Registration of Crop Cultivars

REGISTRATION OF KIMBERLY BARLEY¹
(Reg. No. 171)
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'Kimberly' barley (Hordeum vulgare L.), CI 15687, was developed cooperatively by AR-SEA-USDA, and the Idaho Agric. Exp. Stn. It was released in 1978 by these agencies and by the Oregon Agric. Exp. Stn. The USDA Barley and Malt Laboratory, Madison, Wis., and the Malting Barley Improvement Assoc. (MBIA), Milwaukee, Wis., cooperated in testing its malting and brewing quality. Plant-scale evaluations of malting and brewing were initiated in 1975 in cooperation with the MBIA. Great Western Malting Co., Vancouver, Wash., assisted with the 1975 and 1976 field-scale seed increases needed for plant-scale evaluations. Kimberly was recommended as acceptable for malting and brewing by the MBIA in November 1977.

Kimberly is an advanced generation selection from 61Ab4965 which originated from a cross of 'Piroline'/CI 3038 made at Aberdeen in 1959. CI 3038, also known as "Australian", apparently originated in Australia and was entered in the USDA CI collection in 1919. Kimberly was first tested in replicated trials in 1972 and was entered in the Western Spring Barley Nursery in 1975.

Kimberly is a two-rowed, midseason, spring malting barley. The spikes are lax and midlong to long with rough awns and hairy rachis edges. The kernels have a white aleurone and long hairs on the rachilla. The hull is adhering and finely wrinkled, with weakly developed barbless veins. The glume is covered with long hairs, and the length of the glume awn is about equal to the length of the glume. The crease is narrow and shallow at the base, flaring toward the awn end; it generally has a well-defined fold. Kimberly is similar to 'Klages' in kernel morphology, test weight, plump barley percent, height, and straw strength in southern Idaho irrigated trials. It typically heads 2 days later than Klages in southern Idaho.

Kimberly averaged higher in yield than Klages in irrigated trials at Aberdeen, Twin Falls, Tetonia, and Rexburg, Idaho in 1972-78 with an overall yield advantage of 4.0% in 36 trials at these locations. In southern Idaho trials, it exhibited the greatest yield advantage over Klages in the Upper Snake River Valley, averaging 8.6% higher in seven station-years of irrigated trials at Tetonia and Rexburg. Kimberly exceeded Klages and 'Vanguard' in yield by 5.1 and 4.7%, respectively, in 83 station-years of testing in the Western Spring Barley Nursery in 1975-78.

Kimberly and Klages are similar in malting quality characteristics. The two varieties averaged about the same in malt extract percent, malt extract fine-coarse difference, and wort N/malt N ratio in nine station-years of irrigated testing at Aberdeen, Twin Falls, and Tetonia in 1974-77. In these trials, Kimberly averaged 11 units lower than Klages in diastatic power (171 vs 178), and about four 20° units higher in alpha amylase (47.5 vs 43.6).

REGISTRATION OF HARDIE BERMDAGRASS
(Reg. No. 11)

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'Hardie' bermudagrass [Cynodon dactylon (L.) Pers.] PI 206427, was released in 1974 by the Oklahoma Agric. Exp. Stn. It was selected as the best of several F₁ hybrids from crosses of 'Midland' x various C. dactylon accessions. PI 206427 belongs to the taxon C. dactylon var. aegilops which originated near Elazig, Turkey. Accessions 8153 and 9953 (apparently variant plants of PI 223248) belong to the taxon C. dactylon var. aegiloscus Harlan et de Wet and were collected in Afghanistan. Hardie was tested under the experimental designation OK-63.

Hardie is an infertile, vegetatively propagated grass, and when compared to 'Midland' grows taller and has longer rhizomes and stems and longer and broader leaves. It usually appear lighter in color and bear racemes that are longer than those of Midland. The leaves and stems accumulate anthocyanin pigmentation during periods of cold and fall weather giving it a distinct appearance from grass cultivars during those periods. Hardie tends to be a more open sod than Midland.

Since its selection in 1968, Hardie has been evaluated at several Oklahoma locations and in several other states. Hardie and Midland have been compared at 7 locations representing a total of 37 trials, and Hardie has averaged producing 6% more dry matter than Midland in those tests. Hardie typically has a much faster rate of growth in the spring and fall months but often performs sometimes poorer than, Midland during the summer months, perhaps due to a greater sensitivity to drought or heat. In vitro dry matter digestibility analyses of forage samples showed Hardie to be about 6% more digestible than Midland in these tests.

Hardie is susceptible to a leaf-spotting fungal disease, Helminthosporium sp and has not performed well in states east of Oklahoma. Its area of adaptation is restricted to areas where this disease is not prevalent.

Propagating stock increase is on a limited generation basis with one generation each of breeder, foundation, and certified stock. Breeder stock may be grown only from foundation stock. Breeder stock will be maintained by the Tetonia Nursery in cooperation with the MBIA. Great Western Malting Co., Van-