REGISTRATION OF CULTIVARS

REGISTRATION OF ‘EXCEL’ BARLEY

‘EXCEL’ (Reg. no. 223, PI 54207) is a spring barley (Hordeum vulgare L.) cultivar developed by the Minnesota Agricultural Experiment Station and released in February 1990. It originated from an F_5 plant from the cross ‘Cree’/‘Bonanza’/‘Manker’/‘Robust’ made in 1981 and was tested as M52. Parents of Excel are closely related. The parent line from the cross Cree/Bonanza, M28, is a sister line to ‘Morex.’ Cree is a parent of Manker, and Morex and Manker are the parents of Robust. Manker, Robust, and Bonanza are malting cultivars. All of the parents including Bonanza, a Canadian cultivar, have performed well in Minnesota.

Excel is a six-rowed, smooth-awned spring barley. Its covered, medium-sized kernels have long hairs on the rachilla and a white aleurone. The spike is medium lax, medium long, and semierect. Excel is shorter than Morex or Robust and has moderately strong straw. It is best suited for the barley-growing area of the upper midwestern USA.

Excel possesses the desirable agronomic attributes of Robust, the currently dominant cultivar in the Upper Midwest, and the malting and brewing attributes of Morex, the six-rowed quality standard for malting and brewing (1,2). It was 4% higher yielding than Robust in 33 trials in Minnesota and in 32 regional trials. Wide adaptation is suggested by Excel’s good performance in tests conducted in Idaho and in Manitoba, Canada. It is similar to Robust in maturity and lodging reaction, but is lower in plump-kernel percentage. Excel possesses the T gene for resistance to stem rust [Puccinia graminis (Pers.:Pers.) var. tritici], the ND B112 gene for resistance to spot blotch [Bipolaris sorokiniana (Sacc.) Shoemaker], and a low level of resistance to net blotch (Pyrenophora teres Drechs.). It is susceptible to loose smut [Ustilago tritici (Pers.) Rostr.].

Excel’s malting quality traits, determined in collaboration with the USDA Cereal Research Unit at Madison, WI, and industry testing, appear to be similar or superior to Morex. It has the high α-amylase and diastatic power of Morex. In testing to date, it extract is 0.5% above Morex and its grain protein is 0.9% below Morex. Excel is approved as a malting cultivar by the American Malting Barley Association, Inc., is pending. Breeder seed is maintained by the Minnesota Agricultural Experiment Station, St. Paul, MN 55108.

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References and Notes

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REGISTRATION OF ‘HUNDRED’ BARLEY

‘HUNDRED’ winter barley (Hordeum vulgare L.) (Reg. no. CV-224, PI 536543), was released in 1989 by the Washington Agricultural Research Center, the University of Idaho Agricultural Experiment Station, and the Oregon State University Agricultural Experiment Station. It was selected initially in Pullman, WA, in 1977 as a plant row in the F_3 generation derived from a single F_1 plant from the cross WA2196-68 (‘Luther’/‘Hudson’)/WA2509-65 (‘Alpine’/‘Svalof’/‘White-Winter’/‘Triple-Bearded Mariout-305’) made in 1973. Hundred was tested as WA1574-77.

Hundred is a six-rowed, midseason maturing, erect growing, semidwarf winter barley. It has a club-shaped erect spike with long, rough awns. The relatively small, globose kernels have semismooth, tightly adhering hulls with white aleurone, short rachilla hairs, and prominent veins. The crease is narrow at the base and flaring toward the awn.

Hundred is especially adapted to dryland conditions, but it also performs well under irrigation in the Pacific Northwest. In 87 location-years in the Pacific Northwest, Hundred yielded 118, 112, 108, and 102% of ‘Kamiak’, ‘Showin’, ‘Boyer’, and ‘Hesk’, respectively. In 62 location-years in eastern Washington (59 location-years under dryland conditions), Hundred yielded 125, 115, 110, and 103% of Kamiak, Showin, Boyer, and Hesk, respectively. Boyer and Kamiak are the most widely grown winter barleys in Washington. Yield levels for Hundred under dryland conditions usually range from 3000 to 7000 kg ha~\(^{-1}\). Hundred generally has a volume weight similar to that of Showin, Boyer, or Hesk and slightly lower than that of Kamiak. It is slightly shorter in stature than Boyer or Hesk (5%), substantially shorter than Kamiak (20%), and taller than Showin (10%). Under dryland conditions, Hundred’s culm length generally ranges from 70 to 90 cm. It is ~30% more lodging resistant than Kamiak and similar in lodging resistance to Showin, Boyer, or Hesk. Tests