recurrent selection among spaced plants during four years at the Mead Field Laboratory, Mead.

Two-year average forage yields of N.S. 93 were 107% of BIC-7 and 109% of the average yield of six check cultivars in a yield test at Mead. In the same test, N.S. 94 yielded 15% more than NC-83-1 and the average yields of check cultivars by 6% and 12%, respectively. Similarly, N.S. 95 yielded 15% more than NC-83-2 and 12% more than the average of the check cultivars.

Seedling tests for resistance to pea aphid (*Acyrthosiphon pisum* (Harris)) and spotted alfalfa aphid (*Therioaphis maculata* (Buckton)) were conducted in Nebraska. Percentages of plants resistant to pea aphids in N.S. 93, BIC-7, N.S. 94, NC-83-1, N.S. 95, NC-83-2, 'Dawson', and 'Vernal' were 65, 20, 12, 18, 13, 36, and 0%, respectively. Percentages of plants resistant to spotted alfalfa aphid biotypes collected in Nebraska in N.S. 93, BIC-7, N.S. 94, NC-83-1, N.S. 95, NC-83-2, Dawson, and Vernal were 4, 15, 26, 21, 25, 16, 40, and 0%, respectively.

Ten grams of seed of N.S. 93, N.S. 94, and N.S. 95 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.

W. R. KEHR and G. R. MANGLITZ (3)

References and Notes


3. Research agronomist (retired), USDA-ARS and professor of agronomy, Dep. of Agronomy, and research entomologist, USDA-ARS and professor of entomology, Dep. of Entomology, Univ. of Nebraska, Lincoln, NE 68583. Published with the approval of the director of the Nebraska Agric. Exp. Stn. as Journal Article no. 7251. Registration by the Crop Sci. Soc. of Am. Accepted 24 Apr. 1984.

REGISTRATION OF N.S. 62, N.S. 66, N.S. 67, AND N.S. 80 YELLOW-FLOWERED ALFALFA GERMPLASMS

N.S. 62 (Reg. no. GP 185), N.S. 66 (GP 186), N.S. 67 (GP 187), and N.S. 80 (GP 188) winter-hardy alfalfa germplasms (*Medicago sativa* L.) were released by the Nebraska Agricultural Experiment Station and USDA-ARS 6 Mar. 1984. They provide yellow-flowered genetic marker germplasms.

N.S. 62, N.S. 66, N.S. 67, and N.S. 80 were developed from yellow-flowered plants selected from 'Vernal' at the Nebraska Agricultural Experiment Station in 1965 from a pasture seeded in 1954 at Lincoln, NE.

N.S. 62 is a synthetic produced from 12 clones that averaged 60% or higher cross-pollination for 2 years in a nursery at Lincoln that had 50 yellow-flowered and 122 purple- or blue-flowered clones.

N.S. 66 is a synthetic produced from 10 clones with the highest seed yields of all yellow-flowered clones in a nursery at Fresno, CA.

N.S. 67 is a synthetic produced from 14 S$_2$ clones that averaged 70% or higher cross-pollination for 2 years in a nursery at Mead, NE, where yellow-flowered clones and their S$_2$ progenies were established in alternate rows with purple- or blue-flowered plants.

N.S. 80 is a synthetic produced from nine S$_2$ clones that averaged 55 to 80% (mean of 69%) cross-pollination for 2 years in a nursery at Mead where yellow-flowered S$_2$ progenies were established in alternate rows with purple- or blue-flowered plants.

Two-year average forage yields of N.S. 62, N.S. 66, and N.S. 67 were 94, 99, and 100% of those of Vernal, respectively, at Mead. Two-year average seed yields of N.S. 62 and N.S. 66 were 96 and 98%, respectively, of those of Vernal at Fresno. At Caldwell, ID, 2-year average seed yields of N.S. 62 and N.S. 66 were 93 and 106%, respectively, of those of Vernal. Percentages of plants resistant to bacterial wilt caused by *Corynebacterium insidiosum* (McCull.) H. L. Jens.) for N.S. 62, N.S. 67, 'F.D. 100', 'Narragansett', 'Ranger', and Vernal were 52, 54, 5, 6, 33, and 57%, respectively.

Ten grams of seed of N.S. 62, N.S. 66, and N.S. 80 and 6 g of seed of N.S. 67 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.

W. R. KEHR (1)

References and Notes

1. Research agronomist (retired), USDA-ARS and professor of agronomy, Dep. of Agronomy, Univ. of Nebraska, Lincoln, NE 68583. Published with the approval of the director of the Nebraska Agric. Exp. Stn. as Journal Article no. 7246. Registration by the Crop Sci. Soc. of Am. Accepted 24 Apr. 1984.

REGISTRATION OF USDA 65009 FEMALE HOP GERMPLASM

USDA 65009 is a new hop germplasm line (*Humulus lupulus* L.) (Reg. no. GP 15) resulting from a cross between 'Brewer's Gold' (Accession no. 19001) and the male USDA 19058M, an open-pollinated seedling of the old English cultivar Early Green.

USDA 65009 was selected from a single-hill nursery at Corvallis, OR in 1967 because of its compact cone type and high content of resin glands. In seedless yield tests near Corvallis, USDA 65009 averaged 2200 kg of dried cones/ha with 10.5% alpha and 8.1% beta acids content over a 12-year period beginning in 1971. Total alpha plus beta acids content ranged from 18.1 to 21.1% in USDA 65009 during the past decade. These two acids account for about 75% of the content of hop resin glands (2) and, therefore, the cones of USDA 65009 contain about 25 to 29% resin glands by weight. The glands are concentrated near the spindle and the basal portion of the bracteoles, giving the cone a "rich" appearance upon visual examination.

The alpha acids fraction in USDA 65009 contains about 38% cohumulone, similar to its ancestor Brewer's Gold. Like Brewer's Gold, the soft resins are unstable at room temperature. Dry compressed cones stored 6 months at 25°C lost about 75% of their initial alpha acids content. Therefore, despite the high soft resin content, USDA 65009 is not recommended for commercial production.

The content of essential oils in USDA 65009 has averaged about 3% of cone weight, considerably higher than that of Brewer's Gold. The oil is composed primarily of myrcene (50%), humulene (17%), and caryophyllene (11%). USDA 65009 has excellent spring regrowth with abun-