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SPRINGFIELD WHEAT

A short-strawed
soft white spring wheat
for irrigated areas
of Idaho

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Springfield (CI 14589)* is a high quality, soft white spring wheat adapted to the irrigated, high production areas of southern Idaho. Its strong, short straw resists lodging and makes it an ideal wheat for growth under irrigation.

In Idaho trials, Springfield averaged about 10 inches shorter in height than Lemhi 66 (Table 1). It also matured 2 days earlier.

Springfield is highly resistant to races of stripe and stem rust now found in Idaho. It is susceptible to leaf rust and powdery mildew. Agronomic and disease data for Springfield and Lemhi 66 are summarized in Table 1.

Yield and Test Weight

In three years of tests on irrigated land, Springfield outyielded Lemhi 66 by 6 to 24 bushels per acre. The average yield advantage was 14 bushels. On dryland, Springfield yielded higher than Lemhi but slightly lower than Idaed 59. Its test weight was slightly lower than Lemhi 66.

Table 1. Summary of agronomic and disease data for Springfield and Lemhi 66 grown under irrigation in Idaho.

	Date headed	Height (inches)	Mildew reaction	Ergot	
Springfield	June 18	32	VS	MR	
Lemhi 66	June 20	42	S	S	
	Rust reaction			Test wt (lb./bu)	Yield (bu/acre)
	Stripe	Stem	Leaf		
Springfield	VR	R	S	58.9	84.9
Lemhi 66	MR	R	S	59.2	70.9

VS — very susceptible

S — susceptible

MR — moderately resistant

R — resistant

VR — very resistant

* CI refers to the accession number assigned by the Crops Research Division, ARS, USDA.

Quality

The milling yield of Springfield is superior to Lemhi 66 and Federation 67. Pastry quality of the flour from the new variety is satisfactory.

Developmental History

Springfield was developed cooperatively by the Idaho Agricultural Experiment Station and the Crops Research Division, Agricultural Research Service, U.S. Department of Agriculture, at the Aberdeen Branch Experiment Station.

The final cross of a rust-susceptible, short-strawed Lemhi type with a line similar to Lemhi 66 was made by D. W. Sunderman in 1963. He selected stripe and stem rust-resistant lines from the F_3 and F_4 progenies of this cross in 1965 and 1966. Springfield, one of the lines selected, was placed in irrigated yield trials in 1967 and in the Uniform Western Spring Wheat Yield Nursery in 1969.

Sources of Seed

Foundation seed of Springfield was released to registered seed growers in Idaho in 1970. A sizeable quantity of registered seed was produced. Certified seed should be available in quantity following the 1971 harvest.

Research agronomist Donald W. Sunderman combined strong, short straw with other desirable characteristics in selecting the new Springfield wheat.



Acknowledgments

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About this research

This research is part of the cooperative investigations of the Crops Research Division, Agricultural Research Service, U.S. Department of Agriculture, and the University of Idaho Agricultural Experiment Station.

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