REGISTRATIONS OF CULTIVARS

RegISTRATION 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* Schlecht.:Fr. f. *medicaginis* (Weimer) Syd. & 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 ‘Vernal’ and 1.86 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 ‘Alfagrase’ 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.

Registration of ‘Randolph’ Vegetable Soybean

Randolph soybean (*Glycine max* L.) (Reg. no. CV-473, PI 633424), a maturity group (MG) VI cultivar developed jointly by the Virginia State University Research Station and the USDA-ARS and released on 23 Mar. 2003 as a vegetable type with large seed protein. Randolph can be harvested at either the green pod or mature seed stages. Developing seeds at the green pod stage are for direct human consumption while seeds harvested at maturity are useful for soyfood products such as tofu, soymilk, or roasted nuts (Mebrahtu et al., 1993; Konovsky et al., 2002).

Randolph was developed by conventional means and is certified according to the USDA guidelines for organic production (USDA-ARS, 2000; USDA-AMS, 2000). Randolph is the cross of PI 417288 × BV-4 as was its parent line (Mebrahtu et al., 2005). BV-4, a line developed by USDA, Beltsville, MD, with good pod set and resistance to lodging and shattering, is a selection from the cross of T135 × PI 83945-4. PI 417288 is a vegetable MG V, from Japan and is reported to have moderate resistance to Mexican bean beetle (*Epilachna varivestis* Mulsant) defoliation (Kraemer et al., 1994). PI 83945-4 is a large-seed MG IV line from South Korea (USDA-ARS, 2000). Randolph is a chlorophyll mutant line found in Illinois and was released at USDA, Urbana, IL (Palmer and Kiedrowski, 1978). PI 417288 and PI 83945-4, were used in the development of Randolph, Asmara, and ‘Owens’. These are similar with these PIs in their pedigrees currently in use in vegetable cultivars. Randolph, Asmara, and Owens are used to increase the genetic diversity of soybeans.

The F₃ through F₅ progenies from PI 417288 advanced through single seed descent (Brim et al., 2000). Maturity, F₅ single plants were selected and tested for specific desired traits. Progenies of individual plants were grown at the Randolph Research Farm of Virginia Polytechnic Institute and State University, Petersburg, VA.

Randolph was evaluated in replicated tests at the Randolph Research Farm of Virginia Polytechnic Institute and State University under the experimental designation VS20-418 along with Asmara, a vegetable cultivar MG VI, and twiggs, a grain-type cultivar MG VI (Mebrahtu et al., 2005).