Registration of ‘Dawn’ Orchardgrass

‘Dawn’ orchardgrass (Dactylis glomerata L.) (Reg. no. CV-13, PI 566817) was developed by Land O’ Lakes, Inc., Webster City, IA, and released for marketing through Research Seeds, Inc., St. Joseph, MO, in 1989. Dawn was tested under the experimental designation D57. It is a hardy, medium-maturity, eight-clone synthetic cultivar. Unlike the parentage of most cultivars currently available in the USA, five of the eight parental clones are selections from plant introductions (PI) of recent origin from the former USSR. Parents were derived from PI 315425 (three clones), PI 325302 (one clone), and PI 315417 (one clone). The other three parental clones were derived from ‘Jackson’. Selection of parent clones was based on clonal and polycross progeny evaluation for seed and forage yield, stem and crown rust and leaf scorch resistance, and late maturity over several years at Webster City, IA, and for seed yield at Caldwell, ID.

Dawn averaged 3 to 4 d later for heading and anthesis date than ‘Potomac’, ‘Sterling’, and ‘Hallmark’ in the midwestern USA and 12 to 17 d later in the Willamette Valley of Oregon. It has exhibited greater winter hardiness and greater resistance to stem and crown rust (caused by Puccinia graminis Pers.: Pers. and P. coronata Corda, respectively) than Potomac, Sterling, Hallmark, and ‘Pennlal’ in Iowa and Wisconsin tests. Dawn is moderately resistant to leaf scorch [caused by Cercosporidium graminis (Fuckel) Deighton]. It had shown to have 3% higher digestibility than Sterling and Hallmark in Iowa State University trials. Forage and seed yields were similar to Potomac, Sterling, and Hallmark in the Midwest USA.

Under adequate moisture conditions in the Willamette Valley of Oregon, seed yields of Dawn were similar to Potomac, Sterling, and Hallmark. Dawn is adapted for forage and conservation use in the northern half of the USA and in southern Canada in areas where orchardgrass is commonly grown.

References

1. Land O’ Lakes Research Farm, 1025 190th Street, Webster City, IA 50595. Registration by CSSA. Accepted 30 Nov. 1993. *Corresponding author.

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Registration of ‘LCP 85-384’ Sugarcane

‘LCP 85-384’ sugarcane (Reg. no. CV-93, PI 575699) is an interspecific hybrid of Saccharum officinarum L., S. spontaneum L., and S. barbieri Janssiet. Its pedigree includes new germplasm developed by the USDA-ARS at Houma, LA, and was selected from progeny of the cross CP 77-310/CP 77-407 made at Canal Point, FL, in 1980. The clone was developed through cooperative research by the Louisiana Agricultural Experiment Station of the Louisiana State University Agricultural Center, the USDA-ARS, and the American Sugar Cane League of the USA.

Stalks of LCP 85-384 are light green to almost white, and possess leaf sheaths with a high degree of pubescence and a necrotic margin that includes the auricle. The cultivar produces very high populations of small-diameter stalks. In 229 paired comparisons (117 plant-cane, 78 first-ratoon, and 34 second-ratoon crop comparisons, including 82 replicated tests among 17 locations over 7 yr), LCP 85-384 produced a weighted average of 148 and 134% of the stalks per area compared with the commercial checks, ‘CP 70-321’ (1) and ‘CP 74-383’ (2), respectively. Higher stalk populations in LCP 85-384 were especially evident in the older ratoon crops. LCP 85-384 produced 137, 152, and 175% of the stalk populations of CP 74-383 in the plant-cane, first-ratoon and second-ratoon crops, respectively. However, stalk weight averaged 87% the weight of CP 70-321 and did not vary with crop year.

The cultivar is generally erect and suited to mechanical harvesting when erect, with harvesting characteristics similar to CP 70-321.

LCP 85-384 produced higher cane yields (Mg ha⁻¹) than CP 70-321 and CP 74-383. The largest relative yields were produced in the older ratoon crops where LCP 85-384 produced cane yields 120, 129, and 155% of CP 70-321 and 110, 116, and 125% of CP 74-383, in the plant-cane, first-ratoon, and second-ratoon crops, respectively.

LCP 85-384 produced an average (232 paired observations) of 104 and 108% the recoverable sucrose content (kg Mg⁻¹) of CP 70-321 and CP 74-383, respectively. Tests indicate it has a milling factor of 1.024 and a cane fiber content of 12.48%, as compared with the milling factor of 1.021 and 12.67% fiber content of commercial check ‘CP 65-357’ (3).

Based on the 229 paired tests among three crops, the cultivar produced recoverable sucrose yields (kg ha⁻¹) averaging 138, 134, and 124% of that of the commercial varieties CP 65-357, CP 70-321, and CP 74-383, respectively. Relative performance of LCP 85-384 was accentuated in the second-ratoon crop when it produced 161% of the sucrose yields as an average of the three commercial checks. LCP 85-384 produced the highest sucrose yields or was not significantly different from the highest-yielding entry in 95% of the 82 replicated tests (as compared with only 48, 46, and 52% of the tests for CP 65-357, CP 70-321, and CP 74-383, respectively).

LCP 85-384 is susceptible to injury caused by the sugarcane borer, Diatraea saccharalis Fabricius, and is comparable to CP 74-383 based on percent bored internode data. LCP 85-384 is moderately resistant to smut (Ustilago scitaminea Syd. & P. Syd.), resistant to sugarcane mosaic virus, and susceptible to ratoon stunting disease (Clavibacter xylil subsp. xylil). Preliminary data suggest that the cultivar is tolerant to herbicides used in sugarcane production.

Seed cane of LCP 85-384 will be maintained at the St. Gabriel Research Station of the Louisiana Agricultural Experiment Station. A small number of cuttings are available from the corresponding author upon request.