Registration of Germplasms

REGISTRATION OF KS77 ALFALFA
GERMPLASM1
(Reg. No. GP 94)

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KS77 alfalfa [Medicago sativa L.] was released by the Kansas Agric. Exp. Stn. and FR-SEA-USDA in November 1977. It provides resistance to Phythophthora root rot [Phytophthora megasperma Drechs.], downy mildew [Peronospora trifoliorum d By.], anthracnose [Colletotrichum trifolii Bain], pea aphid [Acyrthosiphon pisum (Harris)], and spotted alfalfa aphid [Theroaphis maculata (Buckton)] in one germplasm pool.

KS77 was derived from ‘Arc’ alfalfa by recurrent phenotypic selection in the seedling stage. Successive elimination under controlled conditions in the laboratory included one cycle of selecting for resistance to Phythophthora root rot, two cycles for downy mildew, and three cycles each for the pea aphid and spotted alfalfa aphid. More than 75 resistant plants were used to initiate each cycle. Eighty-three plants for the last cycle were intercrossed by hand in the greenhouse to produce syn 1 seed. Syn 2 seed was produced in an isolated field plot.

Based on percentage resistant plants in a field test at St. Paul, MN, KS77 has a level of Phythophthora root rot resistance about equal to that of ‘Agate’: KS77 = 31%, Agate = 34%, and ‘Saranac’ = 2%. Resistance to downy mildew, in a severe seedling test under controlled conditions in the laboratory, was 235 percent that of Saranac, which shows a high level of field resistance (KS77 = 43%, Arc = 7%, Saranac = 18%, and ‘Kanza’ = 1% resistant). Under field conditions at Manhattan, KS, anthracnose resistance of KS77 and Arc did not differ (a0.05) = 1.7; rated 1 = least to 9 ___ most damage).


REGISTRATION OF COTTON GERMPLASM
LINES, CA 1020 LT-76B AND CA 1371 LT-76B
(Reg. No. GP 37 and GP 45)

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Beginning in 1972 and continuing through 1976, two experimental lines of cotton (Gossypium hirsutum L.) have been evaluated each year for fruiting and fiber development under varying night temperature regimes. Temperatures of 13, 25, and 37 °C were maintained in field growth chambers which were mounted on tracks so they could be moved off the plots during daylight hours (2).

Two experimental lines, CA 1020 LT-76B and CA 1371 LT-76B, (GP 38), showed an insensitive temperature relative to other entries, with standard cultivars in addition to the experimental materials, showing increased cotton fiber fineness parameter with high temperature (3).