Registration of Crop Cultivars

REGISTRATION OF 530 ALFALFA

(Reg. No. 65)

Jonas W. Miller and Marvin K. Miller

'530' alfalfa (*Medicago sativa* L.) was developed cooperatively by the Arnold-Thomas Seed Service and Pioneer Hi-Bred International, Inc. 530 is a winterhardy Flemish-type synthetic cultivar with resistance to bacterial wilt, spotted alfalfa aphid, pea aphid, and some foliar diseases. 530 was originally tested as 69B-1.

Parent clones of 530 were selected from two different sources. One population was developed by selecting bacterial wilt and spotted alfalfa aphid-resistant plants from a backcross program in which outstanding Flemish-type plants were used as recurrent parents and bacterial wilt-resistant selections from 'Vernal' were used as the nonrecurrant parent. The other population was developed from selecting spotted alfalfa aphid-resistant plants from 'Saranac.' About 500 individual plant selections were made in California on the basis of seed yield and other desirable characteristics from several thousand spotted alfalfa aphid-resistant survivors. Following progeny row forage yield tests and other evaluations in the Midwest, 530 was synthesized with 24 clones from the backcross population and 9 clones from the Saranac population.

530 is adapted to the central, northern, northeastern, and mid-Atlantic areas of the United States. Forage yields have been equal or superior to current check cultivars in these areas. 530 is superior to 'Ranger' and Vernal in resistance to Leptosphaerulina leafspot, common leafspot, and downy mildew. It has rapid recovery after clipping and has more fall growth than either Ranger or Vernal. Flower colors of 530 range from dark purple to light purple with an occasional plant having variegated flowers. Seed production in California has been similar to Ranger.

Seed classes for 530 will be breeder, foundation, and certified. Breeder seed is composed of seed produced from an isolation, planted from bulk harvested polycross seed from a cage increase of the 33 parent clones. Certified seed may be produced only on fields established with breeder or foundation seed. No other class or generation is recognized as 530. Seed of 530 became commercially available in 1971.

The National Certified Alfalfa Variety Review Board reviewed 550 favorably at its December 1972 meeting and it has subsequently been approved for certification in California and Washington.

REGISTRATION OF TAM 0-301

(Reg. No. 256)

M. E. McDaniel

'TAM 0-301' oats (*Avena byzantina* C. Koch) were developed by the Texas Agricultural Experiment Station. Varietal release was approved in June 1973. TAM 0-301 was developed by the Texas Agricultural Experiment Station and is a Texas Selection 71C9090.

TAM 0-301 was increased from a single F4 cross P.1. 295919 (A. sterilis L.) was chosen because of its excellent field resistance to races 325 and 264-B of *Puccinia coronata* Cda. var. *avenae* Fraser and Black, and from the first and second crosses were inoculated with virulent races to identify plants having *A. sterilis* head hills were grown under a heavy pathogen epidemic at Beeville, Texas, in 1970. TAM 0-301 was from a backcross selection from an F3 head and progeny from a head selection from an F4 head that was homozygous for crown rust resistance.

The juvenile growth of TAM 0-301 is semi-erect (semiwinter type). Leaf blades are medium dark green. TAM 0-301 resembles 'Cortez' in overall growth and maturity. It is slightly taller than Cortez, and has better straw strength. The panicle is equilateral, medium to long with tight rows. Spikelet and floret separation is by fracture. Glumes and lemmas are light red. Awns are rare, but a straight awn is present. Kernels are large, midwide.