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ENGLISH VIEWS ON WHEAT.

WRITING on the characteristics of various kinds of wheat used in England, "Felix Holt" says in *Liverpool Milling*: The most interesting group of wheats with which we have to deal is what we term glutinous. These are produced chiefly on the interior plains of Europe and America and are, in many respects, similar, although for some reason, probably better farming, the American grain is almost invariably superior to Russian. The great advantage of the latter to the British miller is its general abundance and cheapness and, possibly, its great variety. This variety is troublesome to some millers, and sometimes the cause of fluctuations in the quality of their flour, which is quite unaccountable to them. The best of all Russian wheats is probably Sax-onka, and the worst Novorosisk-Azima. Kubanka at one time was held in high repute as one of the strongest wheats, but, whatever might have been its reputation, there is little doubt that it has suffered a severe fall in public estimation. When roller-milling became fashionable, it was thought that hard wheats of all kinds were just the thing, the harder the better, and Kubanka was, par excellence, the wheat for the purpose. Those who tried it soon found that such wheat required far too much power to reduce it to flour, and that the results were not commensurate with the trouble. Since then there has been a further development, arising from the discovery that hard wheat is not the best for rollers any more than it is for stones, and that the best results are obtained from medium wheats, such as our conditioners now insure us. It is doubtful, moreover, whether Kubanka possessed all the virtues ascribed to it. The writer had a sample of a familiar wheat sent from America, with an inquiry as to its suitability for British millers, the sender stating that American farmers preferred to grow it, as it ripened earlier than other kinds, but that American millers would not use it, as it had no strength. There it was called "goose wheat." Whatever might be said about Russian Kubanka, there is no question that American Kubanka, grown from Russian seed, is by no means strong, in fact, its closest resemblance is to rice. We might compare it very well with the hard, flinty grains found in some samples of Bombay. To my mind the milder Ghirkas are far and away superior. But none of them probably are equal to first-class Saxonka, which partakes more nearly of the qualities found in American spring, that is, good, sound, tough gluten, which may always be relied on.

Some of the Ghirkas from the Black Sea provinces closely resemble Saxonka, but, being grown on the opposite side of the continent and in a somewhat milder climate, lack some of its qualities, although the better soils can generally be relied on. The same with the better sorts of Azimas, which, although autumn-sown, are by no means deficient in strength. There is one district of which we might almost ask, "Can anything good come out of it?" That is Novorosisk. For some, to us, unaccountable reason this wheat is seldom good, and often very bad. During the last two seasons many millers have had bitterly to regret using it in any proportion. Its characteristic appearance is clear and somewhat watery, which might be taken for strength. It has, besides, a rough nondescript appearance, and nearly always has large round black seeds mixed with it. Whatever may be the cause, it is very strange that wheat from this quarter, which has these large seeds mixed with it, is seldom very good. This applies alike to the variety known as Danubian, which, although better than the foregoing, is of rather low quality, lacking strength, although otherwise sound. The fault of the former is its deceptiveness. Not only will it not impart strength, but it will help to destroy any existing strength almost as

effectively as sprouted wheat. A very useful and cheap wheat, not over strong, but quite reliable is O'essa and Dnieper Ghirka. They are rather foul and in some cases a bit thin, but the low prices makes them really cheap. There are mills working at the present moment using one-half to two-thirds of this wheat in their mixture with very good results. It may be thought that a small yield would counterbalance the apparent cheapness, but the fact that the yield does not fall below 70 per cent. is sufficient to disprove this. Being mild, they have to a large extent taken the place of English in many inland mills, and have thus proved of great assistance this season. The fault with them is, perhaps, the yellowness of the flour.

BREAD 'N THE OLDEN TIMES.

AMONG the ancient Greeks bread was not simply an adjunct to, but an essential portion of, the principal meal of the day. The chiefs of the heroic period lived almost exclusively on two dishes, roast meat, over which a little flour was sprinkled, and wheaten bread. The flour was ground in a handmill by the female servant; it was then made into dough, a portion of salt added, and baked in a special part of the kitchen. Wheat bread enjoyed a great reputation in those days. Homer calls it the strength of man. Bread was the first thing set before a guest. It represented civilization, while meat was representative of the old style. When Odysseus fled for refuge to the palace of Alkinoos, bread is specially mentioned among the "dishes" set before him. In the historical Hellas bread played a similar part; it was one of the principal foods of the people, and was regarded as indispensable by the better classes, and certain kinds of it were looked upon in the light of luxuries. The place most celebrated for its bakeries was Athens; but we really know very little about the method of making bread there.

It is characteristic of the position which bread occupied as an article of food that the Spartans, at their mid-day meal, had wheat bread only on special occasions as a particular luxury. Solon ordered that those citizens who were fed at the expense of the State in the Prythaeon should have white bread only on rare ceremonies. In republican Rome it was the custom for each household to bake enough bread for its requirements, and not purchase, and even under the Caesars, when there was a goodly number of bakers in the city, the better families adhered to the old style of baking at home. They possessed a separate room for baking, situated next to the kitchen; this room was called "pistrina" (mill), for it embraced the place where the corn was ground. Bakers were called "pistores" (millers) until the fall of Rome, although the two branches had been divided long before. In imperial Rome the bakers were divided into three classes, white bakers, milk bakers and sweet bakers. The white or wheat bakers were the chief, because they produced food, a means of nourishment; the milk bakers made buns and cakes; the third class were noted for their skill in the baking of tarts and all kinds of sweet confectionery eaten for dessert.

When we remember how closely butter is connected with bread at the present day, it is strange to read of the antipathy which existed against it in those times. Butter was never used as a food either in Greece or Rome: it was employed chiefly as a medicament, externally in plasters and bandages, internally much as we take cod-liver oil; had pastry been made with it, the Greeks and Romans would have rejected the confectionary just as we should turn up our noses at a tart made with train-oil. It is true that the Thracians ate it, but they were only half-Greeks. In imperial Rome there were, in addition to bakeries conducted by private

people, spacious state bakeries, which played an important part in providing for the wants of the people. The Roman ovens were just like those in use at the present time. A well preserved specimen was discovered during the excavation at Pompeii, it contained several charred loaves, on which the bakers name could be plainly seen, showing of what flour they had been made. The loaves of Pompeii weighed about two pounds, they were round and indented, to permit the breaking of them into eight equal parts. Similar loaves are made now in Calabria and Sicily.

THIS STRAINING AFTER YIELDS.

THE first new-process of patent flour was not made on a yield basis, says D. George, in *Roller Milling*; far from it. Rather it was made by a low system, contrary to the theory and practice of that time.

The yield question may not have actually knocked out the stone system, but it certainly did much to hasten its downfall. Hereafter, conditions may change, but to make the best possible yield will always remain a cardinal principle in milling.

Of course, the best possible yield is not a perfect yield, and is far short of our ideal; because, strange as it may seem, no miller has yet found that blessed spot, where the wheat is of one quality all the yield round, where the temperature never varies, where rain and fog and mist and every other sort of atmospheric humidity are unknown, and the sun shines clear from its rising even to its going down. Meanwhile, how many of us set our mills to suit ever-varying conditions?

The miller in charge of a 1,000-barrel mill does not want the packer to show only 800 just when he happens to have a visitor; nevertheless 20 per cent. must be taken off the output at times, not only to make a yield, but, what is of just as much or perhaps more importance, to keep the flour anything like uniform. To attain these two ends and at the same time get full capacity out of the mill every day in the year, is what most millers are constantly striving to do. But these horses won't pull together, except on rare occasions.

Come back to the main question yields. Does this effort start in the middle or near the end of the system? I trow not. It starts on the first break and continues throughout the system. The patent is certainly not improved by it; the baker's come next; the super comes in somewhere; the low-grade or red-dog call it what you will - must end the chapter. This is where the yield must be squeezed out finally; but at what cost!

Here is a better way. Take the conditions of wheat and weather into consideration, and make whatever percentage of patent the wheat will stand; the other grades will easily follow. Should the yield by this method not be so great - and there can be no cast-iron rule here that will work every day - the flour of all grades will be improved, to the better satisfaction and probable increase of the mill's trade and to the enlarging of the right-side ledger balance. Moreover the mill will act better and the boys work in better humor.

These arguments are familiar to many of us, yet most are forever trying to hold the mill above its real capacity and at the same time make a yield. Boys, one and all, it's simply impossible.

HOW TO DO IT.

TO maintain perfect regulation, place the engine in the hands of a competent engineer, who is capable of adjusting and keeping the engine in good running order. A good engine, or piece of machinery, placed in the hands of an incompetent person, will never give good service or economical results.