

Manures are of the first importance to the farmer, and he must do everything in his power to increase their amount. The system here proposed, is calculated so as to increase the quantity of manure in proportion as the soil becomes improved. As already said, the farmer ought not to sell a particle of his hay or straw, because these are the principal materials for manure; and, consequently, it is infinitely worse to sell the manure itself. The manure, thus economized, will suffice each year for the field which is to receive the root crop (No. 1).

After the crop of oats (No. 6), the land is not yet exhausted, and might even yield another grain crop. It is better, however, to preserve this fertility when acquired, than to be obliged to bring it back.

In this short treatise, it is impossible for me to mention one hundredth part of the means which we have of increasing our stock of manure. I shall content myself with alluding to the rich deposits of bog-mould which we possess, and the limestone, which can be had every where. The very weeds, which are the curse of our fields, may be converted into good manure.

#### 6. *Farther results of Experience.*

Mr. Boa has kindly favored the writer with some further results of his experience in rotation farming, and especially in relation to the relative effects of different green crops. His results in this respect quite accord with what might have been inferred from the composition of the ashes of these plants, and point to the proper manures to counteract the special effects produced on the soil by certain given crops. The following is an extract:—

I have said that the culture of crop No. 1 in the field is the key to the whole system. Now, as I have always considered the cultivation of this field as rather a means than an end, I have paid particular attention to the effect the several green crops have upon the following grain crop, say-wheat or barley. I have found mangel wurzel to be the worst of all the green crops cultivated for the grain crop. The seed comes up as well after it as any of the other crops, but as soon as the roots begin to strike, and the plants begin to tiller, it evidently falls behind and keeps behind. The crop is always thinner; is about eight days later in ripening than on potato-land; the straw is always soft, of a dull color, and affected with rust.\* Although this is a bad crop to precede wheat or barley, I am not prepared to say that it is a great exhauster of the soil; for in some experiments I have made, I have found the clover crop which followed

\* This is probably an effect of the large removal of potash by mangel wurzel. Wood ashes applied with the wheat might be a remedy.