Registration of LAMD 609 Tobacco Germplasm

LAMD 609 (Reg. no. GP-52, PI 599689) is a germplasm line of Maryland tobacco (Nicotiana tabacum L.) developed by the Maryland Agricultural Experiment Station and released in 1994 (1). LAMD 609 is a genetically stable breeding line with an extremely low alkaloid content. This line will offer new germplasm for developing improved breeding material in Maryland tobacco with varying levels of total alkaloids for the mid-Atlantic region.

LAMD 609 originated from a 1970 cross between 'MD 609' (4) and LA Burley 21 (3). The backcross breeding method was used to incorporate the two nonlinked, low-alkaloid genes (2) from LA Burley 21 into the standard MD 609 cultivar. After six backcross cycles with MD 609 as the recurrent parent and five generations of self-pollination, LAMD 609 was released as a stable line in the BC6F5 generation.

In a 2-yr (1991 and 1992) field study with four replications at the Upper Marlboro Facility of the Central Maryland Research and Education Center, LAMD 609, MD 609, and LA Burley 21 were evaluated for agronomic performance and chemical content. Averaged over the 2 yr, LAMD 609 had a total alkaloid content of 0.06%, compared with 1.93% for MD 609. Total N content was similar, with LAMD 609 and MD 609 producing levels of 3.80 and 4.01%, respectively. Additional chemical analyses of cured leaf samples obtained from a separate field planting in 1991 indicated that the primary alkaloid in LAMD 609 and MD 609 was nicotine, with a small trace of secondary alkaloids. In the 2-yr study, LAMD 609 had a lower yield per hectare (1542 kg) than MD 609 (1978 kg). The quality index of 25 for LAMD 609 was 51.6 value observed for MD 609. The lower yield in part, to a higher percentage of undesirable green color in the cured leaf. LAMD 609 and MD 609 had similar maturity, with both lines flowering approximately 70 d after transplanting.

Additional information on the development and performance of both lines flowering approximately 70 d after transplanting. LAMD 609 has been published (1).

Breeder seed of LAMD 609 will be maintained by the Maryland Agricultural Experiment Station. Small quantities of seed for breeding purposes may be obtained from the Maryland Tobacco Improvement Foundation, Reynolds Tobacco Co.

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REGISTRATION OF PARENTAL LINES

Registration of ICMP 85410: Dwarf, Downy Mildew Resistant, Restorer Parental Line of Pearl Millet

ICMP 85410 pearl millet [Pennisetum glaucum (L.) R. Br.] (Reg. no. PL-36, PI 597490) is the restorer line of the single-cross grain hybrid ICMP 85410 (ICMA 2/ICMP 85410). It was developed by the Genetic Enhancement Division, International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) Asia Center (IAC), Patancheru, India, and released on 21 December 1994.

ICMP 85410 is a d2d2 dwarf inbred pollinator derived from one cycle of recurrent selection for combining ability within an F2 population obtained from the cross ICP 165/ICP 220. Two male-sterile lines, ICMA 1 (1) and ICMA 2 (2), were used as testers for combining ability. Selected progenies were screened for dwarf mildew resistance in a greenhouse for a period of 3 mo from 1141 to 1692 kg ha⁻¹. Mean grain yield from 1141 to 1692 kg ha⁻¹. Mean grain yield (10.7 cm) and flowers 56 to 64 d after sowing. It has 16% lower than ICMP 423 (5). It has dwarf height (95 to 107 cm) and flowers 56 to 64 d after sowing. It has 16% lower than ICMP 423 (5). It has dwarf height (95 to 107 cm) and flowers 56 to 64 d after sowing. It has 16% lower than ICMP 423 (5).

ICMP 85410 is an inbred restorer line with the S₅ selection, (ICP 165/ICP 220)-64, in the S₅ generation by the bulk pedigree method. It is a good parent for producing improved families. Hybrid ICMP 85410 was multiplied in isolation using ICMA 2 as the male-sterile line. The progeny was advanced up to the ICRISAT Pollinator Collection (IPC) and assigned IPC number 7036.

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