REGISTRATION OF CULTIVARS

Registration of ‘Colter’ Barley

‘COLTER’ SPRING BARLEY (Hordeum vulgare L.) (Reg.
no. CV-235, PI537967) was developed cooperatively by the USDA-ARS and the Idaho, Oregon, and Washington Agricultural Experiment Stations. It was released by these agencies in 1991.

Colter was selected from the cross 73Ab2199/‘Karla’ made in 1976. The parent 73Ab2199 is a six-rowed spring selection developed by the ARS at Aberdeen, ID, from the cross ‘Steptoe’/‘Larker’. Karla was developed also by the ARS at Aberdeen and is from the cross 63Ab2987-9/2/‘Conquest’. Line 63Ab2987-9 is a sib selection to ‘Karl’. Colter originated at Aberdeen as an F4 spike selection, subsequently harvested as an F5 row in 1979, and initially identified as 79Ab10719. One hundred and eight lines or reselections of 79Ab10719 were grown in nonreplicated lots under irrigation at Aberdeen in 1984. Seventy of these 108 lines were grown in replicated trials at Aberdeen in 1985 and 66 lines were selected and composited as 79Ab10719-66LC in 1986 based on yield, test weight, kernel plumpness, heading date, height, incidence of alternaria kernel blight, and general agronomic appearance. Colter was identified as 79Ab10719-66LC from 1986 until release. Colter is a six-rowed spring barley that is midseason in maturity with moderately lax spikes, smooth awns, and kernels with white aleurone. Lemma barbs are few to none and the rachilla hairs are long.

Selection 79Ab10719 was first tested in replicated trials in Idaho in 1980. Following reselection and bulking, Colter was entered in the regional Western Spring Barley Nursery and Western Dryland Spring Barley Nursery in 1988. It has been widely tested in both irrigated and dryland trials in Idaho and other western states since regional testing was initiated. In six station-years of testing in irrigated trials at Aberdeen from 1986 to 1991, Colter averaged 8476 kg ha⁻¹ or 107% of Steptoe, 115% of ‘Gus’, 138% of ‘Morex’, and 119% of ‘Russell’. In these same trials, Colter equaled or exceeded all these cultivars in test weight. However, Colter was inferior to these cultivars in kernel plumpness. Colter averaged 80% plump barley (over a 2.4- by 19.1-mm screen) versus 92% for Steptoe. Colter was similar to Steptoe and Russell in height and taller than Gus, but shorter than Karla and Morex. Colter, Steptoe, and Morex were similar in heading date at Aberdeen. Colter was superior to Steptoe and Morex in lodging resistance, but inferior to Karla, Russell, and Gus.

In six station-years of testing in dryland trials at Tetonia, ID in 1986 to 1991, Colter averaged 2892 kg ha⁻¹ or 96% for Steptoe. Colter was similar to Steptoe and Morex in lodging resistance, but inferior to Karla, Russell, and Gus.

In 55 station-years of testing from 1988 to 1990 in the Western Spring Barley Nursery and Western Dryland Spring Barley Nursery in Idaho, Colter averaged 101% of Steptoe and 99% of ‘Hector’. Colter had high malt extract, averaging 83% in Idaho trials from 1986 to 1990 versus 79.5% for Steptoe and 80.2% for Russell. In these comparisons, Colter averaged 10.2% protein while Morex averaged 12.9% and Russell averaged 11.4%. Colter is inferior to Morex and Russell in diastatic power and alpha amylase. A similar pattern of high malt extract together with high grain protein and enzymatic activity was noted in Karla and first studied extensively in Karla and Morex, with Karla having 142% of ‘Gus’, 138% of ‘Morex’, and 119% of ‘Russell’. In these comparisons, Colter averaged 8476 kg ha⁻¹ or 107% of Steptoe, 115% of Morex, and 102% of Steptoe. Colter and Steptoe averaged the same in height and heading date, but Colter had better resistance to lodging than Steptoe, slightly higher than Steptoe in test weight, but lower than Morex. Colter averaged 75% plump barley, Steptoe and Morex 79% in these regional trials over the 3-yr period. In 31 station-years of testing in 1986 in the Western Dryland Barley Nursery, Colter averaged 101% of Steptoe and 99% of ‘Hector’. Colter is expected to compete favorably with existing six-rowed spring barley cultivars in irrigated and dryland environments in Idaho and other western states. Colter is named after John Colter (1770?-1813), an early Mountain fur trapper, explorer, and mountaineer who served as a member of the Lewis and Clark expedition. He is especially remembered for his exploration of the region that now includes Yellowstone National Park. He is especially remembered for his exploration of the region that now includes Yellowstone National Park.

Breeder and foundation seed of Colter will be maintained by the Idaho Agricultural Experiment Station Seed Program. Requests for breeder and foundation seed should be directed to the Coordinator, University of Idaho, Foundation Seed Program, Idaho Agricultural Experiment Station, College of Agriculture, Conservation Center, 3793 North 3600 East, Kimberly, ID 83341. Seed is available in small quantities for research purposes from the USDA-ARS National Grains Germplasm Research Facility, P.O. Box 482, Aberdeen, ID 83210.

D.M. WESENBERG,* D.E. BURRUP, J.C. WHITMORE, AND B.L. JONES (3)

References and Notes