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 175 Ca J and 175 Ca J-2. WL 314 is a 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 [Therioaphis maculata (Buckton)], lygus [Lygus hesperus (Knight)], stem nematode [Ditylenchus dipsaci (Kuhn) Filipjev], bacterial wilt [caused by Corynebacterium insidiosum (McCull.) H.L. Jens] and Phytophthora root rot (caused by Phytophthora megasperma Dreschs.). The final selection of the 344 parent plants was for resistance to stem nematode.

REGISTRATION OF WL 316 ALFALFA

(Reg. No. 101)

D. F. Beard, J.H. Graham, J.L. Kugler, and I.I. Kawaguchi

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

'WL 316' was tested experimentally as 178 T 4. It represents 567 plant selections derived from screening 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 apparent freedom from anthracnose, Fusarium wilt (caused by Fusarium oxysporum Schlecht f. sp. medicaginis (Weimer) Synd. & Schlecht) or bacterial wilt (caused by Pseudomonas syringae pv. medicaginis (Weimer) Hand). WL 316 is characterized by high resistance to bacterial wilt and pea aphid biotypes endemic to Kern County, California and Maryland, resistance to bacterial wilt (caused by Fusarium oxysporum Schlecht. f. sp. medicaginis (Weimer) Synd. & Hans.), and low resistance to alfalfa aphid (Acyrthosiphon kondoi (Shinji)), stem nematode [Ditylenchus dipsaci (Kuhn) Filipjev] and low resistance to the blue alfalfa aphid (Acyrthosiphon kondoi (Shinji)). WL 316 has been tested in field nurseries from Pennsylvania and Maryland west to Iowa. It is recommended in this general area for hay and haylage production.

Flower color approximates 78% dark purple to purple, 17% light yellow to cream, and 5% intermediate. WL 316 seed is increased on a three-generation foundation and certified. Breeder seed is planted in the 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


Published November, 1982