

a great amount for the sake of getting a little for show. 4th. Evenness of type, which is often obtained by patient hand-picking.

There is scarcely a bin of grain in the country but that from which a prize bushel may be gotten by careful cleaning and patient picking. Then, what is to be learned by viewing the cereal exhibit? We find attached to the exhibit a ticket bearing: 1st. The name of the agricultural society. 2nd. The name of the department under which the exhibit is placed. 3rd. Name of cereal (to enlighten the farmer). 4th. Number of exhibit.

That is what we learn. What we do not know is: The name of the variety, name of exhibitor, how cleaned, time and manner of harvesting, cultivation, time of sowing, manner of sowing, preparation of seed bed, previous cropping, manuring, yield per acre, quality of straw, profit, etc., etc. In fact, those things which would be and are of value to the producer are apparently carefully hidden.

We have to change with changing circumstances. Years ago, when the practice of holding an agricultural exhibition was instituted, the meagre information to be derived from simply inspecting the exhibits was sufficient. Farming has become more of a science, while the manner of conducting exhibitions has stood still as far as agricultural products are concerned. It is not now enough to know *what* the result of labor has produced, but we want to know *how* results are attained. For instance, when the farms were new and the soil still possessed its virgin fertility, all that was necessary to know was that a certain person had grown fine potatoes or pumpkins, and his neighbors, by procuring seed, could hope to achieve like results. But now, when the virgin fertility is no longer to be depended on, when climatic conditions have more influence than of yore, when we have no crop that is free from insect pests or fungoid growths, the fall agricultural exhibition fails to meet the requirements. It is behind the needs of the times; it is dead, and in its place we have the fall "show," and the more show and less agriculture, the greater the success.

Now and then some agricultural writer will bemoan the degeneration which has taken place, and call on the directors to expel the horse trot, baby shows, beauty shows, pig races, turkey and chicken, goose and duck races, cheap Johns, fakirs, side-shows, balloon ascensions, etc., etc. But it can not be done. The more nonsense the better the show, is the experience, and no good show resists the tendency. The majority of those who engineer these shows are the hotel-keepers and business men of the towns where they are held, who expend the legislative grant for the encouragement of agriculture. Of course, they may be of advantage to the breeder of fancy stock, as an advertisement, but I appeal to experience to prove that the great mass of the farmers are not benefited in the least.

The question is, can there not be devised some means whereby the Fair may be made to answer the needs of the times, and make it what it was intended to be, viz., an educator? The change would have to be radical, indeed. We would want the exhibitor to show *how* such results had been obtained, and not, as now, merely *what* had been done. And unless they are improved along the lines indicated, we think that we are justified in saying that the grant should be discontinued altogether; much less increased.

The Present and Future of Wheat.

BY ROBERT WEMYSS, REABURN, MAN.

It is probably a bold, nay, a hazardous experiment, for any one dogmatically to venture an opinion on the future range of prices for wheat. The past and present we know, but, unlike experience in some other matters, they offer no solution of the future problem so vital to the agriculturists' interests. As with every other product, supply and demand must regulate prices, and the engrossing question is what the former is likely to be relatively to the latter, of which a fairly accurate estimate can be made. There are not wanting those on the other side of the boundary line who argue that the demonetization of silver has been an important factor in the reduction of grain prices. This is a question which we cannot enter upon here, further than to say that silver, like any other metal, is subject to the laws of supply and demand, and, writing in general terms, it is the financial standing and credit of any nation issuing silver coinage bearing the national stamp that fixes the value as currency when redeemable in gold. Our republican neighbors have been so long a law unto themselves, and so inflated by the marvellous growth and expansion of their nation, that they desire to be a law unto other nations, but bi-metalism must prove a failure in any one country unless adopted by others. They are now reaping the fruit they sowed the seed of in the Sherman Act, the evils of which shall be felt in many years yet to come.

The low prices arising from the enormous production of 1892 have not been without their compensatory advantages, for, however beneficial to the consumers and disastrous to the producers, they have been eye-openers, and have awakened the farmers to the absurdity of jealous isolation, the advantage of combination, and the stern necessity of being able to supply all their wants at natural prices, and not at prices artificially inflated by a protective tariff. To sell at ruinously low prices and to be forced to bonus other industries is to burn the candle at both ends at the same time,

which may realize the idea of a short life, but not a merry or prosperous one. We are not of those who believe that the prices of wheat must of necessity rise to a higher level, even the level of previous years, but we do believe that present prices are lower than are likely to continue, for the simple reason that producers cannot on the average afford to toil, sow, and reap, for 45 to 50 cents per bushel. Farmers must have a fair margin over cost equally with other producers or manufacturers, and although the smaller and more needy may, probably must, make wheat their staple, yet the more independent will cease to grow it, or doing so only for stock feeding purposes. In this way the supply for human food would be gradually curtailed, and prices take a higher level.

Many opinions have been ventured regarding the probable future of wheat, one of the favorite theories of optimists being based on the United States becoming importers instead of exporters of breadstuffs. It may be so, but it must not be overlooked that higher prices will induce higher culture and greater yields in the States, and also stimulate production in all the wheat-growing countries of the world. The New England States show this, particularly where many farms, abandoned because of their run down condition and sold at sacrifice prices, are now, under higher culture and more generous treatment, repaying the purchasers well for their outlay in manures, and more scientific methods. In Britain, and more particularly in Scotland, where the lands have been cultivated for centuries, and where agriculture is pursued with much scientific knowledge and enterprise, the yield per acre of cereals and roots is, on the average, greater than in Canada or the States. This is chiefly due to the system of rotation of crops, heavy manuring, drainage where necessary, and careful culture. The productive capacity of much of the land, both in Canada and the United States, has not yet been reached.

If the world's power of production is looked at, we see Russia, already an enormous producer, pushing a railway through Siberia, a country whose climate is somewhat similar to that of Manitoba, and with a large area of land capable of growing a magnificent sample of wheat. With the increase of transport facilities the production will no doubt be greatly extended. Turn to India, already a large and yearly increasing factor in the world's supplies—we find a large area yet to develop in the Punjab, the Northwest Provinces, and in Oudh, and whose power of production can scarcely be estimated, so great must it be in the future. Egypt, too, goes on steadily increasing, and with the new irrigation system now to be carried out, may yet rival India. Burmah is capable of raising almost unlimited quantity; while the Argentine Republic, which a few years ago scarcely figured as a factor in the wheat markets of the world, is becoming one of the largest sources of supply. What the effect of the development of British Africa upon the food products may be, remains to be seen, but there is every reason to believe that its capabilities for growing cereals equals, if not exceeds India. Its population, free from the trammels of "caste," adapts itself more readily to steady, persevering labor under the superintendence of white leaders. In some divisions or zones the climate and soils are particularly favorable for growing wheat, maize and millet.

Too little importance has been attached to the article of maize, or Indian corn, as a factor in the prices of wheat, and the tendency has been to reckon wheat as its own competitor only, which necessarily to a large extent is so. It must, however, be borne in mind that whatever forms a food staple and satisfies the wants of mankind, is an opposing force to higher prices in other food cereals. Maize is a food product of the greatest importance for man and beast, being not only highly nutritious but agreeable to the palate, at the same time very wholesome, probably even more so than wheaten flour as now manufactured. Mixed with other flour or fine meals it makes excellent bread, and even now forms the staple food of the lower classes in many countries. The higher the prices of wheaten flour, therefore, the larger the consumption of other and cheaper food products.

Everything, we believe, point to moderate prices being the normal condition of wheat, and while war on a large scale or failure of European or American harvests may temporarily raise them, it would be unsafe for the farmers to speculate on those factors. In Manitoba we have to keep in view that when wheat is selling in the British markets, at say 25 shillings sterling a quarter (eight bushels), the purchaser here can only afford to pay from 42 to 45 cents per 60 pounds; that is, he pays the British price, deducting freights, insurance, shrinkage, and other charges for placing it on London, Liverpool, or Glasgow markets. The conclusion, then, from what has been advanced, is that the days of 80 to 90 cents for wheat are likely to be only occasionally; \$1, a very doubtful quantity, while a moderate, but living price, is probably to be the average. Mr. Van Horne's figure of \$2, even with the qualifications he attached to it, is too absurd for even serious consideration. If intended in other than jest, it shows a lamentably low opinion of the intelligence of the farmers. It did not even serve the purpose of the traditional red herring to draw the scent off the trail of high freight rates. Farmers must study not only how best to increase their receipts, but—with their incomes reduced one-half—in expending them, how not only to get the best value, but a fair one. An almost

unanimous demand has gone forth from this Province for tariff reform, and unless granted, the settlement of the Northwest must be indefinitely delayed. Immigration is not likely to seek a country where to many natural disadvantages the Federal Government loads agriculture with artificial ones. The best class of immigrants to cultivate is men of moderate capitals, the sons of farmers in Scotland and England, who can bring with them from £500 to £1,000 sterling. This class has as yet been scarcely touched, and even if so, could not be induced to come when they know that so large a percentage of their capital and incomes is absorbed either in taxation or in forced contributions to uphold protected industries. At Ottawa the farce has been gone through of bringing in a budget with a few reductions made, but now that the Government has kept the promise to the ear, they are sedulously replacing the duties on most of the articles off which they were taken. Farmers are not merely interested in purchasing agriculture implements, but in hundreds of other things, the duties on which range from 20 to 100 per cent. At a low calculation, on the average, the farmers of Manitoba and workmen contribute \$75 to \$100 each in taxation annually.

Manitoba and the Northwest are passing through times calculated to try the best, but who can doubt that better are ahead, and the lessons learnt in adversity are not without their uses. If industry, economy, prudence, and a dread of debt are the fruits of past experience, much will have been gained. Farmers must learn to make haste slowly, making solid the foundation, and expanding only when the means of doing so are within themselves. Too much has been generally attempted on limited means; too much put upon the risk of crops, and it is among those that the greatest distress has prevailed. The farmer with a limited area of crop will find it more profitable to invest in cows than in a self-binder, trusting either to his neighbor to cut for him, or himself using a scythe, as was done by the early settlers, both in Ontario and Manitoba. Cows and sows are profitable stock, yielding a handsome return and increase, while self-binders are expensive at the beginning, annually deteriorating, and, if bought on credit, an annual anxiety as to interest and payments.

Artesian Wells.

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The Artesian Well derives its name from the Province of Artois, in France, where the first flowing wells were procured by drilling. The term artesian well includes any well drilled, whether for water, oil or gas. The oil industry in Pennsylvania, Ohio and West Virginia has been where the drilling of wells and all the necessary tools have been brought to the greatest perfection in the last twenty-five years. Formerly it took from three months to six months to drill a well five to six hundred feet deep; now a well will be drilled three thousand feet in from sixty to ninety days. A practical driller of Pennsylvania a few years ago saw the necessity of having a portable drilling outfit that would be efficient to drill to a depth of 500 feet, and be mounted on wheels. Such is the machine used by the principal men who make a business of drilling wells for water in the United States. There have been a few of them manufactured in Canada, but owing to the fact that the parties who bought them had no previous experience in drilling, "water-well drilling" in Ontario has not been the success that it is destined to be in the near future.

Another cause that has injured the reputation of the artesian well is the number of wells in sections of the country where the rock has been found near the surface. A well would be dug to the rock, then a small hole drilled until a flow of water was reached, if the distance was not too great, as the horse-power machines used were not capable of drilling to a greater depth than one hundred feet. As there was nothing in such wells to prevent the sediment from getting into the small drilled hole, it was only a question of time until the hole was filled up altogether, thus shutting out the water.

A well that is properly drilled and cased with casing the same as used by the oil operators of the United States never fills up. A well can be procured almost under any circumstances that will give an abundant supply of pure water, as the casing thoroughly excludes all surface water. When a layer of gravel is reached with the desired water, or the rock is found, the casing is discontinued. The size of hole drilled is usually 3 1/2 in. in diameter. A few of the advantages of the drilled well are:

- 1st. The well is small and affords no room for stagnant water.
- 2nd. A stream having been struck which flows through the well constantly, it never needs cleaning.
- 3rd. When the surface water or any particular stream that is undesired is properly cased off, we get nothing but pure water from the rocks below.
- 4th. It is most reliable in dry weather, since it does not depend on a seep or wet weather stream.
- 5th. It may be drilled through any kind of rock, no matter how hard, or through any depth of quicksand.
- 6th. There is no danger man, or beast, or child will fall in the well.
- 7th. Being straight and narrow, the pump will be held straight and firm, therefore last longer and work better than in an open well.
- 8th. It may be put down through a vein of coal or other minerals, shutting off the water entirely therefrom and get good water from below.