Registation of ‘Guardsman II’ Alfalfa

‘Guardsman II’ alfalfa (Medicago sativa L.) (Reg. no. CV-203, PI 639220) was developed by the Cornell University Agricultural Experiment Station, New York State College of Agriculture and Life Sciences, Cornell University, Ithaca, NY. This cultivar was released in 2003. Experimental designation was NY 9627.

Guardsman II is a 29-clone synthetic originating from Iroquois-type germplasm sources labeled at Cornell as B × A, crossed onto Oneida VR (Viands et al., 1990). This population went through several cycles of phenotypic recurrent selection for multiple disease resistances [bacterial wilt (caused by Clavibacter michiganensis subsp. insidiosum (McCull.) Davis et al., 1984; Fusarium wilt [caused by Fusarium oxysporum Schlech.:Fr. f. sp. medicaginis (Weimer) Synd. & Hans.]; Verticillium wilt (caused by Verticillium albo-atrum Reinke & Berth.); anthracnose (Race 1) (caused by Colletotrichum trifolii Bain & Essary); and Phytophthora root rot (caused by Phytophthora megasperma Drechs. f. sp. medicaginis Kuan & Erwin)]; followed by one cycle of phenotypic selection in the field for plant vigor, freedom of diseases, resistance to lodging, and a higher ratio of hemicellulose and cellulose to lignin concentration in the forage (using near infrared spectroscopy calibrated to forage samples analyzed by wet-lab procedures). Seed of the Syn. 1 generation was bulked in equal weight per clone. Syn. 2 generation (Breeder seed) was produced in both 1996 and 2003.

Guardsman II is a moderately dormant cultivar with fall dormancy similar to the FD4 check. It has high resistance to bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose (Race 1), and Phytophthora root rot. It is susceptible to Aphanomyces root rot (Race 1) (caused by Aphanomyces euteiches Drechs.). In New York, Guardsman II averaged 1.25 Mg ha⁻¹ per year more dry forage than ‘Oneida VR’ and 1.95 Mg ha⁻¹ more than ‘Vernal’, and 1.86 Mg ha⁻¹ more than ‘Alfagraze’ in three production years. Concentrations of crude protein, neutral detergent fiber, and acid detergent fiber are between those of the high quality check cultivar WL 322HQ and ‘5432’.

Flower color of the Syn. 2 generation is 97% purple, 3% variegated, and a trace of yellow, cream, and white.

In 1996 and 2003, Breeder seed (Syn. 2) was produced under cage isolation in Caldwell, ID, in sufficient quantity to last the lifetime of the cultivar. The Department of Plant Breeding and Genetics at Cornell University maintains this seed under controlled environmental conditions. Foundation seed (Syn. 3) may be produced from Breeder seed in northern USA on stands no more than 3 yr old unless by consent of the breeder. Certified seed (Syn. 3 or 4) may be produced from Breeder or Foundation seed on stands no more than 6 yr old. Seed shall be sold by cultivar name only as a class of Certified seed. The National Alfalfa and Miscellaneous Legumes Variety Review Board reviewed Guardsman II favorably in 2005.

D.R. Viands,* J.L. Hansen, E.M. Thomas, and J.L. Neally

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References


Department of Plant Breeding and Genetics, Cornell University, Ithaca, NY 14853. Registration by CSSA. Accepted 31 May 2005. *Corresponding author (drv3@cornell.edu).

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