.org:80/centers.htm> [res. centers]

Soil Taxonomy

<http://www.statlab.iastate.edu:80/soils/osd/> [U.S. National
 Official Soil Series Descriptions; searches, FTP]
<http://res.agr.ca/CANSIS/index.html.html>
 [Canadian Soil Information System]

Geographic Information

<http://www-nmd.usgs.gov/www/gnis/index.html>
 [USGS Mapping Information: Geographic Names
 Information System (GNIS), USA only]
<http://www.dma.gov/gns/html/index.html> [Defense
 Mapping Agency: names and geographic coordinates
 for locations outside the USA]

Library Catalogs

telnet://opac.nal.usda.gov [National Agricultural Library
 ISIS catalog and journal article database]
<http://lcweb.loc.gov/z3950/gateway.html>
 [Library of Congress card catalog, with links]

Dissertations

<http://www.umi.com/> [University Microfilms
 International, Ann Arbor, MI: provides Diss.
 Abstr. numbers, with full title and location]