Registration of Crop Cultivars

REGISTRATION OF WL 314 ALFALFA
(Reg. No. 100)

D. F. Beard, J. L. Force, and I. I. Kawaguchi

'WL 314' ALFALFA (Medicago sativa L.) was developed by W-L Research, Inc. and tested experimentally as 75 Ca J and 75 Ca J-2. WL 314 is 344-plant synthetic cultivar derived from 50 populations, 45 of which were advanced W-L Research, Inc. breeding lines derived primarily from 'Vernal' and 'Saranac' with limited germplasm contributions from 'Atlantic', 'Team', 'Kanza', 'Cherokee', 'Cayuga', 'Ranger', and 'Saranac AR'. The other five populations consisted of 9 and 3 plants each from NC 83-1 and NC 83-2 germplasms, respectively, 12 plants from 'WL 309' (1), 18 plants from 'WL 310' (2), 29 plants from 'WL 311' (3), and 16 plants from 'WL 318' (3). The 50 populations resulted from recurrent phenotypic selection for resistance to one or more of the following pests: pea aphid [Acyrthosiphon pisum (Harris)], spotted alfalfa aphid [Theraothispis maculata (Buckton)], lygus [Lygus hesperus (Knight)], stem nematode [Ditylenchus dip-saci (Kuhn)] Filipjev], bacterial wilt [caused by Corynebacterium insidiosum (McCull.) H.L. Jens] and Phytophthora root rot (caused by Phytophthora megasperma Drec.). The final selection of the 344 parent plants was for resistance to stem nematode.

WL 314 is characterized by having high resistance to alfalfa and pea aphid biotypes endemic to California and Maryland, resistance to bacterial wilt caused by Fusarium oxysporum Schlecht. (Weimer) Synd. & Hans., and low resistance to aphids [Acrithosiphon kondoi (Shinji)] and stem nematode-infested production areas of Western U.S. The fall-dormancy of WL 314 is slightly greater than 'DuPuits'. WL 314 is a hay-type cultivar intended for use in stem nematode-infested production areas of W-L Research, Inc., 7625 Brown Bridge Road, Highland, MD 20777.

The flower color of WL 314 is approximately 70% dark purple and 30% variegated. A maximum of three and five harvest years are permitted on registered and certified seed, respectively.

One generation each of breeder (Syn 1), foundation (Syn 2) and certified (Syn 4) seed is recognized. A maximum of three and five harvest years are permitted on registered and certified seed, respectively.

WL 314 was approved for certification by the United States Department of Agriculture, Animal and Plant Health Inspection Service, Certification Division, Washington, DC 20250. The final selection of the 344 parent plants was for resistance to stem nematode.

REGISTRATION OF WL 316 ALFALFA
(Reg. No. 101)

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'WL 316' ALFALFA (Medicago sativa L.) was developed by W-L Research, Inc.

WL 316 was tested experimentally as 78 T 4. It represents 567 plant selections derived from seven experimental synthetic cultivars for resistance to either anthracnose (caused by Colletotrichum trifolii Bain) or bacterial wilt [caused by Corynebacterium insidiosum (McCull.) H.L. Jens]. The seven experimental synthetics represent four cycles of field selection, recombination and evaluation in either yield tests and/or field nurseries. In each cycle, plants were selected for resistance to foliar disease and/or apparent freedom from anthracnose, Fusarium wilt [caused by Fusarium oxysporum Schlecht f. sp. medicaginis (Weimer) Synd. & Hans.], and resistance to Verticillium wilt (caused by Verticillium albo-atrum Reinke & Berth.). The seven experimental synthetics result from recurrent phenotypic selection for resistance to one or more of the following pests: pea aphid [Acyrthosiphon pisum (Harris)], spotted alfalfa aphid; moderate resistance to bacterial wilt and stem nematode [Ditylenchus dipsaci (Kuhn)] Filipjev] and low resistance to the blue alfalfa aphid [Acrithosiphon kondoi (Shinji)]. WL 316 has been tested for forage yield in the region of adaptation to produce foundation seed. Certified seed will be produced from foundation seed. Foundation seed will be limited to three years of production.

The flower color of WL 316 is approximately 78% dark purple, 17% variegated and 5% light yellow to cream.

WL 316 seed is increased on a three generation basis, foundation, and certified. Breeder seed is planted in the northern region of adaptation to produce foundation seed. Foundation seed will be produced from foundation seed. Foundation seed will be limited to three years of production.

REFERENCES