REGISTRATION OF VARIETIES

WINTER OAT NURSERIES. It yields much higher, has a higher test weight, lodges less, and is earlier than Arlington.

Data from the Uniform Winter Oat Soil-Borne Mosaic Nurseries indicate that Jefferson closely approaches Arlington in tolerance to soil-borne mosaic. Jefferson was found resistant to Victoria blight and crown rust races 203, 216, and 294 by C. W. Roane and T. M. Starling at Blacksburg, Va. However, H. F. Harrison at Hartselle, S. C., found that Jefferson was not entirely resistant to these same rust races and that it was susceptible to race 316. Data obtained from uniform nurseries indicate that Jefferson has some resistance to barley yellow dwarf virus and to colun root, as well as to some unidentified root parasites of stem rust. Hence, Jefferson is superior to Arlington in resistance to many important diseases in the winter oat area.

Jefferson may be described morphologically as follows: Juvenile growth intermediate to decumbent; plant mid-early with numerous tillers; culm mid-tall, mid-stout, with nonpubescent nodes; leaves medium in width and color without marginal pubescence; panicle equilateral, mid-sized to long; rachis straight to slightly flexuous; branches rather numerous, mid-long, straight to slightly raised in attitude, but may droop slightly at ends at maturity; spikelets 2-flowered; glumes yellowish-white, mid-long, and fine in texture; lemma white, tinged with yellow, mid-long and wide (plump kernels) usually awnless, but an occasional straight awn is present on lower floret; rachilla segment mid-long, slender with a very occasional mid-long hair; basal scar absent to very obscure scar, with an occasional mid-long hair; floret separation by fracture, usually distal but may be by heterofracture.

Small amounts of seed of Jefferson grown at Beltsville, Md., Warsaw, Va., and Aberdeen, Idaho, were sent to D. M. Morey at Fifteenth St., Ga., for increase, after which it was distributed as a cooperatively produced variety by the Georgia Agricultural Experiment Station and the Crops Research Division, Agricultural Research Service, U.S. Department of Agriculture, in 1965.

REGISTRATION OF MESA OATS1

(Reg. No. 209)

R. K. Thompson2

'Mesa' oats (Avena sativa L.), C.I. 8277, is an all-purpose oat variety developed for use in the low altitude, irrigated areas of southern Arizona. It has performed well in the production of grain, pasture forage, and hay. It is a joint release by the Department of Agronomy of the University of Arizona, and the Crops Research Division, ARS, U.S. Department of Agriculture. Official release date was May 1, 1966.

Mesa is a F1 selection from a 'Kanota' (A. byzantina) X 'Wild Oat' (A. fatua) cross. The original cross was made by C. A. Sueson at Davis, Calif. The bulk F2 seed was brought to Arizona by R. T. Ramage in 1959. Selection and evaluation were made at the Mesa Branch Agricultural Experiment Station of the University of Arizona.

In yield tests, Mesa has averaged 5% more grain than 'Palestine' and 6% more simulated pasture forage than 'Markton.' Hay yields, when harvested at the early stage of growth, have generally been intermediate between Palestine and Markton. Hay production comparable to Markton is obtained when seeded early under optimum growing conditions, when harvest is delayed, or when lodging or yellow dwarf virus is a problem.

Compared to Markton and Palestine, Mesa has good standing ability and is intermediate in height and maturity. It has a very deep green color and luxurious vegetative appearance. Mesa, like the tame oat parent, Kanota, has considerable tolerance to yellow dwarf. It was not tested for smuts and rusts since it is not a serious problem in southern Arizona.

Seeds are light colored, yellowish red, large, long, plump, and heavy, and are produced on a relatively compact panicle. There is a geniculate, twisted awn on the primary kernel. The variety contains a small percentage of off-type plants of variable height and maturity. Breeder seed will be produced and maintained by the Arizona Agricultural Experiment Station.

The origin, history, description, and performance of Mesa have been published.

REGISTRATION OF BINGHAM OATS1

(Reg. No. 210)

F. A. Coffman, F. C. Petr, and Harland Stevens2

'Bingham' oats (Avena sativa L.), C.I. 7588, 58AB2773, was developed cooperatively by the Idaho Agricultural Experiment Station and the U.S. Department of Agriculture. It was derived from the cross 'Cleo' x 'Improved Garry' X 'Bonda' x 'Jenette' 3x 'Santa Fe' 4x 'Mo. 0-205' made at Aberdeen, Idaho. The final selection, an F1 panicle row, was assigned C.I. 7588 in 1960, and named Bingham in 1966. Bingham is resistant to stem rust races 6, 7, 7A, and 8, but susceptible to most races of crown rust. It is resistant to Victoria blight and key races of stem rust, except race 4-576 to which it is only moderately susceptible. Bingham has some resistance to barley yellow dwarf virus. The origin, history, and description of Bingham have been published.

Bingham is a white-kernelled spring oat of medium height with outstanding resistance to lodging and excellent yielding ability. In the seedling stage, rachis is straight to slightly curved. The panicle branches are of medium length and somewhat raised in attitude. The primary panicles usually produce about 50 spikelets subtended by white glumes of fine texture and slightly longer than the primary floret. Generally, three florets are produced per spikelet. The lemmas and palea covering the grain are white. The base of the primary kernel is generally pointed, although an obscure scar is sometimes evident. Separation of the florets is generally by fracture at the distal end of the rachilla, but sometimes the break occurs at the intermediate point.

In 6 years of testing under irrigation in Idaho, Bingham outyielded Park and Overland oats. It has stiffer straw, grows about an inch (2.54 cm) taller, and heads a day later than Park. Bingham averages about 6 inches (12.7 cm) taller and heads 4 to 5 days later than Overland. Under dryland conditions, Bingham has a good yield record but is low in test weight. Bingham also has an outstanding record for yield and lodging resistance in irrigated and nonirrigated tests on a regional basis.

Bingham was recommended for production in Idaho and released to certified seed growers in 1966. Approximately 150 acres (60 ha) were planted for production of certified seed. Foundation seed stocks will be maintained cooperatively by the Aberdeen and Tetonia Branch Stations of the University of Idaho.

1 Registered by the Crop Science Society of America. Cooperative investigations between the Idaho Agricultural Experiment Station and the Crops Research Division, Agricultural Research Service, U.S. Department of Agriculture. Received Jan. 12, 1967.
2 Collaborator, Agronomist, and retired Agronomist, Crops Research Division, ARS, USDA, Beltsville, Md., Aberdeen, Idaho, and Aberdeen, Idaho, respectively.