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PROPOSAL FOR RELEASE OF A TRITICALE (X TRITICOSECALE, POACEAE, TRITICALE) OR 8655, KISS/2/193-803/358

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OR 8655, Kiss/2/193-803/358, PI 478305 is a semi dwarf, winter hexaploid triticale which has a full complement of the donor rye and wheat chromosomes. Its spike is long, fusiform, lax, nodding, and resistant to shattering, though its rachis might be considered brittle after ripening since the spike breaks into individual florets when threshed instead of having the kernels stripped from the florets as in wheat. OR 8655 is rough awned. The apical awns measure from three to five centimeters in length. The basal and central awns are three to eight centimeters long. The glumes are light brown, long and narrow, the shoulder is wanting, and the beak is from one to ten millimeters long. The kernel is brown, shriveled, long, soft, elliptical with a small germ, and has mid long brush hairs. The kernel crease is narrow, deep and the shoulders are rounded. The stem is hollow. The upper portion of the neck is generally short pubescent.

PROPOSED NAME FLORA

The suggested name 'Clyde' has been cleared by the Trademark Office (see attached letter). The selection OR 8655 was made as M75-8655-55 on the Clyde Wulff farm near Flora, Oregon. Mr. Wulff has provided a plot area for ten years. He has had a continual interest in supporting our research effort in varietal improvement. Mr. Clyde Wulff's son Kenneth and grandson Doug heartily endorse the recognition of Mr. Clyde Wulff's interest.

SELECTION PROCEDURE

OR 8655 was received as the heterogeneous population, M75-8655, from Dr. Robert J. Metzger, ARS-USDA, Corvallis, Oregon in 1976 and was planted at the Pendleton site of the Columbia Basin Agricultural Research Center. The following year (1977) it was planted in a long plot on the Wulff ranch near Flora, Oregon. About 60 plant selections were taken from M75-8655 and planted at the Hermiston site of the Columbia Basin Agricultural Research Center. Several selections from the M75-8655 population growing at Hermiston in 1977-78 crop year were kept and entered into yield trials. One of these selections, M75-8655-55, was head-rowed (seed from each of 500 heads planted in short rows) in the fall of 1980. Rows containing off types were destroyed before anthesis. Heads were picked from the remaining rows for the breeders seed planting in 1981. Breeders seed was harvested, designated OR 8655, and given to the Oregon foundation seed project for increase in 1982. Foundation seed has been produced by the foundation seed project (approximately 1200 pounds).

AREA OF ADAPTATION

OR 8655 is adapted to the intermountain valleys and plateaus in eastern Oregon, the sandy soils along the Columbia, the Redmond Madras basin, the Treasure Valley, and certain areas in Idaho.

SIGNIFICANT ATTRIBUTES

OR 8655 has an excellent winter survival record at Flora, Oregon and appears tolerant to the snow molds and the frost heaving in that area. It appears nearly resistant to dwarf smut. Thin stands are compensated for by its tillering ability, an increase in head size, and improved seed set.

Formal yield trials for OR 8655 were not conducted in the Flora area, but a one acre plot of OR 8655 still having 1% amphipoids yielded 10 to 15% more pounds per acre than the best winter wheat yields on the Wulff ranch in 1981. In 1982 a 72 acre plot yielded nearly 4400 pounds per acre compared to 3700 pounds per acre for the Wulff ranch wheat.

OR 8655 is very tolerant of high sodium soils. On the Wren Case farm near Alicel OR 8655 produced the first acceptable cereal crop on a 13 acre swamp area having a pH up to 8.0.

For three years no barley yellow dwarf virus (BYDV) symptoms were observed in OR 8655 in the BYDV trials near Hermiston, Oregon. It also appears resistant or tolerant to other diseases associated with early fall planting on the sandy soils near the Columbia.

Winter survival ratings are higher for OR 8655 near Hermiston than for the commercial wheats.

OR 8655 is stiff-strawed and has not lodged in plots.

The leafy prostrate, but moderate growth of OR 8655 when planted early on the sandy soils, should offer an excellent fall soil cover as well as providing nominal grain yields to producers desiring to protect August harvested potato ground.

We have not observed Stripe rust, leaf rust, stem rust, septoria or dwarf smut in OR 8655 in northeastern Oregon.

GENERAL WEAKNESSES

OR 8655 is not adapted to dryland farm practices since both yield and quality drop drastically. It volunteers at about the same rate as other cereal crops, but

its large plants are highly visible. Growers relate it to the weedy rye problem and are reluctant to plant any triticale, and are probably wise to do so if they are in the dryland wheat summer fallow area.

Kernel quality is not as good as wheat or as good as early generation experimental triticale, however, the OR 8655 grown in the intermountain areas was acceptable to the feed mill at Shedd, Oregon.

OR 8655 is proposed as a variety from a new cereal crop (triticale). Triticale has been sold and marketed as a "wonder" crop to growers. These growers were probably deceived, and, as a result, are not receptive to growing triticale.

SUMMARY

Yield data concerning OR 8655 is attached. There are yields from Hermiston, Pendleton, Ontario, Madras, Idaho, and one trial at Union, Oregon.

A copy of "Barley Yellow Dwarf Virus (BYDV) An Important Consideration When Selecting Winter Triticale (X Triticosecale, Wittmack) For Oregon" is enclosed to give a more general view and background about selection procedure concerning OR 8655.