

By Mr. Fisher :

Q. In other countries they use sulphuric acid from other manufactures to make superphosphates; whereas, we cannot get the sulphuric acid cheap enough?—Yes.

By the Chairman :

Q. Do you think it would pay our farmers to employ superphosphates of lime?—I understand it is a very good article, especially in the production of turnips and wheat. In wheat, the predominant element is phosphate; and, no doubt, lands which contain little or none will benefit much by the use of it. But all these fertilizers should come in after manure. I think the farmer should produce part of all his own manure. By doing so he will save greatly; and, in addition, if he manages it well he will increase his produce by ten per cent. By the addition of what we call *terre noir*, peat muck, by properly working the manure, and by having a reservoir to gather up all the liquid for use, the farmer will profit greatly.

By Mr. Fisher :

Q. Do you not think the farmer can spend his money more profitably by improving his barn yard manure, than by purchasing artificial manure?—I think so.

Q. I think \$100 laid out in feed, by which he can increase his barn yard manure, would be money better employed than \$100 laid out in artificial manure?—Yes; because the artificial manures are wanted mostly every two or three years; they have a very short effect.

Q. And they are not always suitable to the soil, whereas the barn yard manure is sure to be?—Yes.

By the Chairman :

Q. Have you drained any portion of your land?—Yes.

Q. Did drainage make your lands more fertile?—Yes.

Q. To what extent?—I think I may say there was from 20 to 30 per cent. increase in the production. The drainage gives more heat to the soil. It removes the water which, under ordinary circumstances, in evaporating, attracts the heat and keeps it from the soil. It also destroys the obnoxious and injurious substances in the sub-soil. The rain coming down, drives these substances further down, so that the roots of the plant, instead of stopping in the sub-soil, penetrates deeper. Even in dry lands it has the result of sending the water deeper below them, and you have in store more humidity for the use of the plant. The drainage, however, must be pushed deep enough, so that the implements will not touch it when the soil is being worked.

Q. How many feet below the surface should the drains be laid?—I think under all circumstances drains should be laid at a minimum depth of thirty inches. It depends upon the soil to a large extent; but I think the minimum ought to be not less than thirty inches.

Q. Is drainage too expensive to be adopted by many of our farmers?—Formerly we used to make drainage of planks and stones, but now it is generally of tiles. Tile drainage at the first may appear a little dearer than the other systems, but it is the cheapest in the end.

Q. Do you know the cost of it?—It depends entirely upon the mode of drainage, whether you have a main drain and branches, or not, and the character of the soil.

By Mr. Fisher :

Q. Are you aware of any place in Quebec where tiles are made?—I think there is a place near Quebec, but I do not know.

Q. They could be easily made there, for there is plenty of clay there?—Yes.

Q. It would only need the market to create the manufacture?—Yes.

The Committee adjourned.

OTTAWA, March 12th, 1884

The Committee met. Mr. A. BLUE, Toronto, called and examined.

By Mr. Fisher :

Q. What is your official position?—I am Secretary of the Bureau of Industries for Ontario.