Registration of ‘Arabia’ Tall Fescue

‘Arabia’ tall fescue (\textit{Festuca arundinacea} Schreb.) (Reg. no. CV-77, PI 608786) was developed by J.R. Simplot Co. dba Jacklin Seed, Post Falls, ID. The first Certified seed was produced in 1998, and Arabia was released by Jacklin Seed in November 1998. Arabia was tested under the designation J-5.

Roughly 50% of the parentage of Arabia traces to ‘Pixie’ (6), 19% to ‘Coronado’ (1), and 31% to polycrosses with various Jacklin experimentals. These Jacklin experimentals were developed by three to four generations of repeated breeding and selection to Pixie, Rebel (3), Arid (2), and Wrangler (1).

One of the eight parental lines of Arabia traces to an elite selection from the Pixie tall fescue Breeder seed field (94-1025), and three other lines had Pixie as the mother plant (94-1657, 94-1654, and 94-1522). Parent line 94-1403 was a selection out of an 800-plant nursery of Coronado. It was moved to an isolated polycross block, 94-8007, and crossed within that block with 29 other elite plants as pollen sources.

Parent line 94-1618 was a selection out of 92-2365 that was moved to an isolated polycross block, 94-8002, and crossed within that block with 39 other elite plants as pollen sources.

Parent line 94-1256 was a selection out of line 92-0233 that was moved to an isolated polycross block, 94-8001, and crossed within that block with 48 other elite plants as pollen sources.

Parent 94-1657 was a selection out of 92-2365 that was moved to an isolated polycross block, 94-8001, and crossed within that block with 48 other elite plants as pollen sources. Parent 94-1654 was a selection out of 92-0233 that was moved to an isolated polycross block, 94-8007, and crossed within that block with 39 other elite plants as pollen sources. Parent 94-1522 was a selection out of an 800-plant nursery of Coronado. It was moved to an isolated polycross block, 94-8007, and crossed within that block with 39 other elite plants as pollen sources.

In 1994, 512 plants were selected from a 1993 space-plant nursery and planted within 13 polycross blocks, prior to anthesis. The primary selection criteria for each block was similar maturity, in order to achieve uniform fertilization and seed set within each block. Other criteria included parentage, plant height, leaf texture, leaf color, resistance to net blotch [caused by Drechslera dictyoides (Drechs.) Shoemaker], tolerance to stem rust (caused by Puccinia graminis Pers.:Pers.), and seed yield. Each block was placed a minimum of 50 m from other tall fescue pollen sources.

Seed was harvested from individual plants within each polycross block in July 1994. In addition to these polycross selections, another 300 individual selections were harvested from various Jacklin experimentals. These Jacklin experimentals have produced turfgrass with comparable quality and acceptability. As with any sexually propagated crop, variants are infrequent and are routinely rogued from seed stock fields.

Breeder seed is maintained by Jacklin Seed. Registration is limited to three generations of increase, one each of breeder, foundation, and certified. 

Seed samples of Breeder, Foundation, and Certified seed are transported to Post Falls, and propagated in greenhouse flats. By August 1995, seed was established in a Breeder field near Rathdrum, ID. Parent line 94-1256 was selected for leaf texture, dark green color, and uniform plant height, leaving 1323 plants.

Breeder seed was harvested in July 1996 and designated J-5. This seed was entered in the 1996 National Turf Evaluation Program (NTEP) trials (4).

Turf quality of Arabia under a low nitrogen regime of 15 g N m\(^{-2}\) was significantly superior to ‘Bonsai’, ‘Arid’, and ‘Kentucky-31’ with endophyte. Arabia has low cutting heights of 1.5 to 3.8 cm, turf quality was significantly better than ‘Wolfpack’, ‘Coronado’, ‘Kitty Hawk’, ‘Lion’, ‘Bandana’, ‘Comstock’, and ‘Arid’. Arabia was significantly darker green compared with ‘Sunpro’, ‘Coronado’, ‘Fiesta’, ‘Rebel’, ‘Millenium’, ‘Rebel Sentry’, ‘Shoepiece’, ‘Lion’, ‘Crossfire II’, and Coronado Gold. Arabia was significantly more resistant to leaf spot (caused by Drechslera spp.) compared with Arid, Coronado Gold, with endophyte, and Rebel Sentry. Arabia was more resistant to Pythium blight (caused by \textit{Pythium} spp.) compared with ‘Gazelle’, and ‘Rebel’ (5).

At North Brunswick, NJ, Arabia exhibited better turf quality than Wolfpack, Leprechaun, Pixie E+ (with endophyte), and Pixie E. Arabia was significantly darker green than ‘TF-9’, ‘Equinox’, ‘Apache II’, ‘MB 210’, ‘Oklahoma’, ‘Showpiece’, and ‘Rebel 3D’ (5).

Arabia is recommended for sports turf, golf course roughs in areas where tall fescue turf. It can be grown in full sun or moderate shade. Arabia is a consistent and stable cultivar.

Seed samples of Breeder, Foundation, and Certified seed stock are produced for, but Jacklin Seed is still considering the option. 


References and Notes