Registration of ‘Alexa’ Kentucky Bluegrass

‘Alexa’ Kentucky bluegrass (Poa pratensis L.) (Reg. no. CV-92, PI 634978) is a turf-type cultivar released in August 2004 by Jacklin Seed by Simplot, Post Falls, ID. Experimental designations for Alexa were 94-2561 and J-2561.

Alexa originated as an apomictic, single-plant selection from the progeny of field cross 92-4230, created June 1992 using Jacklin breeding line 92-0076 as the maternal parent and ‘Midnight’ (Meyer et al., 1984) as the pollen source. Isolation distance and not pollen bags were used to control pollination. Breeding line 92-0076 is a dark green variety with medium-low turf quality, originating from an open-pollinated field cross of Midnight in 1990. Seeds harvested from hybrid cross 92-4230 were sown in greenhouse flats in spring of 1993, and transplanted into a spaced-plant nursery of 40701 plants. Offspring with characteristics dissimilar to 92-0076 were selected during maturation in spring of 1994. Plant number 94-2561 was identified as being unique from 92-0076 by the color and appearance of its panicle. A single spaced plant of 94-2561 produced 45 g of clean seed, which is three times the amount typical for a Kentucky bluegrass spaced plant in northern Idaho.

Seed harvested from 94-2561 was tested in turf trials in Idaho beginning in 1994 and in Maryland and Ohio in 1997. First Breeder seed was produced in 2000 and Certified seed in 2003.

Progeny apomixis trials were conducted in a spaced-plant nursery established near Post Falls in 1999. Among 1367 Alexa plants, 1.7% were variants in the vegetative stage, 1.2% were heading maturity variants, 0.4% were seedhead variants, 0.2% were variants during dry-down, and 0.7% were miniature plants. In spaced-plant nurseries, Alexa averaged 96% apomictic, though the level varies from 90 to 99% in commercial seed production depending on weather, location, and year. Heading variants average 10 to 20 cm taller in culm length with a tendency toward lodging. Some variants are miniature plants that will not be apparent in seed production. About 0.2% of plants resemble common Kentucky bluegrass, but with leaf and panicle color characteristics that link them to the cultivar. Approximately 0.4% of plants have a later maturity, with taller culms and lighter green foliage as the stand matures. aberrant plants are removed from seedstock fields but will continue to be expressed in each generation because of the facultative apomictic nature of Kentucky bluegrass.

Alexa most closely resembles ‘Liberator’ (Brede, 2001), differing by a wider flag leaf, more branches at the lowest node in the panicle, and later reproductive maturity. Alexa is a half-sib of the cultivars EverGlade (Brede, 2006a) and Freedom III (Brede, 2006b).

Alexa was tested in the 2000 National Turfgrass Evaluation Program (NTEP) trials for Kentucky bluegrass (Morris, 2002, 2003, 2004, 2005). In the trial, Alexa had a dark green genetic color and good turf quality at close (25 mm or lower), intermediate (25–50 mm), and higher (greater than 50 mm) mowing heights. In overall turf quality, it performed well in the northeastern, Midwest, Great Plains, and Transition Zone regions of the USA. Alexa has good shoot density during summer and autumn, a medium-fine leaf texture, good shade tolerance, relative freedom from seedhead expression in mowed turf, and good tolerance of traffic stress. It is resistant to leaf spot (caused by Drechslera poae (Baudys) Shoem., dollar spot (caused by Lanzia Sacc. or Moellerodiscus Henn. spp.), brown patch (caused by Rhizoctonia solani Kühn), and is tolerant of annual bluegrass (P. annua L.) encroachment. In 5 yr of commercial seed production, Alexa has demonstrated the potential for high yields of quality seed, relative freedom from ergot (caused by Claviceps purpurea (Fr.) Tul.) and no adverse reactions to labeled pesticides.

Alexa is recommended for golf course tees, fairways, and roughs, and for lawns, parks and sports turf, in full sun or some shade, in areas where Kentucky bluegrass is well adapted for turf. It is compatible in blends and mixtures with other cool-season turfgrasses at mowing heights as low as 13 mm.

Breeder seed is maintained by Jacklin Seed, with seed increase limited to one generation each of Foundation, Registered, and Certified. United States Plant Variety Protection application no. 200400216 has been filed for Alexa. Limited quantities of seed are available for experimentation on request from the author. Recipients are asked to recognize the source if Alexa contributes to the development of a cultivar or germplasm or is used for other research purposes. Seed has been deposited in the National Plant Germplasm System (NPGS), but no seed will be distributed by the NPGS without written permission for 20 yr from the date of publication in Crop Science, at which time seed will also be available from NPGS.

A. Douglas Brede®

References


Jacklin Seed by Simplot, West 5300 Riverbend Ave., Post Falls, ID 83854-9499. Registration by CSSA. Received 11 Apr. 2006. *Corresponding author (doug.brede@simplot.com).

doi:10.2135/cropsci2006.04.0238
Published in Crop Sci. 46:2720 (2006).