UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
Washington, D.C.

and

IDAHO AGRICULTURAL EXPERIMENT STATION
UNIVERSITY OF IDAHO
Moscow, Idaho

and

OREGON AGRICULTURAL EXPERIMENT STATION
OREGON STATE UNIVERSITY
Corvallis, Oregon

RUSSELL

RELEASE OF [redacted] (P.I. 483127)
A NEW SIX-ROWED SPRING FEED BARLEY VARIETY

The Agricultural Research Service, U.S. Department of Agriculture and the Idaho and Oregon Agricultural Experiment Stations announce the joint release of 'Russell' (P.I. 483127), a six-rowed spring feed barley variety, to farmers and seedsmen for commercial production. Russell was developed cooperatively by Agricultural Research Service, U.S. Department of Agriculture and the Idaho Agricultural Experiment Station. Russell is currently being evaluated for malting and brewing quality in industry tests, but it is presently not recommended as acceptable for malting and brewing.

Russell is from a cross of 'Karla'/ND 1265. The parent Karla was developed at Aberdeen, Idaho by Agricultural Research Service in cooperation with the Idaho Agricultural Experiment Station. The parent ND 1265 is a six-rowed selection developed at North Dakota State University from a cross of 'Beacon'/'Nordic'. Russell originated at Aberdeen, Idaho as an F_5 generation selection in 1978. Russell is a midseason, white-aleurone, six-rowed spring barley with relatively lax mid-long spikes, smooth awns, and short rachilla hairs.

Russell was first entered in replicated trials in Idaho in 1980. It was entered in the regional Western Spring Barley Nursery in 1982 and the Western Dryland Spring Barley Nursery in 1983. It has been widely tested in both irrigated and dryland trials in Idaho since 1981. The USDA Barley and Malt Laboratory, Madison, Wisconsin, and the American Malting Barley Association (AMBA), Milwaukee, Wisconsin, cooperated in the early testing of malting and brewing quality. Pilot-scale tests of malting and brewing quality have been successfully completed under the direction of the AMBA. Plant-scale evaluations of malting and brewing quality will be initiated with the 1985 crop in cooperation with the AMBA. Great Western Malting Company is generously assisting with the field-scale increases for industry plant-scale tests of malting and brewing quality in cooperation with the AMBA.

Russell is a "Karla-type" with improved kernel plumpness, slightly shorter straw, and earlier heading. Typically, Russell is superior to Karla in yield

on dryland and inferior to Karla in yield under irrigation. Russell, like Karla, has very good lodging resistance and satisfactory resistance to shattering. Russell is less susceptible to powdery mildew vs Karla, but apparently similar in susceptibility to black point caused by Alternaria species. (The incidence of black point is usually lower in dryland environments vs irrigated.)

In 25 station-years of testing in Idaho irrigated and dryland trials in 1980-84, Russell averaged 91.4 bu/A vs 96.4 bu/A for Karla, 102.8 bu/A for 'Steptoe', and 75.0 bu/A for 'Morex'. In these same trials, Russell averaged 51.0 lbs/bu in test weight vs 50.0 for Karla, 49.1 for Steptoe, and 50.3 for Morex. It averaged 90% plump barley vs 81% for Karla, 93% for Steptoe, and 87% for Morex. Among these four varieties, Russell has the best lodging record in irrigated trials at Aberdeen. At Aberdeen, it averaged the same as Steptoe in height, two inches shorter than Karla, and four inches shorter than Morex. Russell heads one day earlier than Steptoe and Morex at Aberdeen and two days earlier than Karla.

In 57 station-years of testing in the Western Spring Barley Nursery (1982-84), Russell averaged 83.9 bu/A or 93% of Steptoe and 109% of Morex. In these trials Russell averaged 9% lodging vs 22% for Steptoe and 32% for Morex. In the Western Spring Barley Nursery over the three-year period Russell averaged 51.3 lbs/bu in test weight vs 49.2 lbs/bu for Steptoe. Russell and Steptoe were similar in height and heading date in the regional trials, but Russell was slightly inferior to Steptoe in kernel plumpness.

Russell was tested in the regional Western Dryland Spring Barley Nursery in 1983 and 1984. In these regional dryland trials Russell averaged 92% of Steptoe in yield. Russell averaged 50.3 lbs/bu in test weight in these trials vs 47.5 lbs/bu for Steptoe. The two varieties were similar in heading date and kernel plumpness.

In malting quality comparisons involving the three-year period 1982-84 and 20 station-years of testing in the Western Spring Barley Nursery, Russell averaged 80.2% malt extract vs 78.6% for Morex. Russell was superior to Morex in fine-coarse difference, soluble protein, and alpha amylase, but inferior to Morex in diastatic power. The two varieties were similar in kernel plumpness. In these comparisons, Russell averaged 11.3% barley protein vs 12.7% for Morex. Similar results have been observed in Idaho trials during 1980-84.

Russell is named after Osborne Russell (1814-1892), early Rocky Mountain fur trapper and author of "Journal of a Trapper". Mr. Russell traveled extensively throughout southeastern Idaho and environs during 1834-43, maintaining a detailed journal of his varied experiences.

Breeder and foundation seed of Russell will be maintained by the Tetonia Research and Extension Center, Tetonia, Idaho. Requests for seed should be directed to James C. Whitmore, Superintendent, Research and Extension Center, Box 1231, Star Route, Newdale, Idaho 83436. The U.S. Department of Agriculture has no seed for distribution.

Each agency will make news releases as considered appropriate on or after the release date, September 1, 1985.

Administrator United States Department of Agriculture Agricultural Research Service Washington, D.C.	Date
Director Idaho Agricultural Experiment Station University of Idaho Moscow, Idaho	Date
Director Oregon Agricultural Experiment Station Oregon State University Corvallis, Oregon	Date