

nation might directly do their business, and grasp the profit that they are now realizing. It would be a great wrong to individuals engaged in the business. The government might with as much justice interfere with merchants importing any or every article of merchandise as enter into competition with men who have been and are doing the business efficiently. Apologies and pretexts could be had as readily for one as for the other.

We can well conceive a country reduced to such circumstances that it would be desirable for the government to undertake many things that, in a better state of society, would be better left to the enterprise of private individuals. Thus, were the king of Dahomy more enlightened than his subjects, his introducing into his kingdom whatever would be conducive to civilization and national prosperity, would be rightly considered the beneficent act of a paternal government. Even in civilized countries, were there a want of means or of enterprise on the part of private citizens, and the government possessed of means independent of the people (a very improbable state of affairs, we admit), then it would be commendable in that government to procure for the people what would tend to the nation's progress, and they could not otherwise secure.

Is Ontario in such a state as to demand from her ministry such assistance, or rather, as the people do not ask for it, to justify the expenditure of public money in such an undertaking? Are they so backward in the progress of civilization that the government must enlighten them, and teach them what is for their good? The very supposition would be self-contradictory. If they be unenlightened, so must be the members of their government, as it is but her creature. Are they individually so poor as to be, of themselves, unable to procure what is needed by them for the development of their resources? Were they so poor, so must be the public exchequer; it is the offering of their wealth for their country's wants.

Have the people of the Province been so inattentive to their own interests, neglecting the enriching of their country by the improvement of agriculture, the importation of the best farm stock, and the selection of the best agricultural seeds and implements, as to call for the helping hand of their government? The reply, even from the officials and organs of the government, must be an admission that the people are themselves efficiently doing the very work about to be done for them by the government. The Canadian importers and breeders of improved farm stock are not only able and willing to supply the demands of the country, but also the most enterprising agriculturists of the United States are fain to improve their stock from her herds. Of this, even our Minister of Agriculture cannot be ignorant. The great sales of such men as Miller and Snell must have attracted his attention. —As. T. Ed.

Seed Wheat.

The Agricultural Emporium has been the means of distributing a considerable quantity of Fall Wheat, the best in kind, and of the purest samples to be procured. The distribution has not been confined to one section of country, but has been far and wide throughout the province, and even in the neighbouring States. One means of testing and separating pure seeds, and of having always on hand a good stock such as we could desire, are barely sufficient for our undertaking. Merchants in grain and seeds would not embark in it, as there was no prospect of their realizing a remunerating profit. It would not do to undergo the great expense of procuring good and reliable grain for seed, and then to be obliged to sell at the market prices of ordinary market samples.

We have not spared expense or trouble to procure the best seed to be got; and though not at all times with the success we desired, yet as successfully as we could have anticipated—doing a business so im-

portant, and one requiring such close attention and ample means, unaided from any quarter. There have been some complaints of the quality of our seeds, but they have been very few. We will show two instances of such complaints. One person who was not a paying subscriber we accommodated by filling his order for grain. The order we punctually filled, and the grain shipped by our clerk. A letter came to hand from him threatening us with exposure, and everything dreadful, because the grain was two or three days longer in reaching him than he had expected. Another.—A large and wealthy farmer tried to make an awful fuss because he had found a few grains of cockle and chaff in some wheat he had got from us. And he has never yet raised a grain that we saw fit to be sent to the Emporium.

We acknowledge no fault in such cases. We tell you as we have always told you, that we send the best and purest we can procure. If the Emporium be not all we would devise it to be, the fault lies not with us. Farmers should make greater efforts to keep their grain pure and clean, but there is another party still far more to be blamed. The government of the province should have extended to the Agricultural Emporium good and substantial aid, and have thus enabled it to do better service than it has yet been able to, and to do all the good for which it was originated. —As. T. Ed.

The Austrian International Exhibition.

On the 1st day of May, 1873, will be inaugurated this great exhibition, that bids fair to be the greatest and most magnificent of the exhibitions held by the several nations. The notes of preparation have reached us from that distant country.—A beautiful park, said to be unsurpassed in Europe for its situation and adornments, is to be the scene of the exhibition. All that great wealth and refined taste can accomplish will be done to add to its attractions. The ancient Empire is determined not only not to be surpassed, but to surpass all others. The government has employed the most eminent artists and architects of the old world to construct the buildings and add to the beauty of the grounds. It is delightful to witness this generous rivalry of the nations, not in war, but arts and manufactures, in commerce and agriculture, in developing the industry and resources of kingdoms and peoples.—A very brief description of the preparations being made must suffice. Our space is limited, and we wish to put it to the best account:—

The building will be 350 meters long by 25 meters wide. A main gallery will intersect the entire edifice. This gallery will have cross galleries on each side, so placed as not to intercept the view. Between these and the main gallery lie garden courts which will also serve for exhibition purposes; and each country will have one or more of these galleries allotted to it, together with the portions of the garden-courts adjacent. A spacious rotunda will run from the centre of the building, and divide the main gallery in the middle. It will have a diameter of 102 meters, and its height will be 75 meters. From the chief building covered galleries will lead to conservatories stocked with the choicest flowers, and to pavilions intended for the exhibition of horticulture, aquariums, aviaries, and other objects. A separate hall, nearly half a mile long and 150 feet wide, will be devoted to machinery in motion, diving apparatus, hydraulic machinery, and other objects.

This description of the exhibition building, from the Michigan *Farmer*, conveys a clear synopsis of the design and dimensions of the building. The adornment of the grounds and everything in connection with the exhibition are on an equally imperial scale. Rows of large horse chestnut trees have been planted along the avenue leading to the principal entrance. The grounds adjacent have been converted into pleasure grounds, with smooth lawns, flower beds, rich with the choicest flowers, umbrageous groves, fountains of classic design and artistic execution—all that can delight the senses. Large sums of money

will be given in prizes to exhibitors, and every endeavor will be made to render the awards of the judges of the various departments as just and impartial as they can possibly be.

All the nations of Europe are making every preparation to be well represented at this great exhibition of the products of the industry and civilization of the world. A commission, with the Prince of Wales at its head, has been appointed by the Queen of Great Britain, having special charge of the products and stores of British industry and of her colonies. The interests of Great Britain, including her colossal colonial Empire, will be well attended to. Their vast resources will form of themselves a magnificent exhibition. We hope, in the great display of the wealth of Britain, the resources of the Dominion will bear no little part. Her industry and natural wealth are second to none other of the colonies. It would be a grievous wrong were not her position at the exhibition among the first.

In the United States periodicals that are devoted to the industrial pursuits and prosperity of the country, there is a cry of regret and mortification that their country will be entirely unrepresented in this great International Exhibition. That government has not taken any steps in the matter, nor has Congress appropriated any money, that the resources and various industrial pursuits of their vast country may be represented. —As. T. Ed.

Deep or Shallow Ploughing.

This question seems to be far from being settled. In our agricultural exchanges we from time to time meet letters on the subject from correspondents, as their experience or their prejudice inclines them. Farmers, it must be confessed, are not, as a class, wholly unbiassed by prejudice.—What we have been accustomed to do and to see done seems to us just what should be done. If we have seen a method of tillage prove successful, we are apt to decide at once that such a method must always succeed. But we should bear in mind that a single instance of success in pursuing any method in agriculture is not sufficient to prove that the method is the best one. The success of the experiment may have proceeded partly, or in whole, from favorable circumstances, more than from the course pursued. Hence it is only after repeated trials and under a variety of circumstances that we can authoritatively pronounce any method or implement or variety of seed an entire success or failure.

A correspondent of a very valuable agricultural paper, the *Western Farmer*, induced by his success in raising a good crop of oats after a very light ploughing, is this year ploughing all his stubble land in the same manner, expecting equal success. Having ploughed a piece of wheat stubble 2½ inches deep in April, 1871, and sowed clover seed on it, and being disappointed in the growth of the clover, he determined the following spring to sow it with Norway oats. This he did on April 24th, sowing 14 bushels on five acres with a Morrison Seeder, and finishing off with a smoothing harrow and broadcast weeder, and "a sinner" (plank). The crop was harvested July 30. He expects 60 bushels per acre when threshed, had straw enough for 80 bushels, and thinks there would have been 100 bushels if there had been sufficient rain. He adds as follows:—

"Was it the early shallow ploughing and 'smearing' in hot, dry weather that produced such fertility? The average crop in this vicinity will be under 40 bushels. I am shallow ploughing all my stubble land this season, as soon as I get the grain stacked; and I intend to harrow it thoroughly sometime in September when the seeds have all germinated.—By sowing clean seed I can have clean crops, and my opinion is that they will be much larger than if ploughed deep in October."

The writer thus takes the result of one year's trial as proof positive that the system thus pursued must be the best and most profitable. It is more than probable that he will, after having given this matter the close attention he promises, greatly modify, if not entirely change his opinion. In shallow ploughing his stubble land as soon as he gets the crop stacked, he is, no doubt, doing a good thing; the seeds of weeds will, in consequence, germinate freely from the fresh turning of the soil and the autumn heat and showers; and also from the same operating causes, the stubbles will, by rotting, serve to enrich the ground. But this light tillage is not sufficient. Having shallow ploughed the ground as soon as the crop is up, were he in addition to plough it deep in October, it would then receive all the mellowing, enriching influence of the frost and snow; and, before sowing the seed, if found necessary, the use of the cultivator would bring it into the very best state of tilth. Some may object to this as involving so much labor, but let them bear in mind that labor, if judiciously expended, is sure to be abundantly remunerated. It is the greater labor and the more abundant manure that enable the farmers of Britain to raise so much larger crops than those of America. Let us, as far as in our power, have no inferior crops. A poor crop must be a losing one to the producer; a good one is sure to be profitable.

What, then, are the advantages from deep ploughing, or may it not be, as some say, rather injurious than otherwise, by turning underneath the surface soil that has been improved by the influence of the atmosphere, and the culture of the previous year? The reply is obvious. The plants, cereals, or whatever they may be, require food not merely from the three or four inches of surface; they should, by having the soil tilled to a sufficient depth, be enabled to draw their surplus of food from a depth of many inches. And the rain and heat from the sun's rays will, after the farmer has done his part, complete the process, so that every rootlet will have abundance of nourishing food to convey to the plant. In the culture of root crops this is essentially necessary, and for cereals deep, good culture is a means of imparting to the grain that plumpness and weight in which our grain is not equal to that of Britain, partly from the short time in which it arrives at maturity, and partly, also, from our lighter and less costly preparation of the soil. And in a season of unusual drought or of moisture, a deep, thorough culture will enable the crop to withstand the adverse circumstances.

It is true that if circumstances be peculiarly favorable, the farmer may chance to have a good crop, even though his culture be such as to lead us to expect the very reverse. But we must not in farming, more than in any other business, act, relying upon the chance of a *lucky hit*. I have known a good crop of oats grown where the ground was not even ploughed or tilled. In part of a field the oats lay flat on the ground from its great rankness, and consequently, as much lay shed on it after reaping as had been sowed on it as seed. The soil was damp as well as rich, and the oats, lying shed, grew, and being allowed to grow as it was till harvest, it yielded from the two acres it grew on over 80 bushels to the acre of good grain.—That crop, so profitable without tillage, did not induce the owner to plough to less depth, or till with less care in the future. —[This was in Europe.]

The experience of many years passed in farming has proved to me that deep ploughing should be the rule. But to this rule there are exceptions. If the surface of the soil be the best adapted for nourishing the young plant and bringing it to maturity, as after a previous manured crop, or after being some years fed on as a pasture, it would be unprofitable to turn that rich surface down deep. In new virgin soil the case is similar. In very sandy

soil deep ploughing is not the best, tending to make the soil more fertile. If the soil is not too deep, it would not be so good as to bring it to the surface of the atmosphere, soiled, it has become fertile.

But such in the rule of deep ploughing, and the authorities on this subject are not in agreement.

Reports

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