

Heavy Yielding Wheats.

Notes on the First Seven Varieties of Wheat in This Year's Test at Brandon, Man.

BY S. A. BEDFORD.

GOOSE WHEAT.—This is one of the ricey varieties suitable for the manufacture of macaroni. This wheat has bluish-green straw, and very wide and heavy heads; the straw always leans considerably, but seldom lodges. Large areas of this wheat are being grown in some parts of the Northwestern States; it is one of the most prolific sorts grown on this farm, but owing to its low value on the market, its cultivation should not be encouraged. Roumanian is very similar to Goose wheat.

CAMPBELL'S WHITE CHAFF is a variety which has been grown in the East for a number of years. The heads are somewhat short and club-shaped. When first introduced from Ontario to this country, it was light in color and quite soft, but it has become slightly darker in color and of a harder quality. It is fairly productive, but rather subject to rust.

COUNTESS is a cross between Early Sonora (female) and Red Fife (male), and was originated at the Central Experimental Farm by the Director in 1889. It has succeeded rather better on the Experimental Farm for British Columbia than at any of the others. It heads the list of wheats there, with an average for the past six years of a little over thirty bushels per acre.

AUSTRALIAN NO. 10 is one of several varieties imported a few years ago from Australia, and has not been cultivated here long enough for us to form an opinion on its suitability for Manitoba.

WHITE FIFE is next to Red Fife, the best known variety here. Its origin is uncertain. A properly grown and pure sample of this wheat is, perhaps, the most handsome variety we have. The straw is bright and stiff, the plant vigorous and very free of smut or rust. The head is similar to Red Fife, but the berry is much lighter in color. On light soil it is supposed to give a larger yield than the red variety. For the past six years on this farm it has averaged 14 bushels per acre more than the Red Fife, and during the same period, over all the five Experimental Farms, it has averaged within a pound per acre of that variety. Its market price in this country is generally two or three cents under that of Red Fife.

CLYDE is a cross-bred variety, the parentage being Hard Red Calcutta (female) and Red Fife (male). This wheat has not been noted for productiveness in former years, but is decidedly an early maturing sort, as might be expected from its cross with Hard Red Calcutta.

College of Agriculture Required.

Although agriculture is acknowledged by all to be the fundamental occupation of Western Canada, no special provision yet has been made to educate the farmer for his chosen profession. Lawyers, doctors and other professional men have colleges and universities for the purpose of fitting them for their life's work, and it seems strange that Western push has not before this time planted firmly a strong educational institution on purely agricultural lines to meet the real needs of the young intelligent farmers who would prosper in our midst.

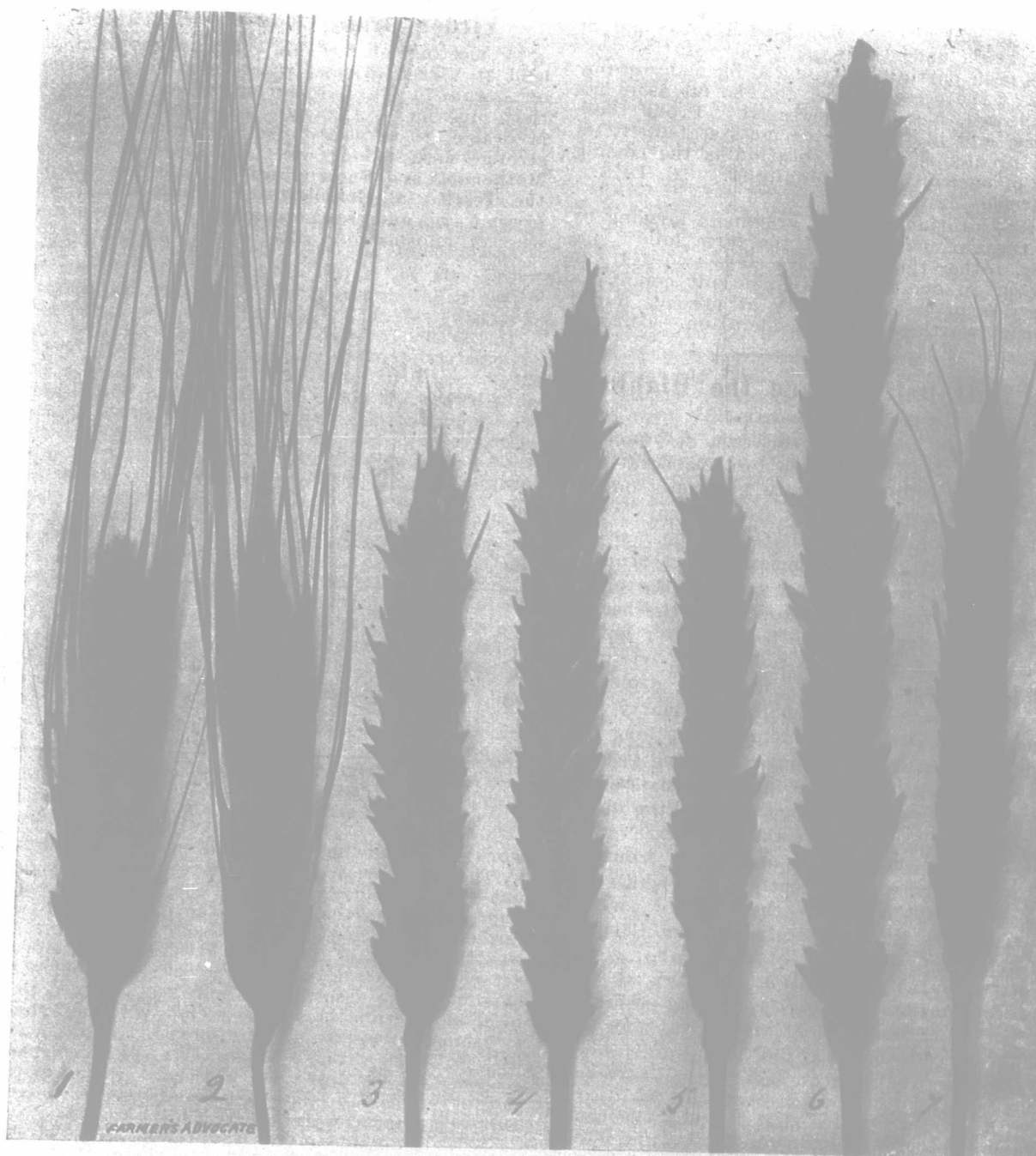
It is well not only to have an institution that will accommodate and instruct those who are intensely desirous of becoming better educated, but an institution so managed and equipped that it would create in a large number a desire to better themselves educationally. This is part of the duties pertaining to such an educational center, and that the results will bear this out is a certainty, provided the combination of building and the staff are up-to-date in requirements and methods.

The rapid increase of agricultural population, and the prosperous conditions of our rural districts warrants the erection of such an establishment on an extensive scale. Numbers are ready for the opportunity to receive a better education along these lines as soon as a means is provided.

As Western citizens, it is our duty to pave the way for such and not barricade the natural avenues for learning by being behind in this enlightened age, thus forcing the determined ones to seek for knowledge elsewhere.

As property owners in this growing portion of Canada, a land well known for its educational advantages, it behooves us to think deeply and quickly act on this important practical matter. As our country is fast becoming settled and older methods of agriculture are gradually becoming slightly more in evidence, with time and money more freely at the disposal of our young farmers, it is natural that many of them should look forward to an opportunity of using to advantage these blessings, and surely we will not long continue to have them look in vain. There is failure to grasp the situation somewhere, and perhaps such might be located in the ranks of the influential law-makers of our land. If so, we would say, awakened to your duty and prepare the halls of learning for the deserving young men who are to be the farmers of the future.

"AGRICULTURIST."



HEAVIEST YIELDING WHEATS AT THE BRANDON EXPERIMENTAL FARM, 1902.
1, Goose; 2, Roumanian; 3, Campbell's White Chaff; 4, Countess; 5, Australian No. 10; 6, White Fife; 7, Clyde.

Crop Rotation for Manitoba.*

Farming in Manitoba is slowly but surely advancing from a system of wheat-raising on the large scale, and bare fallowing, to a more intensive system of agriculture, with a systematic crop rotation. This advance is made possible by the addition of acclimatized crops, as corn, roots and grasses; and it is being made necessary by the increasing population and advancing price of land. If the present rate of immigration continues, it will not be long before every available acre of land in the Province will be utilized, and the wasteful practice of bare summer-fallowing will have to cease.

For the early days of the Province, the system of grain-farming, with bare fallowing, was certainly most suitable. Less capital was required for beginners; the soil was rich in available plant food, and land was cheap. Thus it was possible to make good interest on invested capital, even with a bare fallow every two or three years. Then, too, there was plenty of unbroken prairie, where a good herd of cattle could plunder their living free. But conditions are changing; population is increasing; land is advancing in price, and cattle can no longer roam at large. The farmer must, therefore, make every acre he possesses yield its share of revenue every year, and to do so it is certain he must adopt a more intensive system of farming.

The States of Iowa and Minnesota are examples of what we may expect for this Province, unless we begin to adjust ourselves to a rotation system. These have, in the past, been the greatest wheat-growing States in the Union. They followed much the same system as we are at present following. But the price of land has advanced to \$60, \$70 and \$100 per acre, while the available fertility of the soil has been greatly reduced. Today the farmers of these States are selling out to Easterners, who are introducing crop rotation and stock, and the sellers are coming to our Canadian West, where they still find conditions suitable to cut and slash wheat! wheat! wheat! But how long will these conditions last here? For some years yet, perhaps, and to where then shall the wheat farmer betake himself? He may have made his "pile" and can give up the "business." It will be well for him if he has.

There is, of course, an attractiveness about the largeness and enterprise of wheat farming. It lacks the steady plod of the rotation system. There is much produced, but the expense and

waste are great. Many Ontario farmers, viewing our large harvests, think that we should be wealthy, but they do not consider the great expense, risk and waste that our rush, rush, incurs.

Our present method of farming has the effect of depressing the cattle industry of the Province. The cattle have to be kept on a plot of ground fenced in, and kept in permanent pasture. These plots become "run out," and so the farmer has to reduce his herd each year, to suit his accommodation, and so we find, from official figures, that the cattle industry has decreased within the Province, from 12,000 export cattle and 85,000 stockers in 1899, to 4,000 export cattle and 20,000 stockers in 1902. At the same time, the wheat acreage has been steadily increasing. This looks as though we were going still more exclusively into wheat growing. Encouraged by the successive good crops and good prices of the past few years, the farmers seem to think it impossible for the wheat industry to wane. But while we are not pessimistic enough to forbode the future, yet we are not confident enough to see no risk of failure. This risk cannot be too strongly urged. Cattle or stock give stability to the farmer's position.

Another weakness of our present system lies in the waste of bare summer-fallow. If a crop of hay or grass were grown on the land in a proper crop rotation, the soil would be adding to its available fertility and at the same time earning something with little or no extra labor. The hay crop of the Province last year averaged a little better than two tons per acre. This at \$4 per ton would bring the farmer \$8 per acre. But many may claim that our dry climate demands bare fallow at regular intervals to conserve moisture for the wheat crop. This may be true to some extent, but much of our summer-fallow at present wastes moisture by producing, almost to maturity, a heavy crop of weeds. One season of hoed crop, if properly cultivated, will add as much to the available fertility of the soil for wheat as the bare fallow, and will not require so much moisture as is wasted by poorly cultivated bare fallow.

In summing up the merits of the rotation system, it is important to notice its influence on the labor problem, and its effects in combating the weeds, which have taken such a hold in our soil. One of the greatest difficulties in the labor situation is the extra demand for help in the fall. This would be largely overcome by the uniform demand of the rotation method. The seasons of