Registration of ‘Tetonia’ Barley


‘Tetonia’ two-rowed spring barley (Hordeum vulgare L.), (Reg. no. CV-334, PI 646199) was developed by the Agricultural Research Service, United States Department of Agriculture, and the Idaho Agricultural Experiment Station and released in January 2007. Tetonia was tested under the experimental designation 98Ab11720 and has the pedigree 85Ab2323/‘Baronesse’. The parent 85Ab2323 has the pedigree 79Ab10542/‘Crystal’ (Wesenberg et al., 1991). 79Ab10542 has the pedigree 60Ab1810-53/‘Hector’ (Wells, 1973). 60Ab1810-53 is one of 35 F₁₁ lines which were compositised to form the cultivar ‘Klages’ (Wesenberg et al., 1974) and has the pedigree ‘Betzes’/‘Domen’. Baronesse, a two-rowed feed barley, developed by the company Nordsaat in Germany and marketed in the U.S. by WestBred, LLC (Bozeman, MT) has the pedigree ‘Mentor’/‘Minerva’/‘Vada mutant’/‘Carlsberg’/‘Union’/‘Opavsky’/‘Salle’/‘Ricardo’/‘5’/‘Oriol’/61S3P40.

The spike of Tetonia is moderately lax, medium-long, and nodding. Its kernels have white aleurone and long rachilla hairs. Its hull is smooth to slightly wrinkled and it has rough awns.

The cross that produced Tetonia was made in 1993 and 100 F₅ spikes were selected in 1997 following pedigree selection in the F₂ through F₅ generations for resistance to lodging, shattering, and favorable plant and spike type under irrigation at Aberdeen, ID. These spikes were grown as progeny rows in 1998 and the row designated no. 11720 was selected because of its resistance to lodging, grain shattering, and favorable plant and spike type. Tetonia was evaluated in a non-replicated yield trial at Aberdeen, ID in 1999 and entered in replicated yield trials at Aberdeen and Tetonia, ID beginning in 2000. Tetonia entered preliminary statewide trials in 2001 and elite trials throughout Idaho in 2003. Tetonia was tested in the Western Regional Dryland Spring Barley Nursery (WRDSBN) in 2004–05 and small grains extension trials in 2004–06.

Tetonia has shown favorable yield potential and is adapted to Idaho and Montana. In ARS and cooperative University of Idaho 41 irrigated and rain fed locations throughout 2000–06, Tetonia yielded 102% of Baronesse and averaged 111% of the test mean across 11 locations in Idaho, Montana, North Dakota, Utah, and Saskatchewan (Baronesse was not grown as a check in the 2004 WRDSBN). Tetonia was the top performer in the 2004 WRDSBN and averaged 111% of the test mean across 11 locations in Idaho, Montana, North Dakota, Utah, and Saskatchewan. Across the five locations in Idaho and Montana, Tetonia had the second best performance across eight locations in these two states it was the top performer, averaging 115% of the test mean. In the 2005 WRDSBN, Tetonia had the second best performance after the top performing cultivar was the top performer and yielded 106% of Baronesse in 63 location-years from ARS, University of Idaho, and regional trial evaluations, Tetonia yielded 102% of Baronesse in 50 location-years from ARS, University of Idaho, and regional trial evaluations, Tetonia and Baronesse each had 84.4% kernels compared to 84.4% for Baronesse. Kernels retained on a sieve with 0.24 by 1.9 cm slotted openings (American Society of Brewing Chemists, 1992) were considered plump.

Across 43 location-years, Tetonia headed two days later than Baronesse and had a lodging rating (1–9 scale with 9 = worst) of 1.4 compared to 1.5 for Baronesse. Across 50 location-years it was nearly identical in height, on average 0.2 cm taller.

In the 2004 and 2005 WRDSBN foliar disease ratings were taken on a 0 (resistant) to 9 (very susceptible) scale. In the 2004 WRDSBN reaction to net blotch and barley stripe rust (caused by Puccinia striiformis f. sp. hordei) at Saskatoon and Melfort, respectively. Ratings on net blotch were 5.0 and 6.0 for ‘Steptoe’ and Tetonia, respectively. In the 2005 WRDSBN reaction to net blotch and barley stripe rust (caused by Puccinia striiformis f. sp. hordei) were taken at Melfort, SK, Canada. Tetonia had a rating of 7.0 and 5.5 compared to 5.0 and 5.0 for ‘Steptoe’ (Muir and Nilan, 1973) at Saskatoon and Melfort, respectively. Ratings on net blotch were taken in 1998 and 1999 at the Idaho Agricultural Experiment Station and released in January, 2008