REGISTRATION OF AB-110 OATS

(D Reg. No. 175)

Darrell D. Morey

AB-110 (C.I.-7148) was introduced from the Coastal Plain Experiment Station, Tifton, Georgia, in 1957 as a cooperative endeavor from that Station, the North Florida Experiment Station, Quincy, Florida, and the Crops Research Division, ARS, U.S. Department of Agriculture. It was developed to replace Southland as an early forage oat for North Florida and South Georgia where disease resistance is of major importance.

AB-110 resulted from the cross Minnesota 0–200–10 × Southland made by D. D. Morey at Gainesville, Florida, in February, 1951. Minnesota 0–200–10 was a selection from the cross (Hajara-Jeantotte × Bond-Rainbow) × Santa Fe. A few F₃ seeds of Minnesota 0–200–10 were obtained from H. K. Hayes, Chief of the Division of Agronomy and Plant Genetics, University of Minnesota, St. Paul, Minnesota, in 1950. This selection was used as a parent because of its superior resistance to crown rust and stem rust. The history of Southland has been reported by Chapman.

During the F₃ to F₅ generations, populations were grown both at Tifton and Quincy and selected for disease resistance and early vigor. A severe epidemic of stem rust and crown rust at both stations in 1954 led to the discovery that selections from the cross 0–200–10 × Southland had combined resistance to stem rust races 7, 7A, and 8 and to the races of crown rust then prevalent. Much of the disease testing was done by R. W. Earhart, USDA Plant Pathologist at Gainesville, Florida. In 1954, 50 panicle rows were grown at Aberdeen, Idaho, by Harland Stevens from panicles furnished equally from Tifton and Quincy. The tenth row (AB-110) of the series, a selection from Tifton, proved to be the most uniform and to have the highest degree of disease resistance.

Seed for foundation seed was increased on about 10 acres in 1957 by Roy Stroschein near Sterling, Idaho. About 700 bushels of high quality seed from Idaho were distributed to South Georgia growers in the fall of 1957. It was an urgently needed and timely replacement for Southland oats.

The AB-110 variety has the rapid early growth of Southland. It produces an abundance of early forage in the fall, and, if not damaged by severe cold, it will produce large amounts of winter forage. It is a tall variety and, unless carefully managed by proper grazing, may lodge some at harvest time. Temperatures of 18° or lower will damage the stands, especially after heavy grazing. Grain yields have not been high, but are considered adequate for a dual-purpose oat. The grains are plump and bright yellow in color. They are pure for nonfluorescence. The grains are smooth, with few awns and no hairs on the rachilla or base of the kernels.

For several years AB-110 ranked as one of the leading selections in the International rust nursery for combined resistance to crown rust and stem rust. It has Santa Fe resistance to crown rust and the ABC genes for resistance to stem rust. It is resistant to Helminthosporium victoriae M. and M., and also to culm rot caused by Helminthosporium salitatum. AB-110 has been grown most widely in North Florida and South Georgia as an early forage oat.

The history and performance of AB-110 has been published. Application for registration was made by D. D. Morey, but much credit is due W. H. Chapman for the development of this oat variety. Other workers who had a part in development, increase, and release of AB-110 were R. W. Earhart, Harland Stevens and Roy Stroschein. The good work of H. K. Hayes and his associates at the University of Minnesota is gratefully acknowledged.

REGISTRATION OF ALAMO-X OATS

(Reg. No. 174)

I. M. Atkins

ALAMO-X (C.I. 7648, Texas Selection Irradiated Alamo 2276–2) was developed by the Texas Agricultural Experiment Station in cooperation with the U. S. Department of Agriculture. Dry seed of Alamo, C.I. 5371, oats were irradiated with 25,000 r units of X-rays by the Brookhaven National Laboratory in 1955. Progeny of several generations were screened for lines resistant to two Helminthosporium species and to crown rust race 216 and 290. A number of graduate students contributed to the work. The three final selections were made by I. M. Atkins, M. C. Puttrell, and Paul E. Fawtish. These were increased to about 800 bushels each but only one was released to growers in 1960.

Alamo-X is similar to Alamo oats except that the grain has a much heavier awn. This frequently makes the test weight lower. During the period 1958–61, Alamo-X was tested for disease reaction and yielding ability in comparison with Alamo and several commercial varieties. The new strain is resistant to Victoria blight and culm rot, two Helminthosporium species to which the parent Alamo is susceptible. Alamo-X also is resistant to races 290 and 216 of crown rust to which Alamo is susceptible. However, Alamo-X is susceptible to race 294 whereas Alamo is resistant to this new race. The strains are similar in maturity, stem rust reaction and forage characteristics. During the severe winter temperatures which occurred throughout Texas during the winter of 1961–62, it was found that Alamo-X is considerably more tolerant to low temperatures than Alamo. It therefore has wider adaptation for fall seeding.

Yield trials were conducted throughout Texas and in the U. S. Department of Agriculture regional nurseries. Data on performance in Texas show that Alamo-X was equal or superior to Alamo in all areas for both grain and forage production. Greater details may be obtained in the descriptive leaflet "Alamo-X", Texas Agricultural Experiment Station, L-565, March 1962.

REGISTRATION OF BLOUNT OATS

(Reg. No. 175)

N. I. Hancock

BLOUNT (C.I. 7769, Tenn. 54–8) originated as a single panicle selection from the cross (LeConte × Fulgrain Strain 6) × Santa Fe made by N. I. Hancock at the Tennessee Agricultural Experiment Station, Knoxville, Tenn., in 1946. The history and description of Blount and of the parent varieties LeConte, Fulgrain Strain 6, and Santa Fe have been published. Blount was named in honor of William Blount, the first governor of Southwest Territory which later became Tennessee.

Blount is a relatively early maturing, short-strawed variety. It is outstanding for lodging resistance and is recommended for plant-