Registration of 'Advent' Perennial Ryegrass

'Advent' perennial ryegrass (*Lolium perenne* L.) (Reg. no. CV-183, PI 554609) was developed through cooperative work of Jacklin Seed Co., Post Falls, ID, and the New Jersey Agricultural Experiment Station. Advent was tested under the test code PJC. It was released by Jacklin Seed Co. on 12 July 1990, with the first certified seed produced in July 1990.

Advent has a broad genetic base derived from the maternal progenies of 85 clones. Twenty-four additional clones were included as pollen sources. Elite plants were selected from old turfs in Maryland, New York, New Jersey, and Pennsylvania between 1962 and 1977 (3). The best performing of these were allowed to interpollinate in isolation or were top-crossed with the most promising plants from current cycles of various population improvement programs at the New Jersey Agricultural Experiment Station. Additional cycles of population improvement on the progenies for turf performance, disease resistance, stress tolerance, and seed yield were performed using recurrent restricted phenotypic selection in spaced-plant nurseries, combined with a modified backcrossing program and single-plant progeny trials conducted in closely mowed turf plots.

In February 1987, 5400 clonal ramets were selected from turf trials of nine germplasm composites, and transferred to a greenhouse where an environment conducive to floral induction was maintained until they were transplanted in a spaced-plant nursery near Adelphia, NJ, in late March. Attractive, lower-growing plants with dark green color and high seed yield potential were identified. During periods of heat and drought stress in early August, superior clones were identified and divided into propagules, which were used to establish a replicated, randomized isolated nursery in September. Prior to anthesis in 1988, clones with poor winter color or with inferior disease resistance in turf trials were removed. Breeder seed was harvested from 85 clones with good floret fertility and the presence of an endophytic fungus (*Acremonium lolii* Latch, Christensen & Samuels) in late June 1988. Pollen parents included these 85 selected clones plus an additional 24 clones from the same isolated crossing block. A foundation increase field was established in western Oregon in the fall of 1988.

Advent is an attractive, lower-growing, dark green cultivar with medium-fine texture and medium-high density. Heading date of Advent is 2 d later than ‘Pinnacle’ (6). Advent exhibited good turf quality in the national perennial ryegrass test (National Turfgrass Evaluation Program, NTEP) established in 1990 (9). In these trials, Advent had good spring density, fall percent living ground cover, and winter color retention. Advent had good drought tolerance, being slow to wilt and go into dormancy, with good recovery after dormancy. Advent has moderate to good resistance to many diseases, including leaf spot (caused by *Drechslera* spp.), dollarspot (caused by *Lanzia* and *Moellerodiscus* spp.), pythium blight (caused by *Pythium* spp.), brown blight (caused by *Drechslera siccans* (Drechs.) Shoemaker), and large brown patch (caused by *Rhizoctonia solani* Kuhn). Seedlots of Advent with a high percent-age of viable *Acremonium lolii* endophyte can be expected to have enhanced resistance to billbugs (*Sphenophorus* spp.), hairy chinch bug (*Blissus leucopterus hirtus* Montandon), and lepidopterous species of sod webworms (1,4,5).

Advent is recommended for use on athletic fields, industrial and school sites, and golf course roughs, tees, and fairways where perennial ryegrasses are adapted, and is suitable for winter overseeding of dormant warm-season turf. It has been verified by university trials at the University of Florida, Mississippi State University, and the University of Arizona (2,7,8).

Breeder seed of Advent is maintained by Jacklin Seed Co. Production of Advent is limited to three generations of increase from breeder seed: one each of foundation, registered, and certified. Application (No. 9100215) has been made for U.S. plant variety protection.


References and Notes