plants survived the cold winters, the hot humid summers, and the disease and insect problems. Single surviving plants in the collection sites had obviously persisted for many decades and had spread to produce attractive patches of turf often >1 m in diameter. Selected plants showed substantial improvement in stress tolerance, pest resistance, and mowing qualities. They were also lower-growing, and produced a more dense turf, with fine leaves, and a darker green color than most other collections and commercially available cultivars. In addition to these American selections, ~7% of the perennial germplasm of Dandy consisted of plants selected from 'Loretta' perennial ryegrass, a cultivar developed in Europe.

Intercrosses of the above selections received from two to seven cycles of population improvement. This included modified backcross programs, phenotypic recurrent selection using both greenhouse and field evaluation, and single-plant progeny trials conducted under turf maintenance. Greenhouse tests were used to select for improved resistance to crown rust (incited by Puccinia coronata Cord.), Selection within spaced-plant field nurseries was based on a leafy, medium-low-growing, turf-type growing profile, a bright dark-green color, high seed-yielding ability, medium-early reproductive maturity, good appearance during heat and drought stress, and above-average resistance to prevalent races of crown rust and to the winter net blotch disease caused by Drechslera dictyoides (Drechs.) Shoem. f. sp. perennis (Braverman & Graham) Shoem. Selection within closely-mowed turf trials was directed toward obtaining a persistent, wear-resistant, attractive turf with medium-fine leaf texture, medium-high turf density, good heat and drought tolerance, and improvements in mowing quality. Selection was also made for improved resistance to net blotch and to large brown patch disease caused by Rhizoctonia solani Kuhn. The final cycle of selection was made in an isolated, thinly seeded field nursery in western Oregon. Selection within this nursery was based on increased seed yield, uniformity, and disease resistance. Dick Bailey Special and DBS were the experimental designations of Dandy. The first certified seed of Dandy was produced in western Oregon in 1988.

Dandy is a leafy, persistent, turf-type perennial ryegrass capable of producing a medium low-growing turf of medium-fine leaf texture, medium density, and an attractive bright dark-green color. It has performed very well in turf trials in New Jersey and Oregon, showing good winterhardiness, good summer stress tolerance, improved mowing qualities, and good tolerance of medium-close mowing. Dandy has excellent seedling vigor and good wear tolerance. It is medium-early in reproductive maturity and is capable of producing high seed yields. Seed lots having high levels of viable Acremonium endophyte will produce turf with enhanced resistance to a number of harmful insects, including billbugs (Sphenophorus spp.), chinch bugs (Blissus leucopterus hirtus Montandon), and many lepidopterous species of sod webworms (1, 3, 4). Dandy also shows moderate resistance to net blotch and many races of crown rust. It has demonstrated good resistance to large brown patch disease. Dandy should normally be mixed with an adapted blend of Kentucky bluegrasses (Poa pratensis L.) and/or strong creeping red fescues (Festuca rubra L. subsp. rubra) for turf use. Dandy is also recommended for the fall and winter seeding of dormant warm-season turfs.

When the benefits of the Acremonium endophyte are desired, seed should be fresh (<10 months old) or maintained in cold, dry storage. These precautions are needed to help ensure the viability and effectiveness of the Acremonium endophyte. However, seed with high levels of viable endophyte should not be used to establish fields for pasture or forage. Acremonium endophyte-containing feed may adversely affect herbivore health and performance under some conditions (2).

Breeder seed of Dandy will be produced and maintained by R.H. Bailey Seed, with the cooperation of the New Jersey Agricultural Experiment Station. Seed increase is authorized for three generations of increase from breeder seed, namely foundation, registered and certified.

Application (no. 8800224) has been made for United States Plant Variety Protection.

R.H. BAILEY, D.M. KOPEC, R.H. WHITE, AND C.R. FUNK* (5)

References and Notes

5. R.H. Bailey, R.H. Bailey, Seed Inc., Salem, OR 97302; D.M. Kopec, Dep. of Plant Science, Univ. of Arizona, Tucson, AZ 85721; R.H. White, Res. and Extension Ctr., Texas A&M Univ., Dallas, TX 75225; and C.R. Funk, Crop Science Dep., New Jersey Agric. Exp. Sta., Cook College, Rutgers Univ., New Brunswick, NJ 08903. Publication no. D-15166-1-90, New Jersey Agric. Exp. Sta. Some of this work was conducted as part of New Jersey Agric. Exp. Sta. Project no. 15166, supported by New Jersey Agric. Exp. Sta. funds, other grants, and gifts. Additional support was received from the U.S. Golf Association, the Golf Course Superintendents Association of America, and the New Jersey Turfgrass Association. Registration by CSSA, Accepted 30 Nov. 1989. *Corresponding author.


REGISTRATION OF 'TITAN' TALL FESCUE

'TITAN' tall fescue (Festuca arundinacea Schreb.) (Reg. no. 129; PI 536634) is an advanced-generation synthetic cultivar selected from the maternal progeny of 207 clones. It was developed and released in August 1987 by Seed Research of Oregon, Inc., Corvallis, OR. The experimental designation of Titan was SR-8000. Germplasm obtained from the New Jersey Agricultural Experiment Station was used in the development of Titan.

The parental germplasm of Titan originated from an extensive plant exploration program conducted from 1970 through 1976. Tall fescue plants were selected from mowed turfs and closely grazed pastures over a wide area of the USA. Collected plants were subjected to various cycles of population improvement, including phenotypic recurrent selection in spaced-plant nurseries and progeny evaluation in closely mowed turf trials. Following a period of summer stress, a total of 3696 tillers were selected from turf plots showing the best performance and transferred to a spaced-plant nursery at North Brunswick, NJ. A total of 232 clones were selected from this nursery immediately prior to anthesis and transferred to an isolated crossing block. Seed was harvested from the 207 plants exhibiting the best floret fertility.

After establishing progeny trials under turf maintenance,