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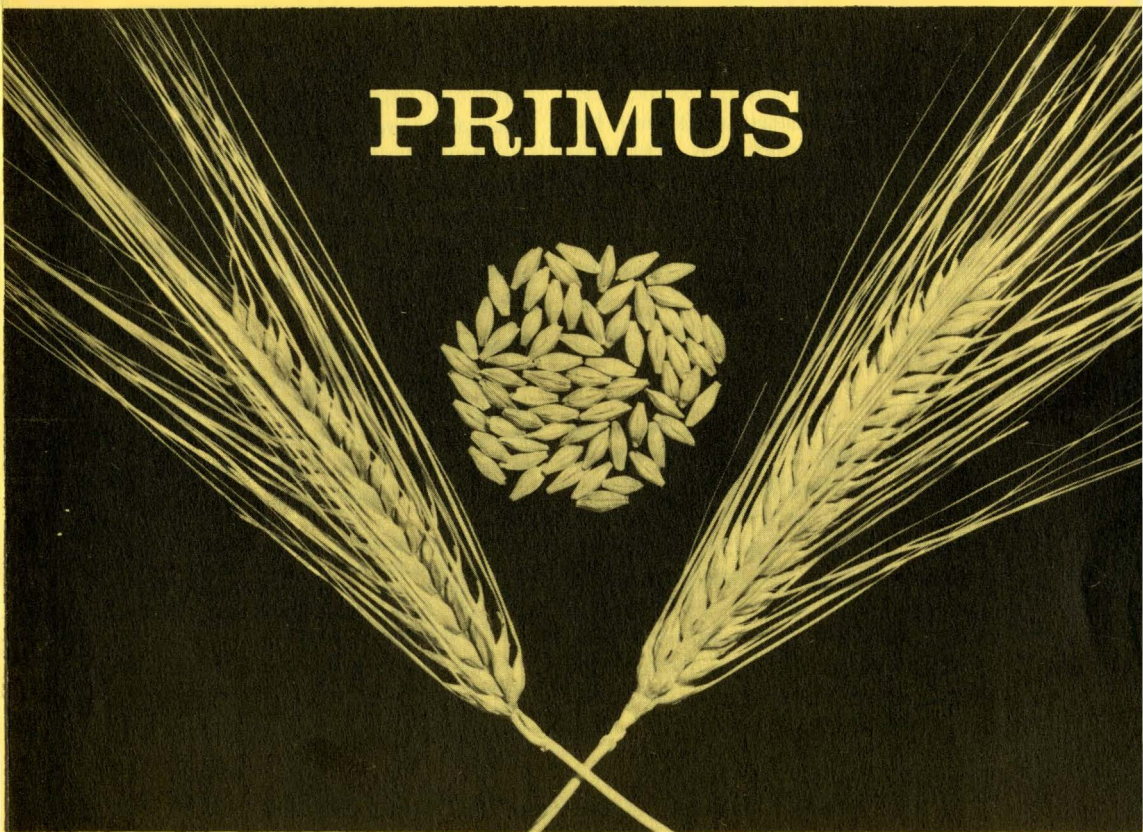
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# A New Barley for South Dakota

## PRIMUS



Agronomy Department  
Agricultural Experiment Station  
South Dakota State University, Brookings  
in cooperation with  
U. S. Department of Agriculture

# Primus Barley

PHIL B. PRICE<sup>1</sup>

Primus (pronounced PRY-mus) is a new barley developed cooperatively by the South Dakota Agricultural Experiment Station and the Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture, and given final release in December 1966. It is a variety that combines earliness with high yield, high bushel weight, heat tolerance, drought resistance, and sufficient disease resistance for South Dakota conditions. Approximately 1,000 bushels of seed were released by the Foundation Seed Stocks Division, South Dakota State University, in spring 1967 to the South Dakota County Crop Improvement Associations for further increase.

## History

Primus is derived from the cross Brandon 3902 x Liberty 2x Swan made at the South Dakota Experiment Station in 1958 by Phil B. Price. The best selection from this cross combined the earliness, yield potential and quality of Brandon 3902, the yield potential and general adaptability of Liberty, and the kernel characteristics and desirable quality features of Swan.

## Characteristics

Primus is an early-maturing, modified Manchurian spring type of six-row barley with stiff-straw and long, spreading, smooth awns. The medium-sized plump kernels have tightly adhering hulls, colorless aleurone, and thresh free of awns. The kernels are strongly attached, heads do not shatter readily at maturity and neck breakage is minimal. The spikes are long, lax, and emerge well from the boot. Primus possesses outstanding heat tolerance and drought resistance, and these features, coupled with its earliness, make it a very suitable variety for South Dakota.

## Disease Reactions<sup>2</sup>

This new variety is resistant to prevalent races of stem rust and tolerant of several others. It is susceptible to net blotch, spot blotch, Septoria and other leaf and head

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<sup>2</sup>Disease evaluations were made through the cooperation of Vernyl D. Pederson, Associate Plant Pathologist, South Dakota Agricultural Experiment Station.

Table 1. Summary of Yield and Test Weight 1964-1966

	Yield			Test Weight		
	Brookings	Watertown*	Highmore	Brookings	Watertown	Highmore
Primus .....	69.7	49.4	37.8	48.5	43.2	44.0
Larker .....	62.3	44.5	27.8	47.1	42.0	43.0
Traill .....	57.9	40.5	—	45.8	40.0	—

\*Adverse weather conditions in 1966 severely reduced yield and test weight from this station.

blights. 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.

### Yield and Test Weight

The ability of a barley selection to produce high yields of high bushel weight grain is of prime importance in determining its fitness for release as a variety. Table 1 indicates the superior performance of Primus under South Dakota conditions when compared with two standard malting varieties, Larker and Traill.

### New Variety Consideration

Good agronomic performance and acceptable disease resistance have always been essential attributes of any new variety. In recent years good grain quality has also become an important varietal feature in order that it may be acceptable for both feeding and malting purposes.

Primus was released as a feed variety. Quality evaluations are being conducted by the malting and brewing industry. A final decision as to its acceptability for malting purposes will probably be made in 1969.

### Parentage of Primus Barley

