REGISTRATION OF CROP CULTIVARS

REGISTRATION OF PRIMUS AND PRIMUS II BARLEY

P. B. Price

'Primus' barley (Hordeum vulgare L. emend. Lam.), S.D. 63-260, CI 13109 (Reg. No. 114) was developed cooperatively by the South Dakota Agricultural Experiment Station and the U. S. Department of Agriculture and released in December 1966. Primus is a selection from the cross 'Brandon 3902' x 'Liberty' 2 x 'Swan' made by the writer at Brookings, South Dakota, in 1958. This cross brought together an early maturing selection of good malting quality; an adapted heat tolerant variety; and a plump-seeded variety with several good quality features. Several years of testing were completed before this variety was released.

Primus is an early-maturing modified Manchurian spring type, smooth awned, six-rowed barley. It is mid-tall and stiff-strawed, with long, fairly narrow leaves and rather short narrow flag leaf. The spikes are long, lax, nodding, and emerge well from the boot. The kernels are strongly attached, heads do not shatter readily at maturity, and neck breakage is minimal. The medium-size, plump kernels have short-hairied ra-chilla, tightly adhering hulls, colorless aleurone, and they thresh free of awns. Primus possesses outstanding heat tolerance and drought resistance, and these features, coupled with earliness, high yielding ability, and good grain quality make it a very suitable variety for South Dakota, North Dakota, Minnesota, and adjoining areas of the Upper Midwest. Primus is resistant to stem rust and susceptible to common leaf blight. Resistance to these diseases would be desirable, but they are not frequently serious enough to make a high degree of resistance necessary when grown in South Dakota and adjacent areas.

Primus has performed well in commercial production under dryland cultivation in South Dakota in 1966 and 1967. Additional information on Primus has been published.4 5

Primus II barley (Hordeum vulgare L. emend. Lam.), S.D. 65-700, CI 13796, (Reg. No. 115) was developed cooperatively by the South Dakota Agricultural Experiment Station and the U. S. Department of Agriculture, and released in December 1968. Primus II was developed from bulked head selections of Primus which were made in 1965 by the writer. This variety combines into one plant type the best features of three parents (Brandon 3902, Liberty, Swan) which contributed to the earliness, general adaptability, yielding ability, high bushel weight, and desirable quality features of this release.

Primus II was released because of its better uniformity in certain agronomic characters and slight superiority in grain quality over Primus. It appears to be identical with Primus in yielding ability and disease reaction.

Further information on the description and the performance of Primus II is available in two publications.6 7

Primus and Primus II were released as feed varieties. Large scale plant tests of Primus are being conducted on the 1968 crop by the Malting and Brewing Industry. A decision as to the acceptability of these two varieties for malting purposes has probably be made in 1970.

Breeder seed of both varieties is maintained by the Foundation Seed Stocks Division, South Dakota State University, Brookings, S. D. 57006.

REGISTRATION OF CASTOR VARIETY

Baker 296

W. E. Domingo

'Baker 296' castor (Ricinus communis L.), 54-55/296, was developed by The Baker Castor Oil Company of Texas, Plainview, Texas. The variety was first distributed in 1957. The dwarf internode character was introduced to the United States in South America material from Dr. Krug of Brazil. The U. S. Department of Agriculture, Agricultural Research Service, worked with this material at Stillwater, Oklahoma, under the leadership of Dr. Van Horn. Baker 296 is the progeny of plant 11 of row 292 of the 1952 U. S. Department of Agriculture nursery at Stillwater. The breeding procedure for the development of Baker 296 was a series of selfing with selection. It is now maintained by isolation and open pollination.

Baker 296 was one of the first two dwarf internode varieties released for commercial production. It is an indelible, early maturing, storm resistant variety highly suitable for mechanical harvesting. Tests have shown the harvested yield of Baker 296 to be greater than that of the "old normal internode types." Baker 296 shows good resistance to capsule mold caused by species of Alternaria, Fusarium, and Penicillium; but is very susceptible to Alternaria leaf spot caused by Alternaria ricini (Yoshida) Hansford. The variety is normal monocious, with many short compact racemes. The stems are red in color with waxy bloom. The stigmas are red, and the capsule spines are cone shaped. The Baker 296 seeds are reddish brown in color with extensive white mothering, have relatively small caruncles, and are rounded on both ends.

The areas of adaptation of Baker 296 are the castor growing regions of Nebraska and Kansas and the region north of the Canadian River in Texas. Baker 296 is now used as the male parent in at least one commercial hybrid and will serve as a source of elite germ plasm.

Breeders' seed will be maintained by The Baker Castor Oil Company of Texas, Plainview, Texas.

1 Registered by the Crop Science Society of America. Received June 9, 1969.
2 Director, Oilseeds Production Division, The Baker Castor Oil Company, Bayonne, New Jersey.

REGISTRATION OF MANHATTAN PERENNIAL RYEGRASS

(C. R. Funk, R. E. Engel, and P. M. Halisky)

'Manhattan' perennial ryegrass (Lolium perenne L.) is a 16-clone synthetic variety developed by the New Jersey Agricultural Experiment Station and released in 1967. Nine of the parent clones were collected from an old turf area in Central Park located on Manhattan Island in New York City. The seven remaining clones were selected from a space-planted nursery and traced through their maternal parents to plants originally selected from Central Park. Rutgers Syn M was the experimental designation of Manhattan.

Manhattan is a leafy, persistent, turf-type cultivar which produces a moderately dark-green turf of finer texture, greater density and a slower rate of vertical growth than most other rye-grass cultivars. Like other ryegrasses, Manhattan performs

1 Registered by the Crop Science Society of America. Received June 9, 1969. Paper of the Journal Series, New Jersey Agricultural Experiment Station, College of Agriculture and Environmental Science, Rutgers University.
8 Research Professor of Turfgrass Breeding, Professor of Turfgrass Management, and Associate Professor of Plant Pathology, respectively, Rutgers University, New Brunswick, New Jersey 08903.