REGISTRATION OF 'IROQUOIS' ALFALFA¹
(Reg. No. 32)

R. P. Murphy and C. C. Lowe²

'Iroquois' alfalfa (Medicago sativa L.) is a bacterial wilt-resistant variety similar to Narragansett developed by the Department of Plant Breeding, Cornell University. Iroquois has been produced by backcrossing for two generations to 'Narragansett' and one generation to 'Mark II.' 'Vernal' was the bacterial wilt-resistant nonrecurrent parent. Two generations of intercrossing with selection for wilt resistance and winter survival followed the backcrossing program. Seed from appropriate interspecific and interpollinated parent clones was composited and used to plant the breeder seed field.

Iroquois has the foliage and growth habit characteristics of Narragansett. Leaf disease tolerance, fall and winter dormancy, regrowth rate and flower color of Iroquois are similar to those of Narragansett. Iroquois has darker green foliage and a slightly more upright growth habit than Narragansett.

Iroquois has been tested extensively in the Northeastern States as WRN. Yield of Iroquois is equal to or superior to Narragansett in the first two production years. As the age of the stand increases and, particularly, where wilt develops, Iroquois shows a distinct advantage to Narragansett in yield and persistence.

Seed of Iroquois is produced on a three-generation basis: breeder, foundation, and certified. Breeder seed will be maintained by Cornell University. Foundation seed is produced in Idaho, Oregon, and Washington under the direction of the New York Foundation Seed Stocks Cooperative, Inc. Certified seed of the variety Iroquois can be produced only from fields planted with foundation or breeder seed.

Iroquois was released in 1966 and was considered favorably for certification by the National Certified Alfalfa Variety Review Board in 1966.

¹Registered by the Crop Science Society of America. Received Feb. 15, 1968.
²Professor, Department of Plant Breeding, Cornell University, Ithaca, N. Y. 14850.

REGISTRATION OF 'MESASIRSA' ALFALFA¹
(Reg. No. 33)

M. H. Schonhorst², M. W. Nielson³, R. K. Thompson⁴, F. V. Lieberman⁵, and E. L. Nigh, Jr.⁶

'Mesa-Sirsa' alfalfa (Medicago sativa L.) was developed by personnel of the Arizona Agricultural Experiment Station and the Entomology Research Division, Agricultural Research Service, U. S. Department of Agriculture. It was released in March 1966.

Mesa-Sirsa is a 13-clone synthetic tested experimentally as SW-25. The parent clones were selected from 'Sirsa g3,' an introduction (P. L. 236,758) from India. Selection of parent clones was based on a high level of resistance to the common biotype (ENT-B) of the spotted alfalfa aphid (Theroaphis maculata (Bucktnck)) and high general combining ability for forage production as determined by polycross progeny tests.

The 13 parent clones also were tested for reaction of the pea aphid (Acrystosiphon pisum (Harris)) and the alfalfa seed chalcid (Bruchophagus roldai (Gussovskiy)). Four of the 13 parents showed promise for resistance to the pea aphid. One of these four, M-56-11, also had some resistance to the seed chalcid.

Mesa-Sirsa is a nonwinter-hardy alfalfa best adapted to the lower desert valley areas of southwestern United States. Like Sonora, it has the ability to produce forage for early spring and late fall grazing or green chopping. In a border-size test (7,500 sq. ft. per plot) at the University of Arizona's Mesa Branch Station, Mesa-Sirsa produced 13.4% more forage than Moapa. This test was planted on October 25, 1963 and concluded in December 1967. During this 4-year period, 32 harveses were obtained. Stand persistence of Mesa-Sirsa was superior to that of Moapa or Sonora.

Another important feature of Mesa-Sirsa is the ability of its seedlings to survive exposure to both known biotypes, ENT-A and ENT-B, of the spotted alfalfa aphid. In this regard, it is far superior to 'Meapa' or 'Sonora' (Schonhorst et al., 1966).

Mesa-Sirsa has an intermediate level of resistance to the downy mildew fungus (Peronospora trifoliorum de Bary). Preliminary investigations indicate a high level of tolerance to two species of root-knot nematodes (Meloidogyne incognita acrita (Chitwood) and M. javanica (Trautsb)).

Seed production shall be limited to two generations (foundation and certified) of increase beyond breeder seed under certification programs. Breeder seed consists of an equal amount of first generation polycross seed produced in isolation, from each of the 13 parent clones. Breeder seed of Mesa-Sirsa will be produced by the Arizona Agricultural Experiment Station. Certified seed for planting commercial hay fields was available by late summer of 1967.

Mesa-Sirsa received a favorable review from the National Certified Alfalfa Variety Review Board.


REGISTRATION OF 'DELTA' ALFALFA¹
(Reg. No. 34)

Howard W. Johnson and Peter G. Hogg³

'Delta' alfalfa (Medicago sativa L.) was released in 1965 by the Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture, and the Mississippi Agricultural Experiment Station. Its experimental designation was Stoneville P.C.21.

Delta was developed by maternal line selection from plant selections made from old alfalfa fields in the Yazoo-Mississippi Delta in 1948 and 1949. Six lines, chosen from a progeny row nursery in 1954 as being superior for survival, vigor, dark-green color, retention of leaves, and broadness of crown were used as the parents of Delta. Maternally, these lines traced to four plants selected in 1948 from an old field of 'Dakota 12' alfalfa near Leland, Miss. Dakota 12 had been grown on that farm for about 20 years and through three or four seed generations.

Secrets of Delta have persisted at productive levels for 5 to 6 years in alluvial soil areas of the Lower Mississippi Valley. The persistence appears to be due to a tolerance to root and crown roots. Reaction to bacterial wilt is unknown.

Delta performed well in forage variety tests conducted at State College and Holly Springs, Miss., and in Lower Mississippi

¹Registered by the Crop Science Society of America. Received Feb. 15, 1968.
²Research Plant Pathologist, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture, and Agronomist, Mississippi Agricultural Experiment Station, Stoneville, Miss.