In the main area of winter wheat production in South Dakota (Presho), Nell out-yielded ‘Scout 66’ and ‘Centurk’ by 2 and 30%, respectively, over 3 years. In the northern range of this area it exceeded Scout 66 and Centurk in yield by 15 and 34% (Wall) and 23 and 22% (Redfield), respectively, over 2 years. Nell was similar in winterhardiness to these two cultivars and, also, was 2 to 3 cm shorter in height than either one. Its heading date was similar to the heading date of Scout 66. For test weight Nell equaled Scout 66. Its mixing time was between Centurk and Scout 66.

Nell resists the prevalent races of the organism causing stem rust (*Puccinia graminis* Pers. f. sp. *tritici* Eriks. and E. Henn.) and possesses genes $S_r$ 7B and $S_r$ 17 along with a possible unknown gene. It is susceptible to the leaf rust organism (*Puccinia recondita* Rob. ex Desm. f. sp. *tritici*), the wheat streak mosaic virus, and the Hessian fly (*Mayetiola destructor* Say.).

Its spikes are awned, white glumed, mid-long, mid-dense, fusiform, and nearly erect. The glumes are glabrous, narrow to mid-wide with narrow, oblique shoulders. The beaks of the glumes are acuminate and 2 to 4 mm long. The kernel is mid-long, and ovate; the germ is mid-sized; the endosperm is deep and mid-wide; the brush is mid-sized and white.

Nell was named and released by the South Dakota Agricultural Experiment Station in 1981. Breeder seed will be maintained by the Foundation Seed Stocks Div., South Dakota State Univ., Brooks, SD 57007. Nell is not being patented.

D. G. Wells, J. J. Bonnemann, W. A. Cowling, S. Bohling, and W. L. Green

Reference and Notes

1. Professor, assistant professor, and professor, Plant Science, Agronomy Ser. 1982. Breeder seed will be maintained by the Foundation Seed Stocks Div., South Dakota State Univ., Brooks, SD 57007 and supervisory research marketing res. lab., USDA-ARS, 1515 College Ave. M. S. Gowning and research agronomist and extension economist, West D. Ext. Ctr., Rapid City, SD 57001, respectively. Registration of germplasm is unknown when this germplasm contributes to the development of either of new cultivar, hybrid, or alfalfa. Request seed from the Dep. of Agronomy and Range Science, Univ. of California, Davis, CA 95616.


References and Notes


3. Assistant professor, Dep. of Agronomy and Range Science, Dep. of Plant Pathology, staff research associate, former research assistant, Dept. of plant pathology, and staff researcher, Agronomy and Range Science, Univ. of California, Davis, CA 95616. Registration by Crop Sci. Soc. of Am. Cooperative investigation of Agronomy and Range Science and Plant Pathology.

Registration of Germplasms

UC 1249 AND UC 1250, STEMPHYLIUM LEAFSPOT RESISTANT ALFALFA GERMPLASM

ALFALFA (*Medicago sativa* L.) germplasm pools UC 1250 (Reg No. GP128) [tested as UCSTB-13] and UC 1249 (Reg. No. GP127) [tested as UCSTB-1(M69)] were released by the Departments of Agronomy and Range Science and Plant Pathology, University of California, Davis in March 1982. Both germplasm pools possess high levels of resistance to *Stemphylium botryosum* (cool-temperature biotype) (1). They were developed by phenotypic recurrent selection. The first and second cycle seed of UC 1250 and the first cycle seed of UC 1249 were produced by intercrossing resistant plants by hand pollination (without emasculation) in a greenhouse. The next (final) cycle seed of each germplasm pool was produced in cages using leaf cutter and honey bees as pollinators.

UC 1250 was derived from 60 symptom-free (disease severity score of 1) plants selected out of 200 plants from each of seven cultivars representing a range in fall dormancy. The numbers of plants selected from each cultivar were ‘Lew’, 4; ‘Lahontan’, 9; ‘CUF 101’, 3; ‘UC Cargo’, 7; ‘Moapa 69’, 8; ‘SW-44’, 15 and ‘Saranac’, 14. Cycles two and three were developed from 65 and 86 symptom-free plants, respectively.

UC 1249 was initiated by intercrossing the eight plants selected from Moapa 69 which contributed to UC 1250. Cycle two was developed from 49 resistant Cycle 1 plants.

UC 1250 and UC 1249 were evaluated for resistance to *Stemphylium botryosum* (cool-temperature biotype) simultaneously under the same high disease severity conditions used during selection. The next (final) cycle seed of each germplasm pool was produced in cages using leaf cutter and honey bees as pollinators.

In tests conducted at Beltsville, Md., percentages of plants resistant to *Stemphylium botryosum* for UC 1250 and UC 1249 had ASI’s of 3.47 and 3.40 and 16 resistant plants, respectively. Reaction to other pests and disease of UC 1250 and UC 1249 are unknown.

EUAN-5 ALFALFA GERMPLASM

EUAN-5 alfalfa (*Medicago sativa* L.) (Reg. No. GP129) germplasm was released by the New Mexico Agricultural Experiment Station in September 1982. It was released primarily as a non-dormant source of resistance to races 1 and 2 of anthracnose caused by *Colletotrichum trifolii* Bain, but also has useful levels of resistance to other pests.