REGISTRATION OF 'ICTP 8203' PEARL MILLET

'ICTP 8203' PEARL MILLET [Pennisetum glaucum (L.) R. Br.]

grain cultivar (Reg. no. 2; PI 537113) was developed by the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), Patancheru, Andhra Pradesh, India, from Togo germplasm. ICTP 8203 was first released in March 1988 by the Government of Maharashtra, and in December 1988 it was released as MP 124 (ICTP 8203) for cultivation in Maharashtra and Andhra Pradesh by the Central Variety Release Committee, Ministry of Agriculture, Government of India.

ICTP 8203 was produced by random mating five S₂ progenies of an Iniai (early-maturing) landrace originating from northern Togo. In the 1980 rainy season, 37 open-pollinated heads were selected from this landrace, which had been planted as border rows of late-maturing breeding lines in the ICRISAT cooperative nursery at Kamboinse, Burkina Faso. Seeds from these heads were grown as half-sib progenies at ICRISAT, and advanced by selfing to produce S₂ progenies, with visual selection for yielding ability and agronomic traits at each selfing generation. Ninety-nine S₂ progenies were evaluated in a replicated yield trial planted at Bhavanisagar (11° N Lat), Patancheru (18° N Lat), and Hisar (29° N Lat), India, in the 1982 rainy season. Five S₂ progenies were visually selected for high grain yield, and for similarity of plant height, maturity, and head type. These five progenies were crossed in a diallel fashion in the 1983 dry season, and aliquots of seed from the 10 crosses were bulked to make Togo-P8203.

Togo-P8203 was first evaluated in replicated yield trials conducted by ICRISAT at Patancheru (three tests), Hisar, and Bhavanisagar in the 1983 rainy season. It yielded 2.6 t ha⁻¹ of grain (18% more than ‘WC-C75’, the leading commercial open-pollinated cultivar in India). It was further multiplied by full-sib mating in the 1984 dry season. We selected 350 full-sib crosses on the basis of the parental plants which were visually evaluated for phenotypic similarity for plant height, grain size, and head length, girth, and shape. The crossed heads were harvested, threshed separately, and aliquots of grain bulked to reconstitute the cultivar. This cultivar, now named as ICTP 8203, was tested by the All India Coordinated Pearl Millet Improvement Project (IACPMIP) in 79 replicated trials for 3 yr (1984-1986), where it yielded 1.6 t ha⁻¹ of grain (4% less than WC-C75). However, in the 19 tests in Maharashtra it yielded 2.1 t ha⁻¹, 7% more than WC-C75; and in the 11 tests in Andhra Pradesh it yielded 1.5 t ha⁻¹, 11% more than WC-C75.

ICTP 8203 has large grain size (> 12 g 1000⁻¹) which is at least 50% higher than any open-pollinated cultivar previously released in India. It has a plant height of 1.5 to 1.6 m, and takes about 50 to 52 days to 50% flowering in Maharashtra and Andhra Pradesh. Its heads are of medium length (16-18 cm), compact to semicompact, and cylindrical to lanceolate with a slight tapering towards the tip. Glume color

References and Notes


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