

greenhouse inoculation tests at IAC ranged from 11 to 20% in ICMA 88006 and from 40 to 42% in 81A. The general combining ability of ICMA 88006 for grain yield was similar to that of 81A (2).

Male sterility of ICMA 88006 has been observed to be stable across rainy and post-rainy seasons in India. ICMB 88006 is a moderate pollen producer. The stigmas of both lines remain receptive for 2 to 3 d, which is 1 to 2 d less than that of 81A. ICMA 88006 and ICMB 88006 set 80 to 90% seed on the main panicle. These lines have a purple leaf sheath base, while the stem base and internodes are green. Anther color is light brick-red. Panicles are semicompact, candle-shaped and short (16 cm). Seeds have globular shape and gray color.

Seed of ICMA 88006 and ICMB 88006 will be maintained by the Genetic Enhancement Division, ICRISAT Asia Center. Seed of these lines has been made available to several seed-producing agencies in India and to research programs worldwide. Small quantities of seed will be provided upon request.

K. N. RAI,* R. P. THAKUR, AND A. S. RAO (3)

References and Notes

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Registration of ICMR 501 Pearl Millet Topcross Pollinator Parental Line

ICMR 501 pearl millet [*Pennisetum glaucum* (L.) R. Br.] parental line (Reg. no. PL-33, PI 597491) was developed by ICRISAT (Int. Crops Res. Inst. for the Semi-Arid Tropics, Patancheru, India, and released on 15 July 1996. ICMR 501 was bred by random-mating 11 phenotypically similar inbred lines derived from Bold Seeded Early Composite (BSEC) (6) and the ICRISAT 1989 Potential R-Line Trial. ICMR 501 is the pollinator population of pearl millet grain hybrid GICH 501 (Jawahar Bajra Hybrid-1).

Nearly 280 inbred lines, derived by selfing five generations from the BSEC third-cycle bulk (BSEC C3), were included in an unreplicated nursery in the 1989 dry season (summer) and were evaluated for seed size and uniformity at maturity. They were also screened at the seedling stage in a greenhouse (3) for resistance to downy mildew [caused by *Sclerospora graminicola* (Sacc.) J. Schröt.] and grown under artificially extended daylength (14.7 h) in the summer of 1989, to eliminate late flowering lines. The 40 selected inbred lines (downy mildew incidence <10% and early flowering) were evaluated at multiple locations for phenotypic uniformity and early maturity in the 1989 rainy season. In the same season, they were also screened in the field for resistance to downy mildew (5). Eleven inbred lines that were most resistant to downy mildew (<10% incidence) in the greenhouse seedling test were randomly crossed in the 1990 dry season to produce 20 F₁ crosses.

In a second cycle of random mating during the 1990 rainy season, an equal quantity of bulk pollen was collected from 10 plants of each F₁ progeny. Twenty heads of each F₁ were used as female parents. Bulk seed obtained by mixing an equal quantity of seed from each F₁ female was designated Potential Restorer Line

Bold Seeded Early Composite Topcross Pollinator 1 (PRLBSEC TCP1). This line was later renamed ICMR 501 in the All India Coordinated Pearl Millet Improvement Project (AICPMIP) Trials.

ICMR 501 showed high and stable resistance to downy mildew in India. ICMR 501 was tested in the International Pearl Millet Downy Mildew Nursery in India (2). Across four locations over 3 yr (1993-1995), ICMR 501 had a mean downy mildew incidence of <1.0%, compared with 6.7% on stable resistant inbred P 7-4 (ICML 12) (4) and 80% on susceptible inbred 7042(S).

Approximately 80 S₁ lines were selected from ICMR 501 in the 1994 rainy season and selfed to produce 612 S₂ lines in 1995 dry season. These were evaluated for resistance to downy mildew in a greenhouse. Twenty-five families containing 180 S₂ lines with downy mildew incidence <10% were random mated to produce ICMR 501 (PRLBSEC TCP1) Nucleus Seed I.

Grain yield of ICMR 501 was 3825 kg ha⁻¹ at Patancheru, India (19° N lat), which was comparable to WC-C75 (3835 kg ha⁻¹). ICMR 501 flowers early (43 to 44 d to 50% flowering) and produces fertile hybrids on ICMA 1 (1) and other male-sterile lines having A₁ cytoplasm. It is phenotypically uniform and is a source of stable downy mildew resistance.

Panicles of ICMR 501 are of medium length (18 to 21 cm), compact to semicompact, and conical in shape. It has large seed (12 g 1000 seed⁻¹). It has a plant height of 128 to 181 cm, compared with 150 to 212 cm for WC-C75. ICMR 501 has a low frequency (approximately 20%) of plants with pubescent leaves.

Seed of ICMR 501 Nucleus Seed I has been made available to many public and private institutions in India and will be maintained by the Genetic Enhancement Division, ICRISAT Asia Center, Patancheru, India. A sample of the original seed stock is preserved in the ICRISAT genebank.

B. S. TALUKDAR,* A. M. RAO, P. P. PRAKASH BABU,
AND J. R. WITCOMBE (7)

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