 Registration of Crop Cultivars

REGISTRATION OF BONANZA BARLEY

(Reg. No. 173)

R. I. Wolfe, K. W. Campbell, and W. H. Johnston

'Bonanza' barley (Hordeum vulgare L.), CI 14003 (CN 55, BT 508, Br. 6145-29-1), was developed at the Agriculture Canada Res. Stn., Brandon, Manitoba, which is part of the Eastern Prairie Barley Group.

The pedigree of Bonanza is 'Vantage'/'Jet'/'Vantmore'/'Parkland'/'Conquest'. The first cross in the series was made in 1949, the final one in 1961. The pedigree system of selection was used throughout. Preliminary and regional trials were carried out during the period 1964 to 1968. In 1966, Bonanza was entered in the Western Cooperative Barley Test, where it has remained, through 1980, as a check cultivar. Bonanza was licensed for sale in Canada in 1970, No. 1210, and released to seed growers in the same year.

Bonanza is a six-rowed smooth-awned spring barley of the Manchurian type, eligible for malting grades in Canada and the United States. It is similar to Conquest in malting quality with slightly higher extract and slightly less enzymatic activity.

Bonanza has good resistance to Puccinia graminis f. sp. tritici Eriks. and E. Henn. It carries Jet (CI 967) resistance to Ustilago nuda (Jens.) Rostr., but is susceptible to collections made in Canada since 1972. It is moderately susceptible to Ustilago hordei (Pers.) Lagerh. and Ustilago niga Tapke. It has some field resistance to Pyrenophora terrestris (Fied.) DrechsL and Cochliobolus sativus Ito and Kurihara, and is susceptible to Rhynchosporium secalis (Oud.) J. J. Davis. Puccinia hordei Oth., and Septoria panesinii Sac. It is moderately to highly resistant to common root rot (caused by Helminthosporium spp.) as evidenced by readings taken of subcrown internode staining.

Bonanza is adapted to the park belt area of western Canada where it has outyielded Conquest by 5 to 10%, and particularly in the eastern portion, has compared very favorably in yield with the top feed barleys. In Manitoba it outyielded the recommended feed cultivars until 1976. Wheat Pool estimates of Bonanza's share of the barley hectarage in western Canada increased each year from its release until 1978 when it reached a high of 27.4%. In many crop districts it has attained 40%, or more of the hectarage. Some Bonanza has been grown in the United States, chiefly in North Dakota, where in 1977 it occupied an estimated 7% of the barley area.

Bonanza is mid-season in maturity, being 2 days later than Conquest and 7 to 10 cm shorter. It is similar to Conquest in most other agronomic characteristics, being slightly weaker strawed, slightly heavier in test weight, and slightly smaller in seed size.

The principle spike and grain characteristics are as follows:

- Spike: Six-rowed, mid-long, mid-lax to lax, base of spike emerges 5 to 15 cm, erect to semi-erect (more erect than Conquest), lemma awn long and semi-smooth, glume awn 4-5 times the length of the glume, glume hairs numerous in a broad band, and rachis edges with few fine short hairs.
- Grain: Kernels hulled, mid-size, showing moderate wrinkling of lemma, aleurone blue, rachilla with numerous long hairs, lateral veins with several fine to medium bars, and basal marking a depression tending toward a crease, test weight similar to Conquest.

Breeder seed of Bonanza is being maintained by the Seed Section, Agriculture Canada Res. Stn., Box 440, Regina, Saskatchewan S4P 2A2, Canada.

REGISTRATION OF NAVAJO PINTO BEAN

(Reg. No. 21)

Ferdinand A. Quinones and E. J. Gregory

'Navajo' pinto bean (Phaseolus vulgaris L.) was developed by the New Mexico Agric. Exp. Stn. from a cross between USDA 2207 and NM 56-778. The F₁ generation was increased in the greenhouse and the F₂ through F₄ generations were grown in the field near Deming, NM from 1980 through 1985 where selections were made for high seed yield, disease resistance, erect or semi-erect growth habit, and large seed. The cultivar is recommended for southwestern New Mexico.

USDA 207, the female parent, has multiple disease resistance including resistance to some races of rust (causal agent Uromyces phaseoli var. typica Arth.). It was developed by the Washington Agric. Exp. Stn. and the USDA. NM 56-778, the male parent, is a high yielding, rust resistant selection from the New Mexico Agric. Exp. Stn.

Field trials were conducted for 9 years at the San Juan Branch Station, Farmington, N.M. Navajo yielded an average of 13% more beans than UI 114 during the 8 years when the two entries were included in the tests. Navajo also produced more beans than Luna' during 3 of the 4 years they were compared. Navajo outyielded the highly desirable cultivar 'UI 111' an average of 15% over 7 years of testing. Depending on the environment, the growth habit of Navajo ranged from viny to semi-erect. Navajo was similar to or earlier in maturity than the relatively early UI 114. Navajo did not differ significantly from the slightly tolerant Luna or from the very susceptible UI 111 for reaction to common bacterial blight (causal agent Xanthomonas phaseoli (E. F. Sm.) Dows.).

Seed size of Navajo is smaller than that of the cultivars Luna, UI 111, and UI 114. Water absorption, an indication of ease of cooking, and protein content were similar in the 4 varieties.

The New Mexico Crop Improvement Assoc. will supervise the production of foundation, registered, and certified seed.

REGISTRATION OF SCENIC KENTUCKY BLUEGRASS

(Reg. No. 21)

Otto Bohnert and J. A. Yungen

'Scenic' Kentucky bluegrass (Poa pratensis L.) was developed by Bohnert Farm from a single plant selected in 1966 from a 17-ha field which was producing foundation seed of 'Merion'