

Early White is a white, flinty-grained, early-maturing mid-altitude population. It is moderately resistant to *E. turcicum*, *P. sorghi*, and MSV, and is short statured and lodging resistant. Early White required 68 d to 50% silk emergence across five mid-altitude locations in Cameroon and Nigeria in 1991, 4 d earlier than the medium-maturing check 'Kasai' and 6 d earlier than TZMSR. One cycle of full-sib and two cycles of half-sib family selection were performed in CIMMYT subtropical Population 34 in the Cameroon mid-altitudes under heavy natural leaf blight and rust infection. Recombinations were made from 26, 14, and 19 families in the respective cycles. Early flowering S_3 lines from the TZMSR population were testcrossed onto the improved Population 34, and 15 selected testcrosses were recombined to form Early White. Following three cycles of ear-to-row recombination and mild selection in the mid-altitude zone of Cameroon, 340 plants were selected and selfed in the MSV screening nursery. The population was reconstituted from more than 300 S_1 plants selected and recombined in the MSV screening nursery the following season.

Synthetic 4-White is a medium-statured, white-grained, varietal synthetic, intermediate between flint and dent, and classified as late maturing, requiring an average of 74 d to 50% silk emergence across the 1991 Nigeria and Cameroon mid-altitude test sites. It is resistant to *E. turcicum*, *P. sorghi*, and MSV, as well as to lodging. It is moderately resistant to ear rots. Synthetic-4 was the highest yielding open-pollinated variety in the mid-altitude trials of Cameroon and Nigeria in 1991, with 7.7 Mg ha⁻¹ at 150 g kg⁻¹ grain moisture, 1.0 Mg ha⁻¹ higher than the TZMSR derivatives. The varietal synthetic was formed by three generations of balanced recombination from 10 Cameroon mid-altitude white and yellow inbred lines: M87, M131, 87036, 88069, 89199, 89258, 89292-293, 89302, and 89310. These inbreds were extracted from TZMSR and crosses of TZMSR with East African mid-altitude germplasm. Synthetic-4 was screened in the MSV nursery and 350 plants were selfed. The following season, more than 300 S_1 plants were selected and recombined in the MSV nursery, and nonwhite kernels were removed.

The MSR-su sweet corn population is late maturing (comparable to TZMSR and Synthetic-4), with mixed yellow and white kernels. It is resistant to *E. turcicum*, *P. sorghi*, and MSV as well as to lodging. The population was derived by backcross transfer of the sugary-1 (*su-1*) gene from commercial sweet corn into tropical, mid-altitude, normal-endosperm maize. Donor parents were: two inbred lines from McCurdy Seed (one derived from 'Sugar Coated', the other not specified), Aristogold, IoChief, Spectacular (Callahan Enterprises), and the CIMMYT population Tuxpeño Dulce. The recurrent parents were, successively, TZMSR, and Cameroon Synthetics 2, 3, and 4. Selfing and selection for sugary-type kernels were performed after the first backcross generation (BC₁). Following the BC₃ generation, over 400 plants were selected and selfed in the MSV screening nursery. A bulk of BC₃- S_1 sugary-type kernels was planted in the MSV screening nursery, and over 300 selected plants were recombined to form the final MSR-su sweet corn population.

Small quantities of seed will be provided to crop researchers upon written request to the Maize Program Leader, IITA, PMB 5320, Ibadan, Nigeria. We ask that appropriate recognition of the source be given when this germplasm contributes to an improved cultivar or germplasm.

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References and Notes

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2. L.A. Everett, Dep. of Agronomy and Plant Genetics, Univ. of Minnesota, St. Paul, MN 55108; J.T. Eta-Ndu, M. Ndioro, and I. Tabi, IRA Bambui Stn., Box 80, Bamenda, Cameroon. Registration by CSSA. Accepted 28 Feb. 1994. *Corresponding author.

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Registration of ICML 22 Photoperiod Insensitive, Downy Mildew Resistant Pearl Millet Germplasm

ICML 22 (Reg. no. GP-30, PI.572474) pearl millet [*Pennisetum glaucum* (L.) R. Br.] germplasm line was released by the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) in November 1992. This line was derived from selfing and head-to-row selection for five generations in the downy mildew [caused by *Sclerospora graminicola* (Sacc.) J. Schröt.] nursery at ICRISAT Center, Patancheru, Andhra Pradesh, India, within accession IP 2696 from the Republic of Chad. This accession developed <10% incidence of downy mildew in the S_2 to S_5 generations (1). Line 7042-3-1-2-2-2, an S_5 selection from IP 2696, exhibited $\leq 6\%$ downy mildew incidence, compared to $\geq 70\%$ incidence in the susceptible controls. In multilocation tests conducted in 1982 and 1991 at locations in India having downy mildew, ICML 22 exhibited a mean of 4.1% downy mildew incidence. In tests at two locations in western Africa, ICML 22 was highly susceptible to downy mildew (58 to 100% incidence). Line 7042-3-1-2-2-2 was named ICML 22 in November 1992.

ICML 22 also had high levels of downy mildew resistance when inoculated with the three most aggressive isolates (Mysore, ICRISAT, and Aurangabad) from India. In India, it did not have differential levels of resistance with respect to pathogen population, inoculum concentration, or age at inoculation. This suggests that ICML 22 has a broad genetic base for resistance to Indian populations of the downy mildew pathogen.

ICML 22 is classified as photoperiod insensitive. At 13.6 h daylength, it flowered in 36.1 ± 1.1 d. At a reduced daylength of 9 h, it flowered in 37.4 ± 0.5 d, and at 17 h daylength, it flowered in 36.1 ± 0.4 d.

ICML 22 is a restorer line when crossed to 5141A (A₁ cytoplasm). It is early maturing (64 to 68 d), short (85 to 100 cm), and profusely tillering (3 to 6 reproductive tillers plant⁻¹); it produces short (7 to 11 cm), compact, cylindrical heads bearing medium sized (7.3 g 1000 grain⁻¹), gray-brown, obovate seeds.

ICML 22 is a valuable germplasm source for photoperiod insensitivity and resistance to certain isolates of *S. graminicola*. ICML 22 is currently being used in ICRISAT as a source of earliness, photoperiod insensitivity, and downy mildew resistance for producing early maturing pollinators.

Seed of ICML 22 will be maintained and distributed by the Cereals Program, ICRISAT, Patancheru, AP 502 324, India. A sample of the original seed is permanently preserved in the ICRISAT gene bank.

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References and Notes

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