REGISTRATION OF CATALINA WEEPING LOVEGRASS

(Reg. No. 24)
L. Neal Wright

'Catalina' weeping lovegrass, Eragrostis curvula (Schrad.) Nees, was developed by the Plant Science Research Division, Agricultural Research Service, U.S. Department of Agriculture, and tested and released cooperatively with the Arizona Agricultural Experiment Station and Plant Sciences Division, Soil Conservation Service, U.S. Department of Agriculture.

Catalina, which reproduces by obligate apomixis, was tested under experimental designation §17. It traces to PI 203 347, an accession received as E. curvula (Schrad.) Nees, in 1952 from Pretoria, Union of South Africa. It represents an extreme of the range of variation of the species E. curvula and is classified taxonomically as E. curvula (Schrad.) Nees.

Catalina originated as a plant selection that was superior in seedling drought tolerance. In Arizona, stand establishment has been consistently superior to the check cultivar (A-84) among years and rangeland sites. Development procedures and performance capabilities of Catalina under artificial (growth chamber) and natural (rangeland) environments have been published.

Catalina is adapted to semiarid and arid grasslands for seedling drouth tolerance in Boer lovegrass genus Eragrostis. It is classified taxonomically as E. curvula (Schrad.) Nees.

Seed production of Catalina is limited to two generations of increase from breeder seed, namely one each of foundation and certified seed. Breeder seed will be maintained by the Department of Agronomy, Arizona Agricultural Experiment Station, University of Arizona, Tucson, Arizona.

REGISTRATION OF POLAR BROMEGRASS

(Reg. No. 15)

'Polar' brome grass (Bromus spp.) was developed cooperatively by the Alaska Agricultural Experiment Station and Plant Science Research Division, Agricultural Research Service, United States Department of Agriculture, at Palmer. It is a synthetic cultivar derived from 16 superior clones selected from over 200 clones evaluated, using polycross techniques, especially for winterhardiness and forage yield. Germplasm of the cultivar is derived partly from smooth brome grass (B. inermis Leyss.) and partly from arctic brome grass (B. pumiluscula Scribn.) from Alaska and Northern Canada.

In 1949 a number of F1 hybrid plants, derived from crosses between Iowa and Canadian clones of B. inermis, were interpollinated in the greenhouse at Palmer, Alaska. Seed produced was used in establishing a 5000-plant nursery in 1950. Included also were plants grown from seed of several northern-type cultivars of B. inermis. On the basis of winterhardiness, spring vigor, leafness, seed production, and leaf spot resistance, 216 of these clones were selected and transplanted into a replicated polycross nursery in 1953. Sixty-one of these clones were selected for inclusion in polycross progeny trials and were broadcast-seeded in plots in 1955. Progenies were evaluated for winterhardiness and forage yield over several seasons at Palmer. Sixteen clones were selected as outstanding and comprise the synthetic. Eleven clones derive from interspecific hybridization and 5 are from the cultivar Manchar. Polar possesses outstanding winterhardiness in Alaska and produces consistently high forage yields. It was the only cultivar to survive the very severe winter of 1961-62 in the Matanuska Valley without apparent damage. Manchar, 'Carlton,' and Canadian commercial sustained considerable winter injury or withered completely. Subsequent tests indicate Polar's winterhardiness over 'Saratoga' and 'Sac.' Forage yields of Polar equal or surpass those of other cultivars. Following severe winters, when less hardy varieties sustain winter injury, Polar is much superior in forage yield.

Breeder seed is derived from the natural interpollination among the 16 clones in a replicated polycross nursery. Breeder seed consists of a composite of equal portions of germinable seed from each clone. Two generations of increases are permitted from breeder seed and one each from the foundation and certified classes. Breeder seed is produced and maintained by the Alaska Agricultural Experiment Station.

REGISTRATION OF MULTILINE E68, MULTILINE E69, AND MULTILINE E70 OAT CULTIVARS

(Reg. No. 242 to 244)
K. J. Frey, J. A. Browning, and R. L. Grindeland

'Multiline E68' (Reg. No. 242), 'Multiline E69' (Reg. No. 243), and 'Multiline E70' (Reg. No. 244) cultivars of oats (Avena sativa L.) were developed by the Iowa Agriculture and Home Economics Experiment Station in cooperation with U.S. Department of Agriculture. These agronomically uniform cultivars are composites of near-isogenic lines that vary in their inherent resistances to races of the crown rust fungus (Puccinia coronata Cda. var. avenae Fraser & Lef.).

The near-isogenic lines composited to form breeder seed of Multiline E68, Multiline E69, and Multiline E70 cultivars were developed through backcrossing programs with the experimental strain C.I. 7970 being used as the recurrent parent. C.I. 7970 is a pure line selected from the cross 'Clinton' X 'Garry-5' made in 1954. The F2 and F3 generations were grown at Aberdeen, Idaho, and Ames, Iowa, respectively. From a planting of F3 panicle rows grown at Ames in 1957, one which appeared especially promising (C237-89) was singled out for intensive testing. A large number of C237-89 F2 and F3 panicle progenies were tested for presence of the Pg2 and Pg4 genes (previously genes A and B, respectively) for stem rust reaction and the Pst 5 (Landhafer) gene and several genes in Garry for crown rust resistance. Five different lines, each homozygous for Pg2 and...