

B.

Columbia was selected by Western Plant Breeders from the F_2 of the cross Gus X Kombar in the Spring of 1977, as a single plant. An F_3 row was grown at Conrad, Montana in the Summer of 1977 and a single plant selection from this row was grown as a F_4 plot at Chandler, Arizona in the spring of 1978. Uniform head rows were harvested and bulked with the experimental designation BFP-78-63. The resulting F_6 bulk and the successive F_7 and F_8 bulks were yield tested throughout the irrigated areas of Arizona, California, Idaho, Montana, and Utah in 1979, 1980, and 1981. 200 heads were selected from the F_7 bulk in 1980 and grown as head rows at Chandler, Arizona in the Spring of 1981. Uniform rows were harvested and bulked. This seed was used to plant one acre at Western Plant Breeders research plots near Scottsdale, Arizona in the Fall of 1981. The resulting production was cut as breeder's seed in the spring of 1982 and designated as the variety Columbia.

C.

Columbia is a short, six-rowed, spring barley, late in maturity with strong straw. The spike is erect, but not dense, and is strap shaped. The awns are long and semi-smooth. The kernels are midlong, covered and white with a blue aleurone. The 1000 kernel weight is about 51 grams and the test weight will run 48 to 50 pounds per bushel. The hull is semi-wrinkled, lemma teeth are numerous, and the rachilla hairs are long. The glumes are approximately one-half the length of the lemma and covered with short hairs. The glume awns are less than equal to the length of the glumes and have a rough surface. Columbia has a semi-prostrate growth habit when planted in the Southwestern United States in the Fall and an erect growth habit with Spring seedings in the Northwest United States. Columbia is late flowering variety, about 4-6 days later than Gus and about equal to Kombar. Columbia's maturity is equal to Kombar. The plant height ranges from 87-105 cm depending on environmental conditions and is 5-12 cm taller than Gus. Columbia's plant color at heading is lighter green than Gus and about the same as Kombar.

E.

Columbia is a six-rowed feed barley adapted to the irrigated spring barley areas of Arizona, California, Washington, Idaho, Utah, and Montana. Yields average 5 to 20% more than Gus and 5 to 25% more than Steptoe.

F.

Columbia is most similar to Gus and Kombar. Columbia is 5-12 cm. taller than Gus and 12 cm. shorter than Steptoe. The heading date is 3-7 days later than Gus or Steptoe, varying as to the seeding date. Columbia has a blue aleurone and the seed has a high 1000 kernel weight of about 51 grams.

G.

The Breeders seed will be maintained by Western Plant Breeders by seeding head rows as needed. Sufficient isolation will be used to prevent out-crossing and mechanical mixtures. Foundation seed will be produced from Breeders seed as needed by Western Plant Breeders and sold to Germain's, Inc. for the production of Registered and Certified seed.

L.

Columbia spring barley is a selection from an F_2 of the cross Gus X Kombar. It is derived from F_8 head selections from an F_7 bulk tested as BFP-78-63.

Columbia is a short, six-rowed, feed barley. It is late in maturity and has a semi-prostrate growth habit in the Southwestern United States when planted in November to February. The spike is six-rowed, medium in length and erect, but not dense. The spikelets have glumes and have a rough surface. The lemma awns are semi-smooth and long. The hull is semi-wrinkled, lemma teeth are numerous, and the rachilla hairs are long. The kernels are white with a blue aleurone. The collars are slightly V-shaped.

Columbia is adapted to the irrigated barley growing areas of Arizona, California, Idaho, Montana, Utah, and Washington.

The classes of seed of Columbia will be Breeder, Foundation, Registered, and Certified. Foundation seed will be offered for sale in the Fall of 1982.

Application will be made to the Plant Variety Protection office for Columbia spring Barley.