ness of the backcrossing program. Twenty-two stem and crown rust resistant clones were selected as the parents of Manhattan II. MMG80 was the experimental designation. The first foundation seed was produced in western Oregon in 1982. Certified seed was first available in quantity following the 1983 harvest.

Manhattan II is a leafy, attractive, persistent, turf-type cultivar of medium maturity. It is capable of producing a dense, fine-textured, medium low growing turf with a bright, dark green color. Manhattan II has the excellent seedling vigor, wear tolerance, resistance to the winter leaf spot disease incited by Drechslera spp., and wide range of soil and climatic adaptation of Manhattan perennial ryegrass. In addition, Manhattan II shows improvements in resistance to stem rust incited by P. graminis Pers., many races of crown rust, the large brown patch disease, incited by Rhizoctonia solani Kuhn, and red thread caused by Laetisaria fuciformis (McAlpine) Burdsall. Manhattan II also shows improvements in heat tolerance, summer performance, and mowing qualities. Manhattan II is recommended for use on sports fields, lawns, industrial sites, parks, golf course cart paths, tees, fairways, and school grounds in areas where turf-type perennial ryegrasses are well adapted. A blend of Kentucky bluegrasses (Poa pratensis L.) should normally be mixed with Manhattan II for these uses. Manhattan II also performs well for the winter overseeding of dormant warm season turfs in the Southern United States.

Breeder seed is produced by Pure-Seed Testing, Inc., P. O. Box 449, Hubbard, OR 97389, with the cooperation of the New Jersey Agricultural Experiment Station. Propagation of seed is restricted to two generations of increase from breeder seed, one generation each of foundation and multiplication of seed is restricted to two generations of increase from breeder seed, one generation each of foundation and multiplication of seed is maintained by open-pollination. Ramets of the selected plants were polycrossed and the synthetic population was multiplied for three generations to produce seed which was tested for distinctness, uniformity, and stability.

Green Isle is an early type cultivar with heading date in mid-May, and is characterized by its dark, long leaves. It gives exceptional early growth in spring and a high summer and autumn production. High in dry matter production and is among the best yielding cultivars of the early group in the recommended Herbage Varieties. It has excellent persistence and is highly resistant to the disease crown rust. However, its persistence is low under the winter conditions of Northern Europe.

Green Isle produced on average 10% more than 'Cropper', the check cultivar, in the 22 trials on 10 locations in UK and 10 trials in Ireland. Green Isle yielded 5% more than 'Cropper' and 'S.24' under a simulated grazing system. Its overall performance suggests that Green Isle is particularly suited for giving high production of high quality.

Green Isle, being a tetraploid, is larger than the diploid perennial cultivars; the 1000 seed weight of Green Isle is 3.9 as compared to 2.1 and S.24, respectively. Although, this increase in seed rate over diploids, this latter have more uniform and vigorous establishment, particularly when stress conditions of drought prevail following sowings.

Green Isle was granted Plant Breeders' Rights in Ireland in 1980. The Breeder and Foundation seed are maintained by the Plant Breeding Dep., Agric. lnst., Research Ctr., Carlow, Ireland.

REGISTRATION OF GREEN ISLE PERENNIAL RYEGRASS

References and Notes

1. Professor, Soils and Crops Dep., New Jersey Agric. Exp. Stn.; president and research director, Pure-Seed Testing, Inc., P. O. Box 449, Hubbard, OR 97032; and president, Manhattan Ryegrass Growers Assoc., P. O. Box 250, Hubbard, OR 97032. Publication no. D-15166-3-83, New Jersey Agric. Exp. Stn., Cook College, Rutgers University, New Brunswick, NJ 08903. Some of this work was performed as part of NJAES Project no. 15166, supported by New Jersey Agric. Exp. Stn. funds, other grants, and gifts. Additional support was received from the United States Golf Assoc. Green Section Research and Education Fund, Inc. Registration by Crop Sci. Soc. of Am. Accepted 12 Mar. 1984.

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References and Notes