Registration of ‘Prosperity’ Kentucky Bluegrass

‘Prosperity’ Kentucky bluegrass (Poa pratensis L.) (Reg. no. CV-93, PI 642023) was released by Pure-Seed Testing, Inc., Hubbard, OR, in September 2003. The experimental designation of Prosperity was PST-Y2K-59. The first Certified seed was produced in 2005.

Prosperity is a single apomictic hybrid plant resulting from the cross of PST-107–8 × ‘Brilliant’ Kentucky bluegrass. PST-107–8 is a sexual hybrid resulting from the cross of ‘Midnight’ (Meyer et al., 1984) × Olivewood Cem-4 or Evergreen Cem-4. Olivewood Cem-4 and Evergreen Cem-4 are plants collected from Olivewood and Evergreen Cemeteries in Claremont, CA. Brilliant originated as a single highly apomictic plant selected from the progeny of the cross ‘Unique’ (Rose-Fricker et al., 1999) × ‘Rita’ and C-727, a plant collected from a cemetery in St. Johnsbury, VT.

The cross, PST-107–8 × Brilliant, was made during the spring of 1999 in a greenhouse located near Hubbard. A single hybrid plant was selected during the summer of 2000 from the progeny of this cross and identified as PST-Y2K-59. Seeds from this plant were harvested and planted in the fall of 2000 into a field trial of 50 plants to assess apomixis. Seed was also used to establish a turf plot near Hubbard. PST-Y2K-59 was determined to have a 92% level of apomixis and excellent turf performance.

A Breeder seed nursery was established near Hubbard during the fall of 2002. During the spring of 2003, 104 off-types were removed from this nursery and 1099 plants were harvested as Breeder seed of Prosperity.

Prosperity is a low-growing, elite Kentucky bluegrass with a very dark blue-green color. Prosperity has exhibited excellent turf quality with good density in trials in the USA and Holland. This cultivar has good resistance to Fusarium crown/root rot [caused by Fusarium culmorum (Wm. G. Sm.) Sacc.], Rhizoctonia sheath spot (caused by Rhizoctonia zeae Voorhees), leaf spot [caused by Drechslera poae (Baudys) Shoemaker], dollar spot (caused by Sclerotinia homoeocarpa F.T. Bennett), and stripe rust (caused by Puccinia striiformis Westend.). It shows little wilting during drought stress and good wear tolerance. Prosperity has good genetic color in the winter.

Prosperity is suitable for such turf uses as golf course roughs or fairways. It has performed well where Kentucky bluegrass cultivars are adapted and can be used as a monostand or in a blend with turf-type tall fescue (Festuca arundinacea Schreb.), perennial ryegrass (Lolium perenne L.), and fine-leafed fescues (Festuca spp.).

Seed propagation is limited to three generations of increase from Breeder seed: one each of Foundation, Registered, and Certified. In the last 2 yr of multiplication, no off-types or variants have been observed in the Foundation and Certified generations of production of Prosperity. Prosperity Kentucky bluegrass and the parents of Prosperity have produced turf and seed production fields of good quality, acceptable uniformity, and good stability.

Limited quantities of seeds are available solely for evaluation purposes from the corresponding author on approval. An agreement must be signed that evaluator will not make use of germplasm for selecting, crossing, increase, basic research or commercial purposes. Seeds have been deposited in the National Plant Germplasm System. Seeds will be available from the NPGS 20 yr after U.S. Plant Variety Protection (P.V.P.) is granted. Application has been made for P.V.P. (application no. 200600068 is pending).

C.A. Rose-Fricker,* M.L. Fraser

References
