Registration of Crop Cultivars


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'WL 450'

'WL 450,' 'WL 451,' 'WL 501-R,' and 'WL 600' alfalfa (Medicago sativa L.) were developed by the Waterman-Loonis company.

WL 450 experimental designation was Cage 896-25. In 1964 6,000 seedlings of WL 450 were inoculated with stem nematodes and 708 were classified as tolerant or resistant. About 1.0% of the plant traced to P.I. 141462, 2.4% traced to Flemish cultivars, and 96.6% traced to 'WL 504.' Additional selection for disease resistance and plant type narrowed the plants to 20. These were crossed to plants related to WL 504. Five hundred seedlings from each of the 20 families were inoculated with stem nematode during the second cycle of selection. About 400 plants were selected and further evaluated for disease injury, insect injury, and seed production. Thirty-one clones showing 35% or more stem nematode resistance in progeny tests were recom- bined in 1967 to develop WL 450.

WL 450 is a moderately nondormant variety adapted to portions of the Southwest where stem nematodes are a problem. WL 450 is more dormant than 'Moapa,' but less dormant than 'Caliverda 65' and 'Lahontan.' It is resistant to the spotted alfalfa aphid (Therosaphis maculata Buckton) and moderately resistant to the pea aphid (Acrystosiphon pismum Harris). The biotype of both insects is unknown, but common to the southern San Joaquin Valley of California. WL 450 is significantly more resistant than Moapa to downy mildew (Peronospora trifoliorum de Barry), anthracnose (Colletotrichum trifolii Bain), and Lepto leaf spot (Leptosphaeria brisiaeana (Poll.) Graham and Lut- trell). Its growth habit is upright and flower color is predominantly purple. WL 450 has consistently out-yielded both Cali- verde 65 and Lahontan in areas of the Southwest where stem nematode is a problem.

'WL 451'

WL 451 was tested experimentally as CX 499 and EDR. It was developed in 1964 by mass selection that reduced nearly 300,000 persistent plants in an isolated area in Bakersfield, Calif. to 1,000 plants. These showed resistance to the spotted alfalfa aphid (Therosaphis maculata Buckton), and/or pea aphid (Acrystosiphon pisum Harris), and root roting organisms common to the area. Six hundred plants traced to Lahontan or its crosses, 356 plants traced to generations preceding WL 504, 30 plants (6 each of 5 clones) had shown longevity at Piper City, Ill., and 20 plants were spotted alfalfa aphid resistant plants from a Nevada germplasm release, N529. WL 451 is primarily adapted to portions of the southwestern United States similar to the northern San Joaquin and Sacramento Valleys. WL 451 is superior over Moapa and Lahontan in moderately wet soils where Phytophthora root rot and other root rots are a problem. Its growth habit is upright and its flower color is predominantly purple with about 2% white or slightly variegated flowers.

'WL 501-R'

WL 501-R was tested experimentally as Cage 916-17-209. Part of its parentage traces to 18 superior clones selected from the phenotypic recurrent selection program used in developing WL 504 and 'WL 508.' A nondormant clone from a dormant cultivar, 'WL 209,' was outcrossed during two generations, each genera- tion with selected different and unrelated nondormant clones which resulted in the development of 14 new plants. Selection of the 32 clones was based on vigor, plant type, and resistance to the spotted alfalfa aphid and pea aphid. The biotype(s) of these insects are present in Kern County. Resistance to foliage diseases was also considered.

'WL 600'

WL 600 was tested experimentally as Cage 916-17-209. Part of its parentage traces to 18 superior clones selected from the phenotypic recurrent selection program used in developing WL 504 and 'WL 508.' A nondormant clone from a dormant cultivar, 'WL 209,' was outcrossed during two generations, each genera- tion with selected different and unrelated nondormant clones which resulted in the development of 14 new plants. Selection of the 32 clones was based on vigor, plant type, and resistance to the spotted alfalfa aphid and pea aphid. The biotype(s) of these insects are present in Kern County. Resistance to foliage diseases was also considered.