germplasm contributes to the development of a new cultivar or hybrid. Submit seed requests to the Dep. of Agronomy, Univ. of Nebraska, Lincoln, NE 68583.


References and Notes
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REGISTRATION OF N.S. 83, N.S. 84, N.S. 85, N.S. 89, N.S. 90, AND N.S. 91 ALFALFA GERMPLASMS THAT INVOLVE FOREIGN PLANT INTRODUCTIONS

N.S. 83 (Reg. no. GP 172), N.S. 84 (GP 173), N.S. 85 (GP 174), N.S. 89 (GP 175), N.S. 90 (GP 176), and N.S. 91 (GP 177) winter-hardy alfalfa germplasms (Medicago sativa L.) were released by the Nebraska Agricultural Experiment Station and USDA-ARS 6 Mar. 1984. They provide germplasm that involves foreign plant introductions.

N.S. 83 was developed by hand-crossing at random among 54 plants (one to three plants from each of 29 Plant Introductions) that were above average in vigor and erect fall growth habit in November 1978 in a nursery established at the Mead Field Laboratory, Mead, NE, in 1976. N.S. 84 was developed by hand-crossing each of the 54 parental plants of N.S. 83 as female parents with each of five plants chosen at random as male parents from Phytophthora root rot (caused by Phytophthora megasperma Drechs. f. sp. medicagoe Kuan and Erwin) resistant plants selected at the Minnesota Agricultural Experiment Station from three broad-based Nebraska synthetics (N.S. 77, N.S. 78, and N.S. 79 SN2AN3) developed for resistance to stem nematode [Ditylenchus dipsaci (Kühn) Filipjev] and anthracnose (caused by Colletotrichum trifolii Bain) in cooperation with the Nevada Agricultural Experiment Station.

N.S. 85 was developed by interpollination among 20 seedling plants from each of 32 Plant Introductions that had the highest vigor and stand in June 1977 at the Regional Plant Introduction Station, Ames, IA, in plots transplanted from 1973 to 1977.

N.S. 89, N.S. 90, and N.S. 91 were developed by hand-crossing 'Paine' (a variety developed in Argentina with high resistance to pea aphid [Acyrthosiphon pisum (Harris)] and adapted to the central area of the Pampeana region) with three broad-based Nebraska synthetics N.S. 78 SN2AN2, N.S. 79 SN2, and N.S. 82 P2, respectively, developed for resistance to stem nematode, anthracnose, and Phytophthora root rot.

Two-year average forage yield of N.S. 83 and N.S. 84 were 95 and 94%, respectively, of the average of four check cultivars 'Baker', 'Dawson', 'Riley', and 'Vernal' in a yield test at Mead. Rates of recovery after cutting were 2.0, 2.5, 3.8, and 4.3 for N.S. 83, N.S. 84, 'Perry', and Vernal, respectively, on a visual scale of 1 to 9 with 1 = fastest and 9 = slowest. Fall growth habits were 3.5, 4.2, 5.5, and 6.2 for N.S. 83, N.S. 84, Perry, and Vernal, respectively, on a visual scale of 1 to 9 with 1 = erect and 9 = prostrate.

In seedling tests conducted in Nebraska, percentages of plants resistant to pea aphid in N.S. 83, N.S. 84, Dawson, and Vernal were 28, 34, 60, and 1%, respectively; and percentages of plants resistant to spotted alfalfa aphid [Theroaphis maculata (Buckton)] biotypes collected in Nebraska were 0, 5, 30, and 0%, respectively, for corresponding entries.

Forage yields of N.S. 85, N.S. 89, N.S. 90, and N.S. 91 were 94, 96, 99, and 104%, respectively, of the average of four check cultivars Baker, Dawson, Riley, and Vernal in 1982 in a yield test seeded in 1981 at Mead. Rates of recovery after cutting were 2.2, 3.8, 4.2, 3.8, 3.0, and 3.5 for N.S. 85, N.S. 89, N.S. 90, N.S. 91, Perry, and Vernal, respectively. Fall growth habits were similar for all six entries. In seedling tests conducted in Nebraska, percentages of plants resistant to pea aphids in N.S. 83, N.S. 85, N.S. 89, N.S. 90, N. 91, Dawson, and Vernal were 18, 58, 70, 60, 66, and 7%, respectively; and percentages of plants resistant to spotted alfalfa aphid biotypes collected in Nebraska in N.S. 85, N.S. 89, N.S. 90, N.S. 91, Dawson, and Vernal were 2, 26, 49, 44, 32, and 0%, respectively.

Ten grams of seed of N.S. 83, N.S. 84, N.S. 85, N.S. 89, N.S. 90, and N.S. 91 are available to each applicant upon written request and agreement to appropriately recognize its source as a matter of open record when this germplasm contributes to the development of a new cultivar or hybrid. Submit seed requests to the Dep. of Agronomy, Univ. of Nebraska, Lincoln, NE 68583.

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References and Notes
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REGISTRATION OF N.S. 76 P2PA1 AND N.S. 86 ALFALFA GERMPLASMS RESISTANT TO POTATO LEAFHOPPER YELLING

N.S. 76 P2PA1 (Reg. no. GP 178) and N.S. 86 (GP 179) winter-hardy alfalfa germplasms (Medicago sativa L.) were released by the Nebraska Agricultural Experiment Station and USDA-ARS 6 Mar. 1984. They provide resistance to potato leafhopper yellowing [caused by Empoasca fabae (Harris)].

N.S. 76 was developed by interpollination among 76 plants (38 selected from 'Team' and 38 from 'Weevchek'). The plants were selected for resistance to foliar diseases, potato leafhopper yellowing, and virus symptoms from 1969 to 1970, and seed yield in 1970. Two cycles of phenotypic recurrent selection for resistance to Phytophthora root rot (caused by Phytophthora megasperma Drechs. f. sp. medicaginis Kuan and Erwin) were conducted in cooperation with the Minnesota Agricultural Experiment Station followed by one cycle of selection for resistance to pea aphids [Acyrthosiphon pisum (Harris)], at the Nebraska Agricultural Experiment Station.

N.S. 86 was developed by hand-crossing 63 plants at random. The plants were selected for resistance to foliar diseases, anthracnose (caused by Colletotrichum trifolii Bain), and potato leafhopper yellowing, and above-average height and vigor. The germplasm sources were 'Baker', N.S. 75, N.S. 79, 'Kanza', and MSB-2 with relative contributions of 15, 51, 16, 6, and 12%, respectively. N.S. 75 and N.S. 79 are broad-based synthetics developed from three or four cycles of selection for pest resistance and vigor.