Registration of Germplasms

REGISTRATION OF KS77 ALFALFA GERMPLASM
(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 Phytophthora 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 Phytophthora 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 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 Phytophthora root rot resistance about equal to that of 'Agate': KS77 = 91%, Agate = 94%, and 'Saranac' = 78%. Resistance to downy mildew, in a severe seedling test under controlled conditions in the laboratory, was 98 percent that of Saranac, which shows a high level of field resistance (KS77 = 93%, Arc = 96%, Saranac = 89%, and 'Kanza' = 8% resistant). Under field conditions at Manhattan, KS, anthracnose resistance of KS77, Arc did not differ significantly (KS77 = 3.0, Arc = 2.5, Saranac = 5.0; L.S.D. = 1.7; rated 1 = least to 9 ___ most damage).

Seed of KS77 is being multiplied through the breeder, foundation, and certified seed classes. Breeder seed is being maintained by the Agriculture Research Station at Lethbridge, Alberta. Seed stocks of KS77 syn 2 will be maintained by the Dep. of Agronomy, Kansas State Univ., Manhattan, KS 66506; plant pathologist, J. R. Gipson; entomologist, L. L. Ray; and the Agronomy and Entomology, Kansas State Univ., Kansas Agric. Exp. Stn., Manhattan, KS 66506.

REGISTRATION OF COTTON LINES, CA 1020 LT-76B AND CA 1371 LT-76B
(Reg. No. GP 37 and GP 38)
J. R. Gipson and L. L. Ray

Beginning in 1972 and continuing through 1977, 12 experimental lines of cotton (Gossypium hirsutum L.) have been evaluated each year for fruiting and fiber quality under varying night temperature regimes. Three temperature regimes were applied, each of which was maintained by air-conditioning chambers which were mounted on tracks so they could be rolled off the plots during daylight hours (1). In an irrigated trial at Manhattan, KS, 2-year yields of KS77 and Arc did not differ significantly after cutting and fall growth habit of KS77 was similar during the year of establishment.

Seed stocks of KS77 syn 2 will be maintained by the Dep. of Agronomy, Kansas State Univ., Manhattan, KS 66506; plant pathologist, J. R. Gipson; entomologist, L. L. Ray; and the Agronomy and Entomology, Kansas State Univ., Kansas Agric. Exp. Stn., Manhattan, KS 66506.