REGISTRATION OF LUKE WHEAT1
(Reg. No. 533)
C. J. Peterson, O. A. Vogel, D. W. George, and R. J. Metzger2

'Luke' wheat (Triticum aestivum L.), CI 14586, is a semi-
dwarf soft white winter wheat cultivar developed cooperatively
by the Agricultural Research Service, USDA, and Washington
State Agricultural Research Center. Luke was released jointly
by the Agricultural Experiment Stations of Washington, Oregon,
Luke was selected in the F4 generation from the cross PI
178383/2*Burt*/CI 13438, made at Pullman, Washington, in
1960. The cross PI 178383/2*Burt was made by the Agricultural
Research Service, USDA, at Corvallis, Oregon. Luke was evalu-
atied in the observation and performance nurseries of Washing-
ton from 1966 to 1970.

Luke has a lax spike with long awns. The glumes are white,
long, and midwide. The kernels are white, soft, and midlong,
and the crease is shallow. Luke is resistant to all known races
of common and dwarf bunt in the Pacific Northwest, but it is
susceptible to flag smut. It has field resistance to stripe rust
and is susceptible to stem and leaf rust. Luke is more tolerant
to Cercospora and Fusarium root rots than 'Nugaines.' The
winterhardiness of Luke is slightly less than that of Nugaines,
and it develops a crown 5 to 15 cm shallower than that of
Nugaines.

The moderate snow-mold tolerance of Luke is similar to that
of 'Moro.' The seedling vigor of Luke is superior to that of
Nugaines, but it has weaker straw than Nugaines. Luke mills
better than Nugaines and produces an excellent pastry-type flour.
Additional information on performance and management has
been published.

Luke is intended for production in the areas of Oregon, north-
ern Idaho, and Washington where dwarf bunt is a problem.
Breeder and foundation seed will be maintained by the Washing-
ton State Crop Improvement Association under the supervi-
sion of the Agronomy and Soils Department, Washington
Agricultural Research Center and the USDA, Pullman, WA
99163. Registered and certified seed will be produced from
foundation seed.

1 Cooperative investigations of the Agricultural Research Ser-
vice, USDA, and Washington State Agricultural Research Cen-
ter, Pullman, WA 99163. Registered by the Crop Science Society
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REGISTRATION OF W-332 WHEAT2
(Reg. No. 534)
L. D. Robertson and K. E. Miskimmin

'W-332' hard red winter wheat (Triticum aestivum L., Thell.), C.I. 17244, was developed by Funk Seeds
Inc. and released in 1972. The pedigree of W-332 is
5/*Agent.' Seed of the fifth backcross was obtained from Colo-
rado State University in 1966. In subsequent years
ese pressure was applied for leaf rust resistance,
and early maturity. Seed from 97 F5 rows which
were similar were composited to form the variety.

Seed of W-332 is red, large, hard in texture, and
shape. The germ is small; crease is narrow and
rounded cheeks. The brush is midsized with
W-332 is a winter-hardy variety, with winterhard-
ness equal to that of Scout. W-332 has early to midseason
midarrow. The culms are white, midstrong with
hollow internodes. Leaves are narrow and free
of pubescence with an erect flag leaf. Spike is fusiform, mid
length. Glumes at maturity are white, narrow, and
long, averaging 1 to 3 cm.

Spike carriage ranges from erect to nodding. Glu-
ners are narrow and oblong. Spikelets are narrow, acume,
and predominately short, averaging 3 mm.

As W-332 is a backcross derivative of Scout, it can be
Scout in most agronomic and quality characters.
be distinguished from Scout because it is 2 to 3 cm taller.
the most important difference is that W-332 has the Agent leaf rust resistance.
W-332 has a slightly lower percent flour protein,
hydration value and a slightly longer mixing time than
Scout. Flour yield and loaf volume are equal to
Scout.

W-332 has the same broad adaptation as Scout,
grown farther east because of its stronger straw.
Funk Seeds International, Inc., will be the
registered seed of W-332. U.S. Variety Protec
and was initiated in a similar manner. Recur-

Registration of Germplasms