Registration of ‘Rodgers’ Oat

‘Rodgers’ winter oat (Avena sativa L.) (Reg. no. CV-341, PI 593020) was developed cooperatively by the North Carolina Agricultural Research Service (NCARS) and the USDA-ARS. It was released in 1995 through NCARS, because of its excellent yield potential combined with good overall agronomic performance. Rodgers was developed for the late Dan Rodgers, whose untimely death in an automobile accident in 1985 cut short an excellent career in the plant breeding profession.

Rodgers was developed by the pedigree breeding method from the cross NK-Coker 80-33/NC 81-376. The pedigree of NK-Coker 80-33 is NK-Coker 69-26/NK-Coker 70-16/‘NK Coker 716’. The pedigree of NC 81-376 is ‘Brooks’/NK-Coker 72-24. The pedigree of Brooks is ‘Carolee’/Fulgrain/‘Hajira’/‘Joanette’/‘Atlantic’/‘Clinton’*2/‘Santa Fe’ (1). Panicles were selected from an F2 bulk plot grown at the Central Crops Research Station, Clayton, NC, in 1984. During the next four growing seasons, F2, F3-4, F4-5, and F5-6--derived lines underwent visual selection. Rodgers traces to a single F5-6 panicle row harvested in 1988 and given the designation NC 88-1818. It was entered in the Uniform Winter Oat Yield Nursery and the Uniform Oat Winter-hardiness Nursery in the 1992 and 1993 seasons and the North Carolina Official Variety Testing Program annually from 1992.

Rodgers has a prostrate to semi-prostrate juvenile growth habit. It has medium-diameter stems and a drooping leaf carriage. Leaf margins are ciliate. Ligules are present. Panicle emergence is 7 d later and plant height is 5 cm taller than the cultivar FL501. Panicles are equilateral in shape, medium in size, and midbroad in width. Glume color is striped. Spikelet separation is by fracture; floret separation is by disarticulation. Awns are absent. Seed color is yellow and basal hairs are absent. Seed does not fluoresce under ultraviolet light. Rodgers is resistant to prevalent races of crown rust (caused by Puccinia coronata Corda) in North Carolina, and it has a moderate to high level of tolerance to barley yellow dwarf viruses. Rodgers has demonstrated good winter survival in the Piedmont and eastern regions of North Carolina, but its winter-hardiness is insufficient for locations with low temperatures more extreme than those in North Carolina.

Rodgers was evaluated in 17 year–location environments in the North Carolina Official Variety Testing Program during 1992 to 1995. Its mean grain yield was 4.26 Mg ha−1, compared with 3.66 Mg ha−1 and 3.48 Mg ha−1 for the cultivars SS76-30 and Brooks, respectively. Test weights of all three cultivars were similar. Plant height of Rodgers was 7 cm shorter than SS76-30. Rodgers was more lodging-resistant than Brooks and SS76-30.

Classes of seed of Rodgers will be limited to breeder, foundation, and certified. Application for U.S. plant variety protection with the Title V option will be made for this cultivar. Breeder seed of Rodgers will be maintained by the North Carolina Agricultural Research Service. Foundation seed will be maintained by the N.C. Foundation Seed Producers, Inc., Zebulon, NC. Certified seed will be produced by seed growers licensed by the N.C. Foundation Seed Producers, Inc. Rodgers will be available for the next generation. A total of 4500 plants in the cycle of irradiation were space-planted on 0.3-m centers in isolation and allowed to establish for the next generation. A total of 4500 plants in the cycle of irradiation were space-planted on 0.3-m centers in isolation and allowed to establish for the next generation. A total of 4500 plants in the cycle of irradiation were space-planted on 0.3-m centers in isolation and allowed to establish for the next generation. A total of 4500 plants in the cycle of irradiation were space-planted on 0.3-m centers in isolation and allowed to establish for the next generation.

References and Notes

W. W. HANNA,* J. DOBSON, R. R. DUNCAN, AND D. THOMPSON (1)