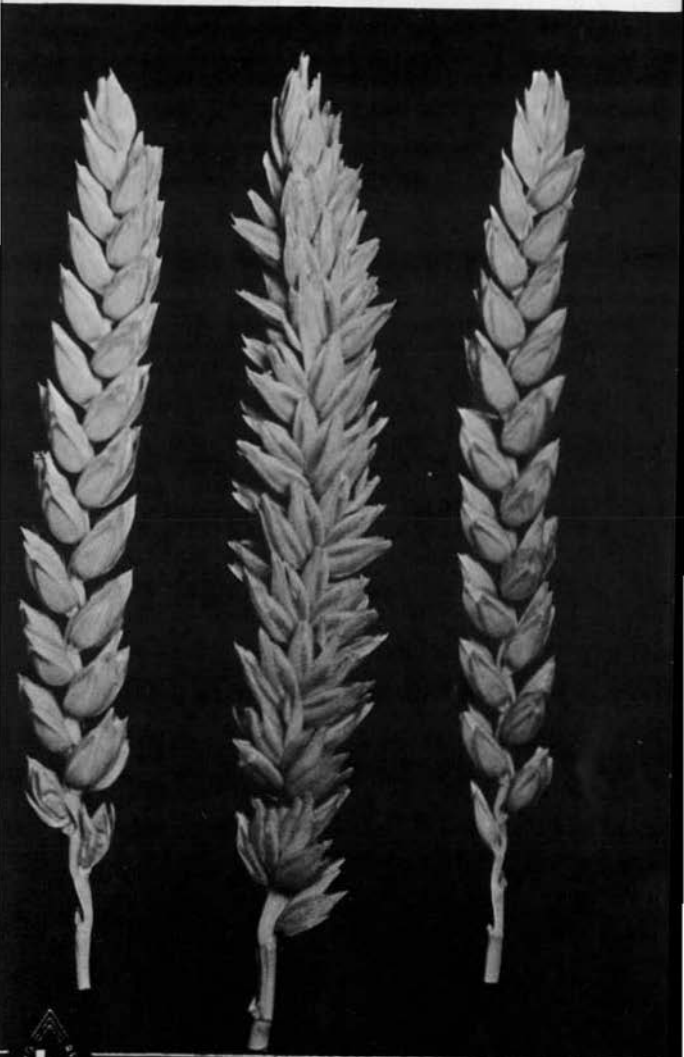
LEMHI 66

A RUST RESISTANT SOFT WHITE SPRING WHEAT FOR IRRIGATED AREAS OF IDAHO



UNIVERSITY OF IDAHO
College of Agriculture
Experiment Station

LEMHI 66

A RUST RESISTANT SOFT WHITE SPRING WHEAT FOR IRRIGATED AREAS OF IDAHO[1]

By
By D. W. Sunderman and Martin Wise

Lemhi 66 (C.I. 13969)[2] is a stripe and stem rust-resistant, common soft white spring wheat with a plant type and grain quality similar to Lemhi 53. It is a tall, white-chaffed, awnless variety with slightly weaker straw than Lemhi 53.

Disease Resistance

Lemhi 66 has the Lee gene for stripe rust resistance and the Sr6 gene for stem rust resistance. These genes give it resistance to all races of stripe and stem rust presently found in southern Idaho.

Lemhi 66 is slightly more susceptible to ergot and mildew than Lemhi 53 and Federation.

Yield and Test Weight

The 2-year average yield and test weight of Lemhi 66, Lemhi 62, Federation and Idaed 59, obtained at each of 3 stations, and the 3-station averages are given in Table 1. Lemhi 66 was the highest yielding variety at Aberdeen and St. Anthony. At Twin Falls, where stripe rust was not present, Lemhi 62 had a slightly higher yield than Lemhi 66.

The average test weight (pounds per bushel) of Lemhi 66 was lower than Idaed 59 and Lemhi 62, but it was higher than Federation.

Quality

Lemhi 66 has milling and baking characteristics similar to Lemhi 53 and Lemhi 62.

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[1]Cooperative investigations, Crop Research Division, Agricultural Research Service, U. S. Department of Agriculture, and the University of Idaho Agricultural Experiment Station.

[2]C.I. refers to the accession number assigned by the Crops Research Division, ARS, USDA.

Development of Lemhi 66

Lemhi 66 was developed at the Aberdeen Experiment Station. The variety was selected from progeny of Lemhi 53[4] x (Lee[7] x Chinese-*Aegilops umbellulata*). The initial cross involving Lemhi 53 was made in 1961 with subsequent back-crosses made in 1962. Stripe rust-resistant F_8 lines were selected in 1963 and were submitted for quality tests. Four hundred plants of the best line were grown in the 1963-64 greenhouse. The most desirable 300 plants were selected and their seed was used to sow plant rows in the summer of 1964. One hundred and five of them appeared to have plants with the desired disease resistance and agronomic characteristics. Grain from these rows was composited to supply seed for a 1964-65 California winter increase plot. Funds for the increase were furnished by the Idaho Wheat Commission. Seed returned from California was used to plant a 30-acre Aberdeen increase plot in 1965.

Table 1. Summary of yield and test weight of spring wheat varieties grown under irrigation at 3 locations for 2 years.

Variety	Aberdeen	Twin Falls	St. Anthony	3-Station Average
	Yield, bushels per acre			
Lemhi 66	88.6	68.9	65.7	74.4
Lemhi 62	76.2	72.4	63.1	70.6
Federation	62.7	66.9	60.1	63.2
Idaed 59	80.0	61.6	53.2	64.9
	Test weight, pounds per bushel			
Lemhi 66	58.7	58.1	59.0	58.6
Lemhi 62	58.6	58.9	59.5	59.0
Federation	56.8	58.7	59.2	58.2
Idaed	60.8	61.2	60.4	60.8

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