REGISTRATION OF 'PERKINS' WINTER BARLEY

'PERKINS' winter feed barley (Hordeum vulgare L.) (Reg. no. 221, PI 536646) was developed by the Nebraska Agricultural Experiment Station and released in 1989. Perkins is an increase of an F_6 head selection from NE81713, an F_3-derived line from the cross 'Nebar Selection'/'Dundy' made in 1976. Perkins was tested as NE851808 in Nebraska yield nurseries starting in 1986 and in the Uniform Barley (Winter Hardiness) Nursery starting in 1987.

Perkins is a six-rowed, awned, winter feed barley cultivar. The spike is carried erect to inclined on a straight neck, and is moderately short. Lemma awns are long and moderately rough. The hull adheres to the kernel and is slightly wrinkled. Kernels are white and 1000-kernel weight averages 27 g. Perkins has a V-shaped collar. Glumes are hairy and covered, and are about one-half the kernel length. Glume awns are long, rachilla hairs are short, and rachis edges are hairy. The aleurone is colorless to very pale blue. The basal mark is an incomplete horseshoe depression.

Perkins is intermediate in heading date between Dundy and 'Hitchcock', the most popular barley cultivars in Nebraska, and it has excellent test weight (683 kg m^{-3}). Winter survival is less than that of 'Kearney', and is similar to or slightly less than that of Dundy or Hitchcock. Perkins is intermediate in plant height (69 cm) between Dundy and Kearney, and it has good straw strength. In four years of testing in Nebraska (14 environments), grain yield of Perkins (2838 kg ha^{-1}) has exceeded that of Dundy and Hitchcock by 20%. Perkins has performed well in all Nebraska locations where barley survived the winter, and its performance has been excellent in western Nebraska.

In limited testing, Perkins has been moderately tolerant to barley yellow dwarf virus and susceptible to currently prevalent races of stem rust (incited by Puccinia graminis Pers. f. sp. tritici Eriks. & E. Henn. and P. graminis f. sp. secalis Eriks. & E. Henn.). No other diseases were present during the development of Perkins and no other disease reactions on Perkins are known.

The generation sequence of seed production will be breeder, foundation, registered, and certified. This cultivar will not be protected under the Plant Variety Protection Act, Public Law 91-577. Perkins was approved for release in 1989 and certified seed will be available for farmers in the fall of 1990. Breeder seed of Perkins will be maintained by the Nebraska Agricultural Experiment Station, Department of Agronomy, University of Nebraska, Lincoln, NE 68583. Foundation seed will be available from the Foundation Seed Division, Department of Agronomy, University of Nebraska, Lincoln, NE 68583.

SHONKIN' barley (Hordeum vulgare L.) (Reg. No. 19, PI 539857) was developed cooperatively by the USDA-ARS and the University of Georgia Coastal Experiment Station for use as a hulless, waxy barley cultivar and released in 1990. Shonkin is the result of a selection made at Bozeman, MT, in 1986 from 'Wanubet,' with selection made for earliness and stature.

Shonkin is a two-rowed, white kernelled, early-maturing spring barley that is midseason in maturity. The mid-long spikes that nod before maturity have rough awns, glume awns equal in length to the hair covered glumes, long rachilla hairs, and rachis edges. The endosperm contains waxy starch (primarily amylopectin), and the lemma and palea are nonadherent.

Compared to 'Hector' (CI 15514), Shonkin is 1.5 d later in heading, 2 cm taller, and similar in straw strength. Shonkin yielded 20% less than Hector and 25% less than 'Stephan', with a mean grain yield of 2838 kg ha^{-1}. Shonkin contained 4% beta-glucans (data not shown).

Shonkin and other hulless waxy barley cultivars may find use in human food products when relatively high levels of dietary fiber are desired. In preliminary evaluation at eight locations, Shonkin contained on average 6.9% beta-glucans while the check cultivars Hector and 'Stephan' contained 4% beta-glucans. No other diseases were present.

Shonkin is named after Shonkin, MT, a town located in the barley growing region in northcentral Montana. Breeder and foundation seed of Shonkin will be maintained by the Foundation Seed Stocks, Plant and Soil Science Division, Department, Montana State University, Logan, MT 59717.


References and Notes