ficient in vegetation in comparison with what we should expect. But time may improve them a little.

The machinery is not all yet in its place, and the art department not yet opened.

The stock sheds are a pattern for space and convenience, but have been and will be almost vacant.

The display of cotton, cotton machinery and cotton goods, is probably the largest ever exhibited.

Foreign nations are not as well represented as they were at Philadelphia. Canada is scarcely represented; in the horticultural department our apples, we think, compare favorably with any. Most all the apples were rotting badly. The following were the varieties that appeared to us to be the soundest and best keepers, that we noticed among our Canadian exhibit: Russet, Wagner, Penock, Baldwin, Red Canada, Cooper's Seedling and King of Tompkins. The display of oranges, lemons, citrons, etc., etc., was very fine. Some magnificent live oak trees, festooned with the waving moss, are quite an exhibit of themselves.

Mr. Marsh, of Richmond Hill, will bring several prizes to Canada for his Southdowns, Lincolns and Shropshires. Mr. Featherstone will gain honors for his swine exhibit. There was a very fine display of Merino sheep and Angora goats, but the display of horned and polled cattle was most meagre.

New Orleans and the exhibition must be seen to be appreciated, and those who can afford to expend $100, either for health or profit, would, we have no doubt, be as well pleased with the expenditure as we have been. We should like to have been able to spend more time to have gone to Mexico, California, etc. The Illinois Central offers conveniences and very cheap rates at the present time to all parts.

On our return trip we met Mr. S. White and several Chatham farmers, who had been at the exhibition and had been on the farms in Louisiana. Mr. White said he would not give one of his Chatham farms for a township of such land as he had seen. We passed through part of Kentucky, Tennessee and Louisiana, and our conclusion was that the deeper the snow the better the stock, the farm and the farmer. We do not know how to appreciate the value of our snow so well as to go and see those poor, miserable looking cattle trying to pick a living along the line of route through which we passed in Kentucky, Tennessee and Louisiana, to see the poor soil, the poor houses, the lack of thrift or comfort. When we return to the snow region, the orchards, buildings and farmers' sleighing, and densely settled lands, are indications that should be considered by all visitors to the verdant land of the beautiful magnolias, ferns, palms and oranges, and after seeing the beauties of other lands return to our firesides and sing "Home, Sweet Home."

New Orleans is in the State of Louisiana, on the banks of the Mississippi, 100 miles from the mouth of the river. It has a population of over 200,000. The land is low and wet. It is the principal export point of the Southern States. It is the great cotton market, and immense quantities of other products are shipped from here. The debt of the city is very great, and we heard of municipalities borrowing money in Louisiana at 20 per cent. Despite this, reports reached our ears that this great Mardi Gras cost the sum of $280,000. This is a wonderful demonstration, of which we in Ontario know but little. New Orleans is 913 miles from Chicago.

How to Save the Manure.

VII.

3. *The Supply of Potash.*—Like nitrogen, there are indications by which the presence of potash in the soil can usually be ascertained. It is generally abundant in clay soils; for the rock from which clay has been formed was rich in potash. In our soils a bountiful supply has also been derived from the ashes of the timber on our previously wooded lands, and as potash is readily retained by most soils, the supply from this source lasts for many years. But a great waste has also been taking place; for a very small portion of the quantity removed from the soil has been returned. Farmyard manure, in its fresh state, contains considerable quantities of soluble potash, most of which has been wasted by the exposed method of treatment.

We have now pointed out the methods by which the presence of nitrogen and potash may be ascertained; as to phosphoric acid no safe guide can be given to determine its presence or absence. The farmer will now readily see that his first experiment in fertilizers should be with phosphoric acid, providing he has previously ascertained the soil to contain a sufficiency of vegetable matter and potash. Unleached ashes are the most available potash fertilizer for the farmer; but they are not good as an experiment for ascertaining if the land is deficient in this substance, for they contain other valuable salts besides potash, especially appreciable quantities of phosphoric acid, and the experimentor cannot know whether to attribute most of the beneficial results to the potash or the other salts contained in the ashes.

In our markets potash fetilizers are obtained in the form of chloride of potassium, also called muriate of potash; and kainit is also sold as a potash fertilizer, but this contains chloride of potassium, sulphate of magnesium, and chloride of magnesium, there being only 13 or 14 per cent. of potash in kainit. Wood ashes contain about 10 to 12 per cent. of potash. Experiments with potash should be made on light soils, and chloride of potassium should be used. Sulphate of potash is also kept by our dealers.

Most farmers think that experimenting with fertilizers is attended with a considerable amount of extra labor. They imagine that they must divide their land into plots, and thresh the different yields separately. Such labor is entirely uncalled for. The farmer who cannot go into his field blindfolded, sow say a square rod with fertilizers, and readily pick out the spot a few weeks afterwards, has his soil in a much more fertile condition than a large majority of our farmers. The quantity applied varies with the class of fertilizer and the productive capacity of the soil. The nitrogen compounds which we mentioned (nitrate of soda and sulphate of ammonia) may be applied at the rate of about 400 lbs. per acre, and about the same quantity of any of the phosphates which we mentioned (superphosphate, precipitated phosphate, ground bone, or mineral phosphate); but the muriate of potash should be applied in less quantities, say about 150 lbs. per acre. These should be applied to soils which have the proper mechanical condition, viz., neither too compact nor too porous. A square rod will be large enough for an experiment, so that two or three pounds of a fertilizer, costing no more than 20 to 30 cents, may prove the commencement of a successful era to mostly every farmer in the Dominion.

These fertilizers should be sown at the same time as the grain and the ground thoroughly harrowed. With regard to the soluble fertilizers, however, especially if the quantity applied is large, part should be sown after the grain is up, making two or three different applications altogether. If the nitrogen fertilizers are all sown at once, a heavy shower of rain would wash them out of the soil into the drainage water.

In our next issue we shall close these articles on manures by treating on those compounds which farmers use as fertilizers, but do not fertilize, their beneficial action being attributed to their physical action in the soil, by which the land becomes more or less rapidly impoverished.

Disbelieving Facts and Figures.

If one statement is more plausible than another, farmers must be pretty thoroughly convinced that their system of husbandry must undergo a rapid change within the coming few years. They must study a system of rotation which they have not yet thought of. Wheat growing must largely be left to those newer countries with which we are no longer able to compete; and while they are exhausting their soil, we must be recuperating ours, so that in a few decades hence, when their soil becomes as uncertain for wheat as ours is now, we may then return to wheat growing again. A large majority of our farmers know little or nothing about the agricultural tendency of the times, and will therefore likely persevere in the ruinous old rut for many years to come. They are convinced that they thoroughly understand grain growing, and are unwilling to undergo the effort of studying other branches of husbandry.

Amongst the probable changes that will take place are: Greater attention devoted to the raising of beef and dairy products, the establishment of orchards, and the cultivation of small fruits. These questions are all involved in one another, and include first of all an accurate knowledge of pastures, fodder crops and trees, the nature and condition of the soils best adapted therefor, methods of preparation, etc.

If great ends must have small beginnings the farmer can have no doubt as to how he should commence. Let him first take what he considers his best cow, keep a record of her yield and thereby ascertain the profits for one season. Let him then compare this gain with the loss sustained from his worst cow, comparing both results with the profit or loss of an acre of wheat. Make the same calculations with an apple tree, a raspberry bush, or a patch of strawberries, figuring the profits of an acre from the basis of a tree, or a bush, or a