Thunder was favorably reviewed by the National Certified Alfalfa Variety Review Board in 1981. Application has been made for plant variety protection.

J. B. MOUSTRAY, W. G. HARTMAN AND S. M. HURST

References and Notes


APOLLO II ALFALFA

‘APOLLO II’ alfalfa (Medicago sativa L.) (Reg. No. 133) was developed by North American Plant Breeders. The experimental designation was NAPB 109.

Apollo II was developed from populations which had undergone selection for winterhardiness, general desirability, resistance to Phytophthora root rot caused by Phytophthora megasperma Drechs. f. sp. medicaginis Kuan and Erwin,anthracnose caused by Colletotrichum trifolii Bain, bacterial wilt caused by Corynebacterium insidiosum (McCull.) H.L. Jens., and Fusarium wilt caused by Fusarium oxysporum Schlecht f. sp. medicaginis (Weimer) Snyder and Hans at Ames, Iowa. The populations used trace predominantly to ‘Apollo’, ‘Anchor’, ‘Trident’, ‘Answer’, ‘Atlas’, and ‘Olympic’, and small amounts of a number of other cultivars. These populations were subjected to two cycles of field selection for resistance to Verticillium wilt caused by Verticillium albo-atrum Reinke and Berth. (one cycle each at Hermiston, Ore. and Nampa, Idaho).

Apollo II is similar to ‘Saranac’ in fall dormancy. It has resistance to Phytophthora root rot (similar to ‘Agate’), bacterial wilt (equal to ‘Vernal’) and Fusarium wilt (similar to Agate) and moderate resistance to Verticillium wilt, anthracnose and stem nematode [Ditylenchus dipsaci Kühn] and Filipjler. Apollo II has been tested in the north central and northwest regions and is intended for use in these general areas for hay, dehydration and greenchop purposes where Verticillium wilt limits production.

Approximately 3,000 seedlings from the second cycle of selection for resistance to Fusarium wilt were inoculated and transplanted to an isolated field near Nampa. Approximately 2,000 symptomless plants were allowed to set seed, which was designated breeder seed. Leafcutter bees [Megachile rotundata (F.)] were used for pollination. Seed increase is limited to one generation each of breeder, foundation and certified seed classes. Certified seed may be grown from breeder or foundation seed. A maximum of 3 and 5 harvest years is allowed. Certified (Syn 3) fields are planted with breeder seed; foundation (Syn 2) fields are planted with breeder seed and each year. Foundation (Syn 2) fields are planted with breeder seed, respectively. Registration by Crop Sci. Soc. of Am. Accepted 22 Mar. 1983.

References and Notes


REDCHIEF LENTIL

‘REDCHIEF’ lentil (Lens culinaris Medic.) (Reg. No. 2) was developed by the USDA-ARS, in cooperation with the Agronomy Research Center, Washington State University and the Agriculture Experiment Station, University of Idaho, Moscow, Idaho and released in 1980.

Redchief originated as an F3 selection (RC 511) from a bulk population from a cross between PI 181860, a cultivar with large seeds and yellow cotyledons and PI 329171, a cultivar with small-seeds and red cotyledons. After three breeding cycles, the F5 was advanced from F1 to F4 by bulking.

Selections were made in the F5 generation, based on a combination of yield, seed size, disease resistance and color. The F5 population was advanced to F7, and the F7 was advanced to F10. The F10 population was evaluated in a replicated trial in 1976 to 1982, Redchief consistently yielded about 15% more than ‘Vernal’ and ‘Saranac’, and ‘Saranac’ and ‘Saranac AR’ perform well. In these areas, it gives forage yields equal to or better than ‘Vernal’, ‘AR’, ‘Baker’ and ‘Riley’. Redchief has resistance caused by Corynebacterium insidiosum (McCull.) H.L. Jens., similar to Vernal, b) Fusarium wilt caused by F. oxysporum Schlecht f. sp. medicaginis (Weimer) Snyder and Hans, c) ‘Agate’, c) Phytophthora root rot caused by Phytophthora Drechs. f. sp. medicaginis (Weimer) Snyder and Hans, d) pea aphids, Acyrthosiphon pisum (Harris), similar to ‘Dawson’. Growth habit is upright. Late fall growth indicates somewhat less fall dormancy than Vernal. Leaf color is predominately various shades of purple with variegated or yellow-flowered plants.

Breeder seed (Syn 1) was produced by diallel crossing in the greenhouse and on replicated ramets of clones. Breeder clones are maintained by Land O’ Lakes and breeder seed is in cold storage. Foundation (Syn 2) fields are planted in the northern area of adaptation with a maximum of 4 harvest years allowed. Certified (Syn 3) fields are planted for upright plant habit, large seeds and yellow cotyledons. Selection was based on extensive clonal, polycross progeny and polycross seed increase. Selection of each class is recognized.

Redchief was favorably reviewed by the National Certified Alfalfa Variety Review Board at the December 1980 meeting. Certified seed became available in the fall of 1981. No registration application was made.

R. R. KALTON

References and Notes