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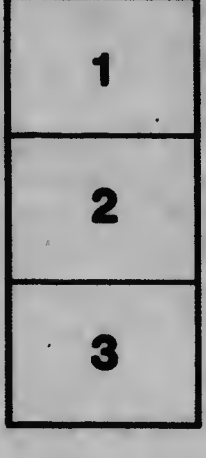

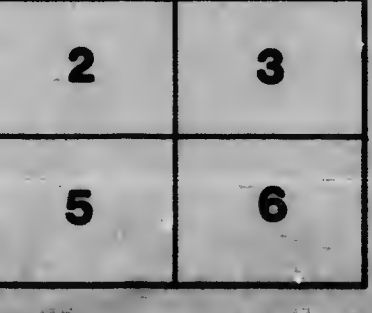

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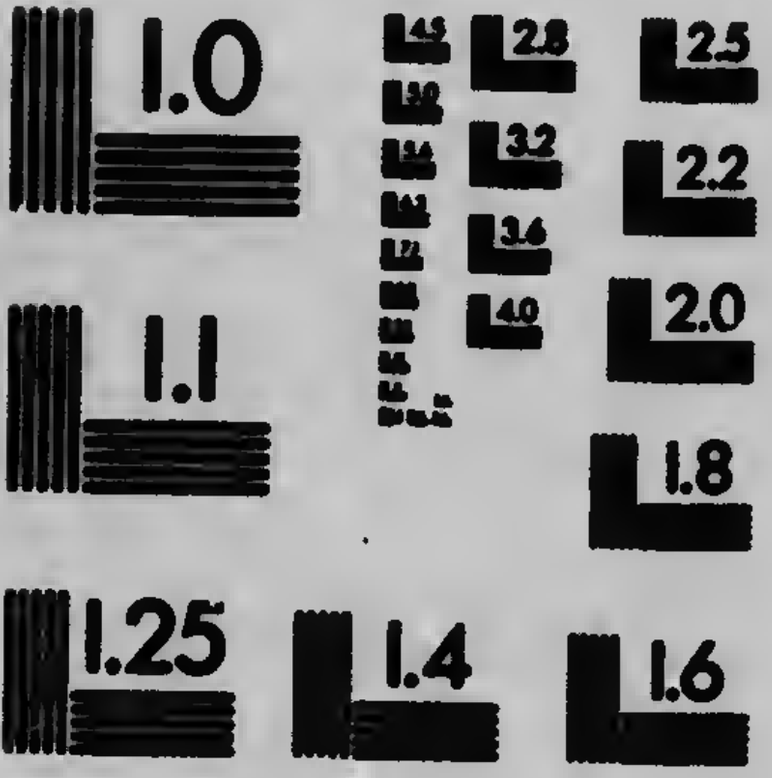

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DURUM WHEAT

Field Husbandry Circular No. 26.

by

JOHN BRACKEN, Prof. of Field Husbandry,
and A. W. HENRY, Instructor in Cereals,
University of Saskatchewan.

Among the various kinds of wheat, other than the common "bread wheats", those which promise most for the future of the dry areas of this province belong to the Durum type. These wheats came originally from south eastern Russia from the provinces north of the Black and Caspian Seas. This region enjoys a semi-arid climate, much similar to ours but with a somewhat longer growing season.

During the years 1898 and 1900 Carleton of the Bureau of Plant Industry of the United States Department of Agriculture, brought several varieties of this type of wheat from its south Russian home to

MARQUIS KUBANKA CLUB
(DURUM)

America. Since that time their culture has increased quite rapidly until now, in the semi-arid States, where they have been found best adapted, the annual production is about 40,000,000 bushels. Up to the present time this type of wheat has been grown only to a very limited extent in Western Canada.

Appearance.

As compared with common wheats the Durums produce taller and more vigorous plants. The heads are broad, very compact with long, stiff upright beards. The grains are large, very hard, rather long, of a clear, light amber colour, and very firmly held by the chaff. The chaff and beards of Kubanka, our best variety of Durum wheat, are brownish yellow in colour.

Advantages and Disadvantages of Kubanka Wheat.

The chief advantages claimed for this wheat are *resistance to rust a non-shattering tendency,* and *resistance to drought.*

In the season of 1916, a season in which rust damaged the Western Canadian wheat crop to the extent of $100,000,000, Kubanka outyielded Marquis, our best standard variety, by seven bushels per acre in our trials at the University. All other common varieties of wheat were more or less severely attacked by rust while adjacent plots of Kubanka were only slightly affected.

In the year 1912, after a four days' rain at harvest time followed by hot weather and a heavy wind, the loss in yield from the common wheats, Marquis and Red Fife, as a result of "shattering" was ten to thirteen bushels, while Kubanka did not shatter at all.

It has been reported that this rust-resistant, non-shattering wheat is also drought resistant and its productiveness in the semi-arid States compared with other spring wheats seems to bear out this contention.

Kubanka takes longer to mature than Marquis but usually ripens earlier than Red Fife. Its most objectionable feature, however, is the inferior quality of its gluten for bread making and the yellow colour of the loaf made from it.

On account of its rather later maturity than Marquis it is not likely to be a suitable variety for the northern part of the province or for any area where early fall frosts are common.

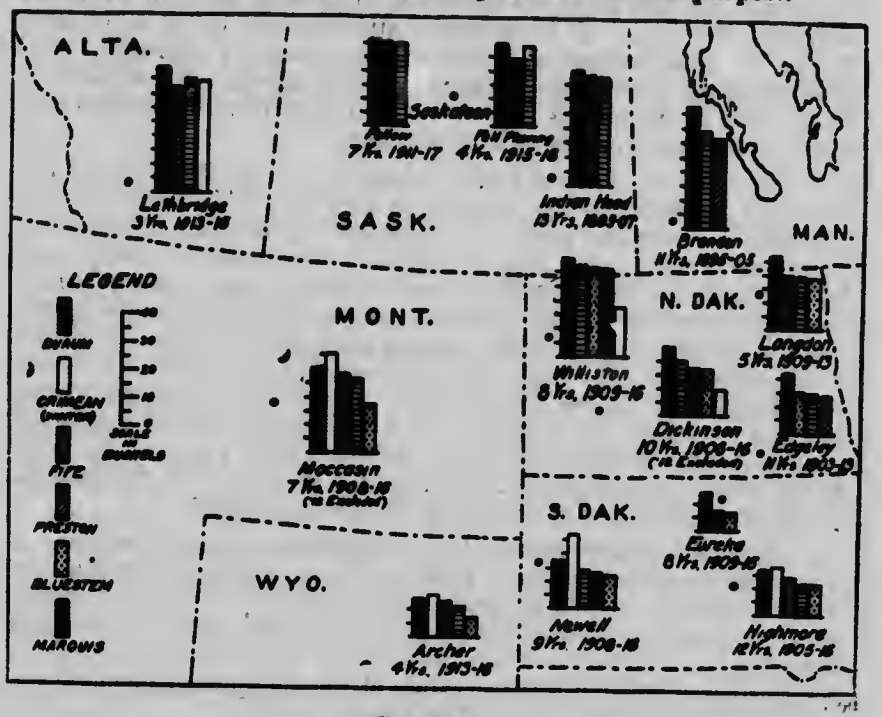
"Gluten" is that constituent of wheat which, when the wheat is milled into flour and mixed with water to form a dough, imparts elasticity to the dough according to its quality. While Kubanka is richer in gluten than Marquis, the quality of the gluten is inferior and the loaf made from it is consequently smaller in volume, and somewhat coarser in texture. The colour is a defect chiefly in our imagination, but, nevertheless, one which affects the price. Kubanka yields a higher percentage of flour than our common wheats.

Uses in America.

In America the chief use of flour from this wheat is for blending purposes. When the flour of the common hard wheat is blended with that from Kubanka or other Durums the stickiness of the dough is

lessened, the colour of the bread is improved and the volume of the loaf is increased. The bread made from Kubanka flour itself is highly nutritious but inferior to Marquis in volume and colour of loaf.

From a small proportion of the crop semolina, a coarse, granulated flour used for making macaroni and spaghetti is made. The demand for these products in the United States is increasing rapidly but as yet only a small percentage of the crop is used for this purpose.



Culture.

The best variety of Durum wheat yet tried by various experiment stations, is Kubanka. Besides possessing rust-resistance to the greatest degree of any variety yet tried on the investigation field at the University this variety has yielded a slightly better average for a period of years than either Marquis or Red Fife as is shown by the following table:

	Fall Plowing Rust Year 1916	Breaking Rust Year 1916	7 Year Average on Fallow
Kubanka	49 bus. 33 lbs.	47 bus. 51 lbs.	30 bus. 33 lbs.
Marquis	36 bus. 52 lbs.	45 bus. 59 lbs.	29 bus. 44 lbs.
Red Fife	36 bus. 40 lbs.	39 bus. 49 lbs.	29 bus. 36 lbs.

The cultural practices most suitable for growing Kubanka wheat are not different from those that have proven best with other hard spring wheats. The only change that might be made would be to sow a little more seed. Kubanka has larger seeds and stools less than Marquis and on that account heavier seeding would seem to be desirable.

It would also seem desirable that this wheat be grown in areas of sufficient size to produce a car load, in order to avoid possible difficulties in marketing smaller quantities.

Market.

When Durum wheat was first introduced into the United States it was thought that the principal demand would come from American and foreign mills engaged in the manufacture of macaroni and little or no attention was given the possibility of utilising the flour for bread making. Soon after its introduction attention was called to its suitability for this purpose and its use was strongly encouraged. The development of the market has been slow, due mainly to the opposition on the part of the millers. However, the use of Durum flour has constantly increased in spite of this objection.

Since 1908 the price of Durum wheat in the United States steadily increased, reaching its highest point in 1912 with a premium over the best grades of common wheat. So long as the price did not drop more than 3 to 5 cents below that of common wheat Durum wheat could be grown at a greater profit, where adapted, than common wheat because of its greater yield. The price in the United States during the war was exactly the same as for common hard spring wheats. A market for it in Canada in any quantity, however, is non-existant. It is not probable that it can be grown here at a profit over common wheats unless it is to have free access to the American market. If this is not insured a home or European market will have to be found or the price will be low. No good market for it existed in the United States until it was grown there. The same may be true in Canada.

While the Department of Field Husbandry does not recommend this variety unconditionally it feels that there is sufficient evidence to warrant extensive trials in southern and southwestern Saskatchewan where the season is more prolonged and where high winds and droughts are common. In the meantime the question of a suitable market can be looked into and the relative values of this and our common wheats as expressed in prices paid may be further studied.

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