The lemma is yellow and does not fluoresce. Awns are generally absent (short and straight). Lemmas average about 12 mm and generally extend about 2 mm beyond the rachis. Kernels are plump and relatively high in percent grains (about 72%).

Tippecanoe was grown on an average of 12% of the Indiana oat acreage during 1967 to 1970 and an average of 5% during 1971 to 1974.

Breeder seed is maintained by the Purdue Univ. Agric. Exp. Stn., West Lafayette, IN 47907.

REGISTRATION OF NORLINE OATS

F. L. Patterson and J. F. Schaefer

‘NORLINE’ winter oat (Avena sativa L.), CI 6903, was developed cooperatively by the Purdue Univ. Agric. Exp. Stn. and ARS-USDA. Important contributions to the breeding of Norline were made by two former staff members of Purdue Univ. and ARS-USDA. Norline, tested earlier as Purdue 392A2-13-1-2-1, was released in 1960 to provide a winterhardy cultivar for the northern winter oat region of eastern United States.

The parentage of Norline is ‘Forkedeer’*2/2/’Lee’/’Victoria’. A modified pedigree breeding method was used. Plant selections were made in the F1, F2, F3, F4, and F5 generations. Breeder seed was formed by composting 100 plant rows in the F5 generation. Norline’s winterhardiness is superior to that of Forkedeer (Reg. No. 110) and slightly superior to ‘Dubois’ (Reg. No. 149) in Indiana and in the western eastern United States. The panicle height averages about 105 cm compared with 100 cm for Dubois. Norline is 2 to 3 days later in flowering than Dubois.

The coleoptile color is green. Young plants are decumbent in growth in the fall. Lower leaf sheaths and leaf blade margins are pubescent. The foliage is a medium green in color. Flag leaves are erect to inclined at booting. The leaf below the flag leaf averages about 15 mm in width and 29 cm in length. Culms are glabrous and generally bow near the base.

Norline has equilateral spreading panicles with moderately long panicle branches and a flexuous rachis. Panicles average about 12 branches from five whorls. Two or more branches commonly arise from the lowest rachis node. Panicles average about 21 cm in length and 15 cm in width.

Lemmas are distinctly veined, average about 14 mm in length and extend about 3 mm beyond the groat. Kernels are plump and relatively high in percent grains (about 72%).

Norline is resistant to ‘Victoria blight’ incited by Helminthosporium victoriae Meehan and Murphy. It is moderately resistant to the barley yellow dwarf virus disease. Norline was resistant to the races of crown rust (Puccinia coronata Cda. f. sp. avenae Fraser & Led.) but does not possess the full resistance of Victoria. In the breeding nursery, 1951-62, Norline was resistant to crown rust races 202 and 203 (‘Bond’ attacking), race 231 (non-attacking on Bond), and race 216 (Victoria attacking). Norline was susceptible to some races of crown rust occurring naturally in the region in the late 1960’s. Norline is susceptible to the stem rust (Puccinia graminis Pers. sp. avenae Ericks. & Henn.).

Norline was a major cultivar in Indiana and in the northern winter oat region of the USA during the 1960 to 1970 period. Breeder seed is maintained by the Purdue Univ. Agric. Exp. Stn., West Lafayette, IN 47907.

REGISTRATION OF LYON OATS

D. D. Stuthman, M. B. Moore, P. G. Rothman, and R. D. Wilcoxson

‘LYON’ spring oats (Avena sativa L.), Minn. 71101, CI 9200, was developed cooperatively by the Minnesota Agric. Exp. Stn. and ARS-USDA and released in 1977. It originated from a single F2 plant that was selected from a ‘Lodi’/’Portage’ population that had been advanced by single seed descent during the F4–F5 generations.

Replicated yield evaluations of Lyon were begun in 1967, and state-wide performance testing was initiated in 1972. In Minnesota, Lyon yielded 3% more than ‘Froker’ or Lodi for the 5-year period 1972-76. Lyon has lodging resistance equal to that of Froker and Lodi. It has higher bushel weight and grain percentage than Lodi but is slightly lower than Froker for these characteristics. Lyon was evaluated in the Uniform Mid- season Oat Performance Nursery during 1975-77.

Lyon is resistant to crown rust (Puccinia coronata Cda. f. sp. avenae Fraser and Led.) races 216, 205, and 290 in the seedling stage. In 6 years of testing in the Minnesota buckthorn plots to a multiplicity of races, Lyon was moderately resistant to moderately susceptible, and apparently it possesses some generalized resistance to crown rust. Lyon has gene Pg for stem rust (Puccinia graminis Pers. f. sp. avenae Ericks. & Henn.) resistance. Lyon is also resistant to a composite of loose smut (Ustilago avenae (Pers.) Rost.).

Lyon is moderately resistant (Puccinia coronata Cda. f. sp. avenae Fraser & Led.) collected in Minnesota, a Wisconsin composite, and a ‘Lodi strain’ of smut collected in Wisconsin. It is susceptible to barley yellow dwarf virus.

The seed of Lyon is white, and it is fluorescent under ultraviolet light. Spikelet separation is by semiabscission and the rachilla is long and narrow. The leaves usually have a blue-green color and are droopy. A ligule is present. The stems are medium in diameter, hairless at the upper nodes, and yellow in color when mature. The panicle is medium in size and equilateral in shape with spreading branches. There is some unevenness for height; however, only a few panicles, if any, are completely above the panicle canopy. The overall appearance of Lyon resembles Lodi, one of its parents.

Seed of Lyon was released to certified growers in Minnesota, North Dakota, South Dakota, and Wisconsin in 1977. The cultivar is expected to be best adapted to that area.

Breeder seed will be maintained by the Minnesota Crop Improvement Association, 1900 Hendon Ave., St. Paul, MN 55108.

REGISTRATION OF ’M7‘ RICE

H. L. Carnahan, C. W. Johnson, and S. T. Teng

’M7‘ Rice (Oryza sativa L.), CI 9967, is a true breeding, short stature cultivar (experimental designation R 1659) from the cross, ‘Calrose 76’/‘CS-33’. The cross was made during the winter of 1972-73 at the California Co-operative Rice Research Foundation’s Rice Experiment Station near Biggs, Calif. The greenhouse and a winter nursery in Hawaii were used to advance the early generations. The parents have been described. Both are late maturing, photoperiod sensitive and have medium-grain shape and quality. CS-MS is tall and has glabrous leaves and hulls. Calrose 76 is short matured and has pubescent leaves and hulls.

Both parents are adapted to all rice-growing areas of California.

M7 was compared with commercial and experimental varieties from California in tests conducted cooperatively with the California Agricultural Experiment Station and the California Cooperative Extension Service.

2 Professor, Dep. of Agronomy and Plant Genetics; professor emeritus, Dep. of Plant Pathology; research plant pathologist ARS-USDA and associate professor, Dep. of Plant Pathology; and professor, Dep. of Plant Pathology, Univ. of Minnesota, St. Paul, MN 55108. Journal Paper No. 9838 of the Minnesota Agric. Exp. Stn. Accepted 22 Oct. 1977.
3 Rice Experiment Station near Biggs, Calif. The greenhouse and a winter nursery in Hawaii were used to advance the early generations. The parents have been described. Both are late maturing, photoperiod sensitive and have medium-grain shape and quality.