Small burnet produced more seed each year than any other species tested at both row widths. Tall fescue produced more seed than the remaining species tested each year and at both row widths. Orchardgrass and Indian ricegrass had good seed production under San Juan Basin growing conditions. Western wheatgrass produced 276 kg ha\(^{-1}\) the first year at the 0.76-m row width, but declined to 64 kg ha\(^{-1}\) the second year, and did not produce enough seed to effectively evaluate the third year. Basin wildrye was consistently the poorest seed producer, though it had lush vegetative growth.

Generally, seed production was higher in the 0.76-m than the 1.52-m row width during 1983 and 1985. However, in 1984, only small burnet produced higher seed yield in the 0.76-m row width, while tall fescue and orchardgrass produced higher seed yields in the 1.52-m row width. These results suggest that the environment interacts with species to determine optimum row spacing. Based on this information, it appears that small burnet, tall fescue, and Indian ricegrass would produce more seed in the first 3 yr of seed production when planted in the 0.76-m row width under San Juan Basin conditions. Furthermore, orchardgrass would produce more seed at the 1.52-m row width. No conclusions were made regarding western wheatgrass and basin wildrye due to poor seed production. Seed production among all species and row spacings declined from the first to the third year, except for orchardgrass at the 1.52-m row width. The decline in seed production could be due to inadequate soil fertility, since supplemental fertilizer was not added and the original soil nutrient levels were quite low at the onset of the experiment. Further research needs to be conducted to evaluate seed yields of these species with the addition of supplemental fertilizer.

**References**


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**REGISTRATION OF CROP CULTIVARS**

**REGISTRATION OF 'COMMANDOR' ALFALFA**

'COMMANDOR' alfalfa (*Medicago sativa* L.) (Reg. no. 147) (PI 509067) was developed by Northrup King Company and released in January 1986. The experimental designation was 82503.

Commandor was developed by intercrossing 500 plants that were selected from two Northrup King experimental multiple-pest-resistant lines. The lines had been selected for resistance to one or more of the following: Phytophthora root rot (caused by *Phytophthora megasperma* Drechs. f. sp. *medicaginis* Kuan and Erwin), spotted alfalfa aphid (*Theroiaphis maculata* (Buckton)), Verticillium wilt (caused by *Verticillium albo-atrum* Reiske and Berth.), or anthracnose (caused by *Colletotrichum trifolii* (Buckton)) at Eden Prairie, MN or Woodland, CA. The populations trace to 'Drummer', 'Preserve', and two European Verticillium wilt resistant cultivars. The approximate percentages of germplasm sources are: *M. falcata* (8%), Ladak (11%), *M. varia* (29%), Flemish (50%), and Chilean (2%).

Commandor is similar to 'Saranac' in fall dormancy. It has high resistance to anthracnose (similar to 'Saranac AR'), resistance to Phytophthora root rot (similar to 'Agate'), bacterial wilt (caused by *Corynebacterium insidiosum* (McCull) H.L. Jens.) (similar to 'Vernal'), and Fusarium wilt (caused by *Fusarium oxysporum* Schlcht f. sp. *medicaginis* (Weimer) Sny. & Hans.) (similar to 'Agate'); moderate resistance to stem nematode (*Ditylenchus dipsaci* (Kuhn) Filipjev) (similar to 'Ranger'), Verticillium wilt (equal to 'Trumpet'), and spotted alfalfa aphid. Commandor has been tested in Washington, Idaho, Minnesota, Iowa, Michigan, Wisconsin, and Pennsylvania, and is intended for general forage purposes.

Breeder seed (Syn 1) was produced from approximately 500 plants transplanted to an isolated field near Othello, WA. Leafcutter bees (*Megachile rotundata* (F.)) were used for pollination. Seed increase is limited to one, two, and one generation of breeder, foundation, and certified seed classes, respectively. Certified seed may be grown from breeder or foundation seed. A maximum of 2, 3, and 5 harvest yr are permitted on breeder, foundation, and certified seed fields, respectively. There is no limitation on area of seed production.

Commandor was favorably reviewed by the National Certified Alfalfa Variety Review Board in January 1986. Application for variety protection certificate will be made.

**REGISTRATION OF '5432' ALFALFA**

'5432' alfalfa (*Medicago sativa* L.) (Reg. no. 148) (PI 509534) was developed by Pioneer Hi-Bred International, Inc., and tested experimentally as XAR32, YAR32, 80W-1, and UW-1. The cultivar was released 19 Feb. 1986.

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**Reference and Notes**

1. Scientist and director of forage research, respectively, Northrup King Co., Stanton, MN 55081. Registration by the Crop Sci. Soc. of Am. Accepted 30 May 1987.

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