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P. B. Price

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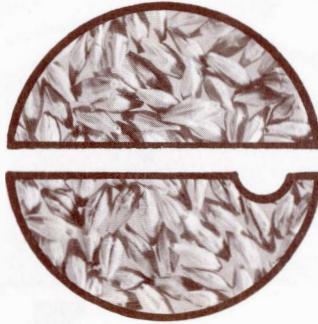
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Plant Science Department
Agricultural Experiment Station
South Dakota State University
Brookings

Prilar Barley

By
Phil B. Price, ARS, USDA, Plant Science
Department, Agricultural Experiment Station,
South Dakota State University



Prilar (pronounced PRY-lar) is a new barley developed cooperatively by the South Dakota Agricultural Experiment Station and the Plant Science Research Division, Agricultural Research Service, United States Department of Agriculture. Final release was in December, 1971. Forty-one hundred bushels of Foundation seed were released by the Foundation Seed Stocks Division, South Dakota State University, to members of the South Dakota Crop Improvement Association and commercial seedsmen in the spring of 1972. Foundation seed of Prilar was released simultaneously by the Minnesota and North Dakota Experiment Stations.

History

Prilar is derived from the cross *Primus* x *Larker* made at the South Dakota Experiment Station in 1962 by Dr. Phil Price, ARS, USDA. The

final F_8 head selection retained from this cross was given the number SD 67-640. This selection combined the good agronomic and quality characteristics of both parents. It was tested at 30 locations in 13 states and in two provinces in Canada during a 4-year period before it was named Prilar and released to growers in December, 1971. This variety complements the early maturing varieties *Primus* and *Primus II* which were developed for the lower rainfall areas of central and western South Dakota and North Dakota.

Characteristics

Prilar is a modified Manchurian, spring type, six-row barley which heads and matures about 6 days later than *Primus II*. It has stiff straw, moderately spreading smooth awns, and is slightly taller than *Primus II*. The spikes are lax and emerge well from the boot. The

medium-sized plump kernels have tightly adhering hulls, colorless aleurone and they thresh free of awns. Prilar produces grain with a high percentage of plump kernels (those which remain on a 6/64 slotted screen). This and other good physical grain features along with its generally good adaptability make it a very suitable variety for South Dakota.

Disease Reaction

Prilar is resistant to prevalent races of stem rust. It is susceptible to net blotch, spot blotch, Septoria and other leaf and head blights. Resistance to these diseases is desirable, however, they are not frequently serious enough to make a high degree of resistance necessary for barley grown in South Dakota.

Yield and Grain Quality

Tests conducted during the past four growing seasons, 1968-71, indicate Prilar is superior to Larker in yielding ability (Table 1). Test weight has long been the principal criterion for evaluating the physical quality of a grain sample. The Malting and Brewing Industry is more concerned with kernel plumpness and size uniformity as it reflects on soundness, germinability, and protein content. Prilar represents an improvement in kernel plumpness

(Table 1). This should ease the problem of high protein (above 13.5%) which often makes South Dakota-produced grain ineligible for the malting premium.

Classification of Prilar

When a new barley variety is released, its classification as to feed or malting type is not immediately determined.

Irregardless of its eventual classification for marketing purposes, its value as a livestock feed is recognized and its usefulness in cattle and hog rations is immediate.

A malting variety possesses certain biochemical characteristics which are essential to the economics of malt and beer production. The malting and brewing industry delays a decision as to the acceptability of a new variety for malting and its eligibility for the malting premium until large scale quality tests have been completed. The tests are usually run on 20,000-bushel volumes and the variety must perform satisfactorily in two successive crop years or two out of three years before a favorable decision is made.

The potential benefits of the release of Prilar may be on the extra income received through marketing of livestock and a malting premium for cash farmers.

Table 1. Comparative Performance of Prilar 1968-71*

Variety	Yield in Bushels per Acre	Percent Plump Kernels (Held on 6/64 Screen)	Plant Height Inches	Percent Lodging
Prilar	51.7	77.6	31.8	42.3
Primus II	51.6	71.0	30.3	36.9
Larker	50.9	69.9	31.2	49.0

*Values given are averages of test plot results from 13 states and 2 Canadian provinces for the 4-year period 1968-71.

PARENTAGE OF PRILAR BARLEY

