FACT SHEET

Ione/Luther
Selection FB73123
Winter Barley

Proposed Name: Hesk*, C.I. 15816

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Description

Selection FB73123, Ione/Luther is a six-rowed, medium to mid-late, shatter resistant winter feed barley. It has medium-long, rough beards which are retained after ripening. The head is nearly lax and erect. Kernels are covered white aleuroned with an occasional light blue aleurone. The seed sample examined has long rachilla hairs, slightly barbed lateral veins and hairy glumes. Kernels were smooth with a narrow V crease and a transverse lemma base. A more extensive description of the breeders seed now in production should give a more accurate and complete description.

Pedigree and History

FB73123 was selected from an Ione/Luther cross made at the Columbia Basin Agricultural Research Center, Pendleton, Oregon in 1969. It originated from an F-3 head row grown at the center in 1972, and has been tested in screening and yield trials since 1973. In 1978 head rows were selected from an isolated head row planting, threshed individually, and planted as long, individual four-row plots at the center at Hermiston. The name 'Hesk' is proposed in remembrance of Mr. John Hesketh, former Umatilla County Agent.

Area of Adaptation

FB73123 appears best adapted to Oregon's traditional dryland farming areas with the deeper soils or in the shallower soil areas where the annual rainfall

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* Clearance for the proposed name was received from Dr. J. C. Craddock, URS-USDA Trademark Division, Bellsville, Maryland.

is 14 inches or more. This area would include the western foothills of the Blue Mountains, the deeper soils north from Pendleton in Umatilla County, and possibly those areas within ten to fifteen miles of the Columbia River in north Gilliam, Sherman and Wasco Counties. FB73123 has yielded well in trials in the Willamette Valley. FB73123 is offered as a replacement for Kamiak and Boyer in the above described areas. It's performance in the Western Regional Winter Barley Nursery may indicate a value for the cooperating states of Washington, Idaho, Montana, Utah and Colorado.

Available Seed

The breeders seed planting should produce 500 to 800 pounds of grain.

Disease Resistance (Table 1)

Table 1 offers a comparison of FB73123 with two commercial winter barley varieties, Boyer and Kamiak, for two diseases: A. Barley leaf scald, *Rhynchosporium secalis*. B. Covered smut, *Ustalago hordei*.

Barley leaf scald is rarely a problem disease in eastern Oregon where scald disease readings are usually from 0-5 in a scale of 0-9 where 0 equals no scald and 9 equals very susceptible. The 0-5 range is in the resistant portion of the 0-9 scale, and can give an optomistic view of a cultivars resistance. FB73123 has had a 7 reading in Willamette Valley trials which was equal to the reading of Boyer.

Covered smut is seldom a problem when growers use approved seed treatments and purchase clean seed stocks. The readings from the 1977 trials [Part (B) in Table 1] indicate that FB73123 has a susceptibility to covered smut and needs some seed protection either by fungicides or seed source monitoring.

Barley Yellow Dwarf Virus, (BYDV) is a serious barley disease problem to barley producers in eastern Oregon who want to plant prior to the last week in

September. FB73123, as well as other commercial winter barley cultivars, with the exception of Schuyler, are very susceptible to BYDV. For optimum yield the suggested planting date for FB73123 is no earlier than the last week in September, and no later than the third week in October.

Other barley diseases, such as loose smut and rusts, were not observed on FB73123, though stripe rust, leaf rust and mildew are found on experimental lines in eastern Oregon.

Yield Ability and Other Agronomic Characteristics

FB73123 has yielded better than the check varieties, Boyer and Kamiak, in the feed grain trials. It's comparative yields are not consistently better than Boyer and Kamiak at the Pendleton Station, but it has an overall five year, three percent advantage over Boyer in the preliminary trial, and a one percent advantage in the advanced feed grain trial. Both FB73123 and Boyer had superior yields to Kamiak.

In the feed grain dryland trials harvested only in 1976, FB73123 had an average yield similar to Boyer's. FB73123 lost it's yield advantage due to it's performance in the Helix trial [Table 2, part (C)] which was seeded August 30 and had an extensive BYDV infection.

Table 2, part (D) summarizes the 1978 irrigated feed barley trials at the Hermiston Station. Three of these trial, MHBS-1, MHBS-2 and CHOP, were planted on September 26 and had a uniformly distributed infection of BYDV. Neither Boyer, Schuyler or FB73123 are resistant to BYDV, however, Schuyler will recover during the spring months better than FB73123 and Boyer. FB73123 did yield 107% of Boyer in the early planted trials. In the later planted regional trial FB73123 was far superior to either check variety.

Boyer and FB73123 have nearly the same heading dates, plant height, bushel weight and kernel plumpness (Table 3). Both are later, shorter, lighter, and

have thinner kernels than Kamiak. Boyer and FB73123 had nearly the same yields at two planting depths [Table 3, part (E)], but at the deeper depth FB73123 had a yield advantage.

Table 4 summarizes agronomic trials described in the Western Regional Winter Barley Nursery report written by Dr. Darrell Wesenberg, USDA, SEA-AR, Aberdeen, Idaho. FB73123 was entered in this nursery (formerly the Tri-State Winter Barley Nursery) in 1975. It ranked second in 1976 and first for yield in 1977 and 1978. In 24 station test years it has averaged 345 pounds per acre over the next highest commercial variety, Schuyler. No serious deficiencies were reported by the cooperators for FB73123 during it's time in the Regional Nursery.

Table 5 summarizes winter barley yields for the higher yielding locations of the eastern Oregon outlying winter barley trials conducted by Dr. C. R. Rohde and Mr. Wesley Locke. FB73123 has a 220 pound average yield advantage over the highest yielding check, Boyer.

Table 6 yields are from the lower yielding sites in eastern Oregon. FB73123 has no advantage in the drier sites over the early maturing Kamiak and Hudson.