Registration of Germplasms

REGISTRATION OF ALFALFA GERMPLASMS
NMP-11, NMP-12, AND NMP-13 RESISTANT TO
THE COMMON LEAF SPOT FUNGUS
PSEUDOPEZIZA MEDICAGINIS (LIB.) SACC.

ALFALFA (Medicago sativa L.) germplasms NMP-11, (Reg. no. GP134), NMP-12 (Reg. no. GP135), and NMP-13 (Reg. no. GP136) were developed by USDA/ARS in cooperation with the Nevada Agricultural Experiment Station. They were released in 1982. Evaluation and selection for resistance to common leaf spot [caused by Pseudopeziza medicaginis (Lib.) Sacc.] was conducted at Salinas, California.

NMP-11, NMP-12, and NMP-13 were developed from blends of approximately equal quantities of seed from Plant Introduction numbers as follows: 1) NMP-11—196233, 196247, 209091, 262550, 277425, 292773, and 302929 (all resistant to Pseudopeziza medicaginis); 2) NMP-12—167263, 196228, 204460, 251205, 251689, 251830, 287884, 287886, and 341814 (all resistant to Phoma medicaginis Malb. and Roum); and 3) NMP-13—182239, 196225, 253445, 255962, 260246, 300578, and 384507 (all resistant to the above two pathogens). Each blend underwent three successive cycles of phenotypic recurrent selection for resistance using an evaluation procedure similar to that described by Barnes, et al (1). The procedure differed in that both defoliation and leaf spot severity were used as criteria for discriminating among classes 2 through 5. Plants were rated on a 1 to 5 scale where 1 = plants without leaf spots and 5 = plants with leaf spots causing severe defoliation extending into the upper canopy.

Selected plants were returned to Reno, Nev. following each cycle of selection and they were intercrossed by hand in the greenhouse. Additional Syn 1 seed of each germplasm was produced in field isolation cages with leafcutting bee pollinators [Megachile rotundata (F.)].

Average severity indices (ASI) for NMP-11, NMP-12, NMP-13, ‘Ramsey’ (resistant check) and ‘Lahontan’ (susceptible check) were 1.8, 2.3, 1.7, 2.5, and 2.8 respectively. Percentages of resistant plants for those same respective alfalfa germplasms and cultivars were 80, 67, 98, 55, and 41. Five gram samples of NMP-11, NMP-12, and NMP-13 seed will be provided each applicant upon request. We ask that appropriate recognition be made by revealing the source of a germplasm when it contributes to the development of a new cultivar, hybrid, or breeding line. Seed stocks will be maintained by the USDA/ARS, College of Agriculture, Room 323A, Univ. of Nevada, Reno, NV 89557.

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REGISTRATION OF CUSN-242 CLS, CUSN-242 CLS
CLIMATE, ALFALFA (Medicago sativa L.) germplasm was released in 1982 by the USDA/ARS, Reno, Nev.; Department of Agronomy and Range Science, University of California, Davis; and the University of Nevada Agricultural Experiment Station. It is a non-dormant germplasm with resistance to common leaf spot (caused by Pseudopeziza medicaginis (Lib.) Sacc.).

CUSN-242 CLS traces to 9 germplasm sources (1) in approximately the following percentages: M. falcata 1, ‘Ladak’ 4, ‘Lahontan’ 3, Turkistan 12, Flemish 1, Chilean 26, Peruvian 1, Indian 19, and African 36.

Mean percentages of resistant plants selected 4 in a natural field epiphytotic of common leaf spot at Salinas were 23, 52, 18, 0, and 0 of CUSN-242 CLS, ‘Moapa 69’, and ‘Washington’. Percentages of resistant plants for the same respective alfalfa germplasms and cultivars were 3.43, 2.54, 3.46, 4.75, and 3.92 (LSD 0.05 = 0.48). Seed of an intercross from the last cycle of selection produced in 1982 will be distributed.

Five grams of fourth cycle CUSN-242 CLS seed will be distributed upon written request and agreement to make appropriate recognition of its source as a matter of open data. Seed stock will be released upon written request and agreement to make appropriate recognition of its source as a matter of open data. Seed stock will be returned to Salinas, California. The parentage of CUSN-242 CLS is derived from UC PX 1971 and UC Cibola which were intercrossed in one cage at El Centro, Calif. by honeybees (Apis mellifera L.). The first cycle of selection produced 15 plants of the former and nine of the latter. They were again intercrossed, and seed was returned to Salinas for the third and fourth cycles of selection. Approximately 125 plants were selected from the two combined cultivars for each of the latter. Cultivars for each cycle of selection consisted of 38 plants of UC PX 1971 and UC Cibola which were intercrossed in one cage at El Centro, Calif. by honeybees (Apis mellifera L.). The first cycle of selection produced 15 plants of the former and nine of the latter. They were again intercrossed, and seed was returned to Salinas for the third and fourth cycles of selection. Approximately 125 plants were selected from the two combined cultivars for each of the latter. Cultivars for each cycle of selection consisted of 38 plants of UC PX 1971 and UC Cibola which were intercrossed in one cage at El Centro, Calif. by honeybees (Apis mellifera L.).

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References and Notes