Registration of Crop Varieties

REGISTRATION OF WASHOE ALFALFA
(Reg. No. 24)

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‘Washoe’ alfalfa (Medicago sativa L.) was developed and tested cooperatively by the Crops and Entomology Research Divisions of the U.S. Department of Agriculture and Agricultural Experiment Stations of Arizona, California, Idaho, Nevada and Oregon. It was released by these agencies in February 1966.

Washoe is an 8-clone synthetic variety derived mostly from the variety ‘Nemastan’. Selection of parent clones was based on resistance to pea aphids (Acyrthosiphon pisum (Harris)), spotted alfalfa aphids (Theroaphis maculata (Buckton)), stem nematodes and bacterial wilt and on forage yield performance. Washoe was synthesized in 1961 and given the experimental designation Nevada Synthetic T. The parental clones and their immediate origin are: N383 and N388, selections from the variety Nemastan; N466, N529 and N609, F, selections from a cross of C89 x C900 (both C89 and C900 are parents of ‘Lahontan’); N552, an F2 selection from a cross (Nemastan x a Nebraska selection); N694, a wilt resistant survivor from openpollination progeny of N466; N1-113, an F, selection from N105 x N552. N105 is a selection from PI 141,462 whose resistance to the stem nematode is not affected by temperature.

Washoe is similar to the variety Lahontan in having high resistance to stem nematodes, both biotypes of the spotted alfalfa aphid, and bacterial wilt. The principal advantage of Washoe over Lahontan is its high resistance to pea aphids. In pea aphid tests with Lahontan and several other varieties the progeny of the 8 clones comprising the variety Washoe gave significantly higher yields than any of the varieties. Results of a test at Tucson, Arizona, comparing the spotted alfalfa aphid resistance of Washoe with Lahontan and ‘Caliverde’ indicated that 90% of the Washoe seedlings survived the test as compared to 50% for Lahontan and 0.3% for Caliverde. Washoe is susceptible to leaf and stem diseases, and for that reason is not adapted to humid climates.

Forage yield tests of Washoe have been conducted in Nevada, Arizona, Arkansas, California, Idaho, Kansas, Nebraska, North Dakota, New Mexico, Oklahoma, Oregon, Utah and Washington. Washoe yielded as well as or better than Lahontan in all tests except in two tests in California. Washoe generally gave higher first cut yields than Lahontan; however, it does not recover quite as rapidly as Lahontan.

Washoe is expected to be of value in the Pacific Coast and intermountain states in areas where pea aphids, stem nematodes or spotted alfalfa aphids can be expected to reduce yields of other varieties. It should yield substantially more than Lahontan in areas where first cut yields of Lahontan are low, or where pea aphids can be expected to reduce yields of Lahontan.

Seed production of Washoe shall be on a three generation basis, namely; breeder, foundation and certified. Parent clones will be maintained and breeder seed will be produced by the Nevada Agricultural Experimentation Station. Breeder seed will consist of equal amounts of polycross seed of the eight parent clones produced under isolation. Area of adaptation for foundation seed production is in California, Nevada and Utah south to the 37° parallel; in Arizona, California and Nevada above 2500’ elevation south of 37° parallel; and in areas of Idaho, Oregon and Washington south of 45° parallel, and east of the Cascade Mountains.

REGISTRATION OF 522 ALFALFA
(Reg. No. 25)

Lloyd E. Arnold

The variety ‘522’ of alfalfa, Medicago sativa L., was developed by the Arnold-Thomas Seed Service and Produce Company and placed in commercial seed certification in 1966. 522 is a synthetic consisting of 20 clones selected from intermurally spaced plants from ‘Vernal.’ Selection of clones was based on flower color, regrowth habit, forage yield, leafiness, plant color, protein yield; the clones included a wide range of flower color which are lavender, variegated, purple, white and yellow. All parental clones are tolerant to the spotted alfalfa aphid, pea aphids and bacterial wilt and on forage yield performance.

522 is a winter-hardy alfalfa with a fall growth pattern similar to that of Vernal. Growth habit is semi-variety is somewhat more vigorous in midsummer and recovers after clipping slightly more rapidly to bacterial wilt than ‘Ranger.’ Forage yield tests of 522 in its region of adaptation have been consistently good, equal to, or better than the 2-year test at Johnston, Iowa, to evaluate alfalfa. The protein for the 2 years for 522 was 17.45%, for Ranger 16.57%, and for Vernal 16.49%.

Seed-yield data at Five Point, California, in 1966 indicated that 522 was satisfactory.

The parental clones are maintained by Arnold-Thomas Seed Service in California. The procedure for re-approving classes is as follows: breeder seed is produced from the first generation grown from breeder seed from isolation, or an isolated field and mass harvested; forage trials of 522 in its region of adaptation have been conducted in Nevada, Arizona, Arkansas, California, Idaho, Kansas, Nebraska, North Dakota, New Mexico, Oklahoma, Oregon, Utah and Washington.

Washoe yielded as well as or better than Lahontan in all tests except in two tests in California. Washoe generally gave higher first cut yields than Lahontan; however, it does not recover quite as rapidly as Lahontan.

An application for review of 522 for certification was presented to the National Certified Alfalfa Variety Board at its December 1965 meeting and received favorable indication. Certified seed of 522 was offered to growers in its area of adaptation in the spring of 1966.

†Registered by the Crop Science Society of America. Received August 1, 1966.

‡Arnold-Thomas Seed Service, P.O. Box 300, Merced, California.

REGISTRATION OF MARK II
(Reg. No. 26)

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‘Mark II’ alfalfa, Medicago sativa L., is a vigorous, winter-hardy alfalfa with a fall growth pattern similar to that of ‘Vernal’. It was developed by the Arnold-Thompson Seed Service and Produce Company and placed in commercial seed certification in 1964.

Mark II was produced in response to a need to maintain an alfalfa variety which is tolerant to the spotted alfalfa aphid, pea aphids and bacterial wilt and on forage yield performance.

Mark II has more resistance to bacterial wilt than ‘Ranger.’ Forage yield tests of Mark II in its region of adaptation have been consistently good, equal to, or better than the 2-year test at Johnston, Iowa, to evaluate alfalfa. The protein for the 2 years for Mark II was 17.45%, for Ranger 16.57%, and for Vernal 16.49%.

Seed-yield data at Five Point, California, in 1966 indicated that Mark II was satisfactory.

The parental clones are maintained by Arnold-Thomas Seed Service in California. The procedure for re-approving classes is as follows: breeder seed is produced from the first generation grown from breeder seed from isolation, or an isolated field and mass harvested; forage trials of Mark II in its region of adaptation have been conducted in Nevada, Arizona, Arkansas, California, Idaho, Kansas, Nebraska, North Dakota, New Mexico, Oklahoma, Oregon, Utah and Washington.

Mark II yielded as well as or better than Lahontan in all tests except in two tests in California. Mark II generally gave higher first cut yields than Lahontan; however, it does not recover quite as rapidly as Lahontan.

An application for review of Mark II for certification was presented to the National Certified Alfalfa Variety Board at its December 1965 meeting and received favorable indication. Certified seed of Mark II was offered to growers in its area of adaptation in the spring of 1966.