Results and Discussion

This AHA was first evaluated as a hybridization technique in 1979 (1). Compared with conventional hand pollination, the AHA gave lower percentages of hybrids (i.e., 3.3–9.1%, respectively), but the AHA was much more efficient in number of hybrid plants produced (i.e., 338–110, respectively). A chi-square analysis of the data pooled for all crosses provided evidence that there were significant differences ($P = 0.01$ level) between treatments for number of hybrids, aberrant, and apomictic progeny. Although the central system humidifier raised the nighttime average relative humidity from 55 to 65% in the chambers containing the female plants, there was little difference between the percent hybrid or the total number hybrid plants obtained for the two treatments (3.5% and 177 hybrids for increased and 3.2% and 161 hybrids for normal greenhouse relative humidity).

These results indicate that using the AHA can significantly increase the number of hybrids produced compared with conventional hybridization methods while making the process less time-consuming. There is, however, no increase in percentage of hybrids produced from modification of the relative humidity in the environment surrounding the female plants.

References


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REGISTRATION OF '526' ALFALFA

'526' alfalfa (Medicago sativa L.) (Reg. no. 150) (PI 510690) was developed by Pioneer Hi-Bred International, Inc. and tested experimentally as 76E-1. The cultivar was released 13 Feb. 1981.

526 is a 21-clone synthetic with parental clones selected for forage yield (based on progeny testing), seed yield, resistance to bacterial wilt (caused by Corynebacterium insidiosum (McCull.) H. L. Jens.), and biotypes of the spotted alfalfa aphid [Theroioaphis maculata (Buckton)] found in Fresno County, CA. Germplasm sources (1) of 526 include approximately 8% M. falcata, 15% 'Ladak', 50% M. varia, 13% Turkistan, 10% Flemish, and 4% Chilean, tracing back more currently through '520', 'ATRA55', 'Vernal', 'Narragansett', 'Culver', and 'Iroquois'.

Fall dormancy of 526 is similar to that of Vernal. 526 has high resistance to bacterial wilt and spotted alfalfa aphid; resistance to the pea aphid [Acyrthosiphon pisum (Harris)] biotypes endemic to California; moderate resistance to Fusarium wilt (caused by Fusarium oxysporum Schlect. f. sp. medicaginis (Weimer) Snyder and Hans.); low resistance to Phytophthora root rot (caused by Phytophthora megasperma Drechs. f. sp. medicaginis Kuan and Erwin); and yellowing caused by the potato leafhopper [Empoasca fabae (Harris)].

526 has been tested for forage yield throughout the northern, central, and southeastern regions of the USA, and is intended to be used for hay, haylage, dehydration, and greenchop production in these general areas. Flower color is approximately 89% purple, 11% variegated, and a trace of yellow.

One generation each of breeder, foundation, and certified seed classes is recognized. A maximum of 3 and 5 harvest yr is permitted on stands producing foundation and certified seed, respectively. Seed produced from certified is not recognized as 526. No restriction is placed on areas of production of foundation or certified seed. 526 was favorably reviewed in 1981 by the National Certified Alfalfa Variety Review Board. The cultivar is not covered by plant variety protection.

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References and Notes

2. W.T.W. Woodward, Dep. of Alfalfa Breeding, Pioneer Hi-Bred Int., Inc., P.O. Box 287, Johnston, IA 50131; J.W. Miller, retired (formerly, Dep. of Alfalfa, Pioneer Hi-Bred Int., Inc.); and M.K. Miller, deceased (formerly, Pioneer Hi-Bred Int., Inc.). Registration by CSSA. * Corresponding author. Accepted 30 July 1987.

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REGISTRATION OF '532' ALFALFA

'532' alfalfa (Medicago sativa L.) (Reg. no. 151) (PI 510691) was developed by Pioneer Hi-Bred International, Inc., and tested experimentally as 75Y-1. The cultivar was released 24 May 1979.

532 is a nine-clone synthetic with parental clones selected for forage yield (based on progeny testing), seed yield, and