

FACT SHEET

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Nord Desprez/Pullman Selection 101
Selection 65-116-70-MBW-2
White Winter Wheat

Proposed Name: Stephens* C.I. 17569

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Description

Selection 65-116-70-MBW-2 is a soft white common winter wheat. It is semidwarf with white, stiff straw. The spike is awned, fusiform, mid-dense and nodding. Glumes are glabrous, white, short to midlong; shoulders narrow, oblique; beaks narrow, acuminate, 2 to 3 mm. Awns are 2 to 7 cm long. The kernels are white, midlong, soft, ovate with a small to midsize germ and a midwide, mid-deep crease. The brush is small.

Pedigree and History

Selection 65-116-70-MBW-2 was developed from a cross between Nord Desprez and Pullman Selection 101. The cross was made at the Hyslop Agronomy Farm in 1965. The original selection was obtained from an F₃ row with additional selections being made from phenotypically similar F₆ head rows in 1970. After additional testing head rows were reselected in 1973 for seed increase and further evaluation.

Area of Adaptation

Selection 65-116-70-MBW-2 appears to be widely adapted to the winter wheat growing areas of the Pacific Northwest. However, it should not be recommended where specific problems exist such as snow mold or flag smut and areas which require extreme winterhardy varieties such as Wanser.

Available Seed

Nine thousand pounds of breeders seed will be available for planting this fall.

Disease Resistance

In Table 1 the reaction pattern of Selection 65-116-70-MBW-2 is compared to commercial cultivars for the common diseases found in the Pacific Northwest.

* Name cleared through Trademark Division by Dr. J. C. Craddock, ARS-USDA, Beltsville, Maryland.

(13 pages)

It can be observed that Selection 65-116-70-MBW-2 has good resistance to the current races of stripe rust including the Yamhill race observed in the Skagit Valley of Washington. The reaction pattern suggests 65-116-70-MBW-2 has a generalized or adult type resistance. It also has good resistance to leaf rust and common bunt. It is moderately resistant to mildew and moderately susceptible to Septoria tritici. Selection 65-116-70-MBW-2 is susceptible to dwarf bunt, flag smut and snow mold.

Visual observations along with yield data have indicated that Selection 65-116-70-MBW-2 has some tolerance to Cercospora herpotrichoides. Data from the disease nursery at Washington State University are provided in Table 2 where a comparison between inoculated and Benlate (chemical treatment for control) are presented. There is considerable variation over the three year period; however, it would seem that Selection 65-116-70-MBW-2 does perform better in terms of grain yield than most commercial varieties with the exception of Luke in the inoculated plots. However, unlike Luke, Selection 65-116-70-MBW-2 is not a late maturing variety. Later maturity has been found to be associated with greater tolerance to Cercospora in some cultivars.

Yielding Ability and Other Agronomic Traits

Since Selection 65-116-70-MBW-2 is proposed for release to areas located throughout the Pacific Northwest several yield comparisons are provided for different years and locations.

Table 3 is composed of a five year summary of Selection 65-116-70-MBW-2 with commercial varieties for grain yield when grown on the Hyslop Agronomy Farm. It can be observed that it has consistently out-yielded other entries for each of the five years resulting a 22.7 bushel average yield over the next highest which was the variety Hyslop.

A four year summary for the irrigated site at Madras is presented for grain yield in Table 4. The yield advantage of Selection 65-116-70-MBW-2 is not consistent for each year; however, it did yield 3.5 bushels over Hyslop which was the highest commercial variety followed closely by McDermid. Data for a second irrigated site located at the Malheur Experiment Station for the past five year period from 1971-1975 are presented in Table 5. Selection 65-116-70-MBW-2 was second at this location for the five year period being approximately 1.8 bushels less than McDermid.

In Table 6 a two year summary is provided for the dryland experimental site of the Sherman Branch Experiment Station. Selection 65-116-70-MBW-2 was the highest yielding entry for both years. However, when yields are compared for the Pendleton location (Table 7) Selection 65-116-70-MBW-2 ranked third over a three year period being lower than Hyslop or McDermid.

The Regional Uniform White Winter Wheat Nursery was grown at 16 locations in 1973 as compared to 18 locations in 1974 and 1975. Results for the major varieties along with Selection 65-116-70-MBW-2 from these nurseries are presented in Table 8. Perhaps the most significant factor is that during this

three year period and over a great diversity of different environments, Selection 65-116-70-MBW-2 has ranked first two years and second one year. This would suggest that it does have a very wide area of adaptation.

A summary of four agronomic traits is presented in Table 9. It can be noted that Selection 65-116-70-MBW-2 is similar to McDermid in terms of earliness which would be an advantage in the dryland production areas. For other traits it is quite similar to the other semidwarf wheats noted with the exception of lodging and it appears to have stiffer straw than Hyslop or McDermid.

Milling and Baking Quality

In Table 10 is presented milling and baking quality data for Selection 65-116-70-MBW-2 in comparison with standard checks Nugaines and Hyslop. These data were obtained from samples grown at Corvallis, Oregon and are consistent with samples evaluated from other locations.

As can be noted from the table, the quality laboratory has identified 65-116-70-MBW-2 as having promising overall quality characteristics with the selection being either equal to or superior to the recommended varieties currently in production. Selection 65-116-70-MBW-2 has also received an excellent rating for milling quality in samples evaluated at the Western Regional Quality Laboratory at Pullman, Washington utilizing the Miag Mill.

Data for this fact sheet have been provided by R. J. Metzger, C. R. Rohde, N. Hoffman, M. Johnson, and the cooperators growing the Uniform Regional White Wheat Nursery. The milling and baking data were provided by the Western Regional Quality Laboratory which is under the direction of G. Rubenthaler.