Registration of Crop Cultivars

REGISTRATION OF LEW ALFALFA 1
(Reg. No. 96)

‘Lew’ alfalfa (Medicago sativa L.) was developed and tested cooperatively by the Plant Sciences and Plant Pathology Dep. of the Univ. of Arizona. It was tested experimentally as AZ SNR.

Lew alfalfa was developed by two cycles of phenotypic selection and testing of non-winter-dormant alfalfa (Medicago sativa L.) plants whose background trace to the ‘African’ and ‘Indian’ sources used extensively in the Arizona alfalfa improvement program. Criteria used for selection included: (a) freedom of symptoms of infection by the stem nematode [Ditylenchus dipsaci (Kuhn) Filipjev] when grown under high field populations of this pest and (b) desirable agronomic traits, such as erect stems, leafiness, and dark green foliage. Approximately 100 plants which were completely free of visible symptoms of nematode infection in the second cycle of selection were used as parents of Lew.

Lew is non-winter-dormant and adapted to the environment of the low desert valley areas of southern Arizona. A distinctive feature of Lew is its high level of resistance to the Arizona strain of the stem nematode. When grown in areas free of the stem nematode on the Univ. of Arizona Mesa Research Station, Lew yielded only slightly more forage than either ‘Hayden’ or ‘Sonora-70’, however, when grown in soils heavily infected with stem nematode on this station, Lew out-yielded these cultivars by 30 and 85%, respectively. Lew is also superior to Hayden and Sonora-70 in level of resistance to the Ent-1 biotype of the spotted alfalfa aphid, [Acyrthosiphum pisum (Dyar)], and amount of nodulation induced by commercial cultures and indigenous strains of nitrifying bacteria, Rhizobium meliloti, and in seed production.

Breeder’s seed of Lew will be maintained by the Plant Sciences Dep. of the Univ. of Arizona and the Arizona Agric. Exp. Stn. Increases beyond Breeder’s seed will be limited to Foundation and Certified seed. Eligibility of a stand to produce a given certified class of seed will be limited to 4 years. Only certified seed of this cultivar may be called Lew. The area of seed production will be limited to the western part of the Southern Alfalfa Region; south of 37°N Lat at elevations below 2,500 feet.

Lew received favorable review by the National Certified Alfalfa Variety Review Board in 1974.


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REGISTRATION OF PERRY ALFALFA 1
(Reg. No. 97)

W. R. Kehr, G. R. Manglitz, and R. L. Ogden 2

‘Perry’ alfalfa (Medicago sativa var. glutinosa (Harris)] was developed and tested cooperatively by AR-SEA-USDA, and the Nebraska Agricultural Experiment Station. It was tested as N.S. 82 and released jointly with the Kansas, South Dakota, and Wisconsin Agricultural Experiment Stations in October 1980.

Nebraska field selections from ‘Team’ and ‘Weevichke’ were crossed with parental clones or parental plants of experimental Nebraska synths to produce a population. Plants with combined pest resistance were selected from the population and crossed with alfalfa weevil resistant plants selected in Indiana from open-pollinated progeny of a Nebraska selection from ‘Vernal’ to produce Perry Syn-1. The experimental Nebraska synthetics crossed with Team and Weevichke had been developed after three and four cycles of selection for pest resistance and vigor by intercrossing plants selected from ‘Atlantic’, ‘Baltic’, ‘Consect’, ‘Dawson’, ‘Grinn’, Kansas Common, ‘Ladak’, Louisiana, Nebraska Common, ‘Ranger’, ‘Turkestan’, Vernal, Medicago falcata L., M. sativa var. glutilosa M.B., and three Plant Introductions, PI 107296 (Turkey), PI 269278 (Turkey), and PI 217419 (Denmark).

Perry is a winterhardy cultivar. It has resistance to bacterial wilt, caused by [Corynebacterium insidiosum (McCull)] similar to that of Vernal; and to biotypes of the spotted alfalfa aphid [Thripaphis maculata (Buckton)] collected in Nebraska, similar to that of Dawson. Perry has shown a low level of resistance to anthracnose, (caused by Colletotrichum trifolii Bain), similar to that of Baker and ‘Riley’, and tolerance to alfalfa weevil [Hypena postica (Gyllenhall)].

The area of adaptation for forage production is the norh central states. Fowage yields of Perry were equal or superior to those of Dawson, ‘Kanza’, or Vernal in 19 tests at 14 north central locations. Seed yields of Perry were similar to those of Ranger and higher than those of Vernal in California, and equal to those of both Ranger and Vernal in Idaho.

Seed increase is limited to one generation each of breeder, foundation, and certified seed classes. Certified (Syn-5 or -4) seed may be grown only from breeder (Syn-2) or foundation (Syn-5) seed. The number of harvest years, including the establishment year, of certified seed must not exceed the following: a) breeder seed, 2 years; b) foundation seed, 3 years, with a 4th year optional depending on breeder approval; c) certified seed, 6 years, both inside and outside the area of adaptation. Breeder and foundation seed is produced under the direction of the Nebraska Agric. Exp. Stn. Foundation seed is available from the Nebraska Foundation Seed Division, Univ. of Nebraska, Lincoln, NE 68583.

Perry was favorably reviewed by the National Certified Alfalfa Variety Review Board in December 1979. Application will be made for plant variety protection under the certification provision.

1 Registered by the Crop Sci. Soc. of Am. Contribution from cooperative investigations by the Nebraska Agric. Exp. Stn. and the AR-SEA-USDA. Published with the approval of the Director as Paper No. 5985. Journal Series, Nebraska Agric. Exp. Stn. Research reported was conducted under Project Numbers 12-005, 17-027, and 15-005. Accepted 12 Jan. 1981.

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REGISTRATION OF WL 312 ALFALFA 1
(Reg. No. 98)

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The cultivar ‘WL 312’ alfalfa (Medicago sativa L.) was developed by the Waterman-Loomis Company. It was tested experimentally as 73 T 74 T 12, and Exp. 311.

The percentage of WL 312 traces to populations of ‘WL 307’, ‘WL 311’, ‘WL 318’, and 10 advanced experimental synthetics which were screened for resistance to anthracnose (caused by Colletotrichum trifolii Bain) and/or bacterial wilt [caused by Corynebacterium insidiosum (McCull)] H. L. Jens.]. From these populations, 165 plants were selected (7.4% from WL 307; 20.2% from WL 311 and WL 318; and 52.2% from the 10 experimental synthetics) for resistance to Phytophthora root rot (caused by Phytophthora megasperma Drechs.), iso-