Registration of Crop Cultivars

REGISTRATION OF ‘WRANGLER’ ALFALFA

‘WRANGLER’ alfalfa (Medicago sativa L.) (Reg. no. 142) was developed cooperatively by the USDA-ARS and the Nebraska and Minnesota Agricultural Experiment Stations. It was tested as N.S. 79 P2 and released jointly with the Colorado, Kansas, Minnesota, and Wyoming Agricultural Experiment Stations in March 1985.

Wrangler was developed by conducting two cycles of recurrent phenotypic selection for phytophthora root rot resistance at St. Paul, MN, in the population N.S. 79. Approximately 100 plants were recombined at Lincoln, NE, after each cycle of selection. The N.S. 79 population resulted from combining 112 plants selected for pest resistance and vigor in winterhardy germplasm from the Nebraska USDA and Agricultural Experiment Station breeding program. The estimated genetic constitution of Wrangler is: 5% M. falcata, 5% ‘Ladak’, 20% M. varia, 65% Turkistan, and 5% Chilean. Four plant introductions (PI’s 197298, 206278, 207494, and 234205) were included in the parentage.

Wrangler has high resistance to phytophthora root rot (caused by Phytophthora megaspora Drechs. f. sp. medicaginis Kuan and Erwin) compared with resistance in ‘Agate’. It has high resistance to pea aphid [Acyrthosiphon pisum (Harris)], similar to that of ‘Dawson’ and ‘Kanza’. It has high resistance to biotypes of the spotted alfalfa aphid [Theloapphis maculata (Buckton)] collected in Nebraska, compared with resistance in Dawson and Kanza. Wrangler has resistance to bacterial wilt [caused by Corynebacterium insidiosum (McCull.) H.L. Jens.], similar to that of ‘Vernal’. It has resistance to fusarium wilt (caused by Fusarium oxysporum Schlecht. f. sp. medicaginis (Weimer) Synd. and Hans.), compared with high resistance in ‘Agate’. It has moderate resistance to downy mildew, (caused by Peronospora trifoliorum B. By.), and to potato leafhopper yellowing [Empoasca fabae (Harris)], similar to that of Vernal. It has low resistance to verticilium wilt (caused by Verticillium alboatrum Reinke and Berth). Wrangler has low resistance to anthracnose (caused by Colletotrichum trifolii Bain), under field conditions, similar to that of ‘Baker’ and ‘Riley’. Reaction to stem nematode [Ditylenchus dipsaci (Kuhn) Filipjev] is unknown.

Wrangler is a winterhardy cultivar adapted and intended for use in the North Central states and adjacent area. It was tested for forage yields in eight North Central states, Colorado, and Wyoming, and for seed yields in California and Idaho.

Seed increase is limited to one generation each of breeder, foundation, and certified seed. Certified seed (syn-3 or 4) may be grown only from breeder (syn-2) or foundation (syn-3) seed. The length of stand in years is breeder 2; foundation 3 (with a 4th yr optional depending on breeder approval); and certified 6. Enough breeder seed for the anticipated life of the cultivar is in cold storage at the Nebraska Agricultural Experiment Station. Foundation seed is available from the Nebraska Foundation Seed Division, 3115 N. 70th, Lincoln, NE 68507. Certified seed was available in the spring of 1985.

Wrangler was favorably reviewed by the National Certified Alfalfa Variety Review Board at the December 1984 meeting. Application was made for plant variety protection under the certification provision.


References and Notes:
1. Research agronomist (retired), USDA-ARS, and professor of agronomy, Univ. of Nebraska, Lincoln, NE 68583; research geneticist and research plant pathologist (deceased), USDA-ARS, Univ. of Minnesota, St. Paul, MN 55108; research entomologist, USDA-ARS, and professor of entomology, assistant professor of agricultural biochemistry, Univ. of Nebraska, Lincoln, NE 68583. Cooperative investigations between Nebraska Agric. Exp. Stn. and the USDA-ARS. Published with the approval of the director as Paper no. 7274, Journal Series, Nebraska Agric. Exp. Stn. Research reported was conducted under project no. 12-003, 15-003, and 17-031. Registration by the Crop Sci. Soc. of Am. Accepted 29 Nov. 1985.

REGISTRATION OF ‘DES 119’ COTTON

‘DES’ 119’ cotton (Gossypium hirsutum L.) (Reg. no. 88), was developed at the Delta Branch, Mississippi Agricultural and Forestry Experiment Station, Stoneville, MS, and released in 1985. DES 119 originated from a cross between ‘DES 24’ (Reg. no. 69 and P.V. no. 7800040) and DES 2134-047, DES 2134-047 is a sister line of ‘DES 56’ (Reg. no. 70 and P.V. no. 7800041). DES 119 is from a single plant selection in the F2 generation and a subsequent reselection in the F3 generation. DES 119 was previously evaluated as a strain designated as DES 11913.

DES 119 is an early maturing, rapid fruiting cotton that possesses a semicluster or short-fruiting branch plant structure. The fruiting branches of DES 119 are shorter and the plants are more compact than those of ‘DES 422’ (Reg. no. 80 and P.V. no. 81000170). DES 119 has a significantly higher lint percentage, longer and stronger fiber, and a higher fiber elongation and micronaire value than DES 422. The boll and seed size of DES 119 are approximately the same as those of DES 422. In 27 Mississippi tests (1982 to 1984), DES 119 has averaged 8% higher lint yields than DES 422 and was consistently higher in all 27 tests. It has also shown less fusarium wilt symptoms [caused by Fusarium oxysporum Schlecht. f. vasinfectum (Atk.) Synd. and Hans.] than DES 422 in the Regional Fusarium Wilt Nursery at Tallahsee, AL, and more resistance to Heliotis spp. than DES 422 at Stoneville, MS. DES 119 has also shown the ability to produce higher yields than DES 422 in the presence of the tarnished plant bug [Lygus lineolaris (Palisot de Beauvois)] at Stoneville.

DES 119 is adapted primarily to conditions of the Mississippi Delta, but data from other states (Arkansas, Louisiana, Tennessee, and Texas) shows it has wide adaptability. Mississippi Foundation Seed Stocks will produce foundation seed for sale to breeding firms and individuals meeting all requirements of the Mississippi Agricultural and Forestry Experiment Station and the Mississippi Seed Improvement Association.

Breeder seed will be maintained by the Delta Branch, Mis-