Penncro was tested in the 48th Uniform Winter Hardiness Barley Nursery during 1983–1984 and in the Uniform Hardy Barley Nursery in 1986 under the experimental designation of PA8346-7. It also was evaluated at three locations in both Virginia and Maryland in 1985. Winter survival was 80, 76, 74, and 67%, respectively, for ‘Kearney’, Penncro, Maury, and ‘Wysor’. Average yield of Penncro exceeded that of Maury by 17% in Virginia, but yield was 5% below that of Maury in Maryland.

Penncro is a six-rowed feed barley with an awnleted, compact spike. The short awns on the central spikelets are rough. Early growth is semiprostrate and dark green in the spring. Flag leaves average 1 cm in width and 8 cm in length. The first leaf below the flag leaf averages 1.4 cm in width and 15 cm in length. The stem neck is straight and heads are semi-nodding to nodding at maturity. The dense spike is short to midlong and lateral kernels do not overlap. The collar is closed and the rachis has hairy edges. The glumes are about one-half the length of the lemma with hairs confined to a band. Glume awns are longer than the glumes and are rough. Kernels are semiwrinkled with white aleurone and have long haired rachillas.

Penncro exhibits good field resistance to the races of the causal organisms of powdery mildew (Erysiphe graminis DC. ex Mérat f. sp. hordei Em. Marchal) and scald [Rhychosporium secalis (Oud.) J. J. Davis] prevalent in Pennsylvania. It is less susceptible to leaf rust (caused by Puccinia hordei Otth.) and net blotch [caused by Pyrenophora teres (Died.) Drechs.] than Pennrad.

Breeder seed of Penncro will be maintained by the Pennsylvania Agricultural Experiment Station. Foundation seed will be available from the Pennsylvania Foundation Seed Cooperative, P.O. Box 513, Manheim, PA 17545.

M. L. Risius,* H. G. Marshall, and J. A. Frank (1)

References and Notes


REGISTRATION OF ‘RAY’ BARLEY

‘Ray’ (PI 502972) is a winter feed barley (Hordeum vulgare L.) (Reg. no. 207) developed by the Ohio Agricultural Research and Development Center, Ohio State University, attributes, including exceptionally high-yielding ability and excellent lodging resistance. Test weight of Ray is excellent, exceeding all currently grown cultivars in Ohio. It has good, but not excellent, winter hardiness in Ohio conditions, rating higher than ‘Barsoy’, ‘Maury’, and low ‘Maury’ in average survival in Ohio tests.

Ray is moderately resistant to common rust (caused by Helminthosporium species). It exhibits moderate plant resistance under field conditions to leaf rust (caused by Puccinia hordei Otth.) and has shown good resistance to scald and powdery mildew [caused by Erysiphe graminis f. sp. hordei Em. Marchal, respectively]. The reaction of Ray to other diseases has not been observed in Ohio, but few diseases have occurred on barley in Ohio. Reports from other states on performance in the Uniform Winter Barley Nursery indicate that Ray is resistant to net blotch and Septoria leaf blotch (caused by Pyrenophora teres Drechs. and Septoria paspali respectively).

Spikes of Ray are strap shaped, medium long, and semi-prostrate at maturity. The kernels are covered, with yellow aleurone and an incomplete horseshoe depression at the base. Rachilla and glumes are covered with both long and short hairs.

Yields of Ray, Maury, Barsoy, and ‘Pennrad’ averaged 4370, 4085, 3531, and 3413 kg ha⁻¹, respectively, in Ohio drilled plot trials conducted from 1980 through 1986. Ray heads 9 d later than Barsoy, but on the same date as Pennrad and Maury. Plant height averages 30 cm in Pennrad and 8 cm taller than Maury. Ray has less lodging in Ohio tests while Maury, Barsoy, and ‘Pennrad averaged 8, 19, and 24%, respectively.

This cultivar was named in honor of the late Dale A. Ray, oat and barley breeder at Ohio State University from 1956 to 1981.

Foundation seed of Ray first was distributed in the fall of 1986. Application for variety protection under the Plant Variety Protection Act is not planned. Breeder seed of Ray will be maintained by the Ohio Agricultural Research and Development Center, Ohio State University, Wooster, OH 44691.

H. N. Lafever,* H. G. Marshall, and J. A. Frank (1)

References and Notes
