

It only remains for me to say in this connection that clover requires, comparatively speaking, large amounts of the mineral constituents, potash, phosphoric acid, and lime. These being present in sufficient quantities, the clover plant with the aid of the germs I have referred to will obtain its own nitrogen. This points to the economy, where the soil is poor in these mineral elements, of supplying a certain amount of them either as wood-ashes—our own special product, and one that we are parting with to farmers in the United States at a price much below their true value—or some form of German potash salts supplemented by superphosphate or basic slag, to encourage the growth of the clover.

In conclusion, I propose to present some of our field results, showing the beneficial effects upon grain and other crops from this system of manuring by clover. They are of an exceedingly striking character, and furnish ample corroboration of the claims I have made for the clover crop as a means for increasing the soil's productiveness. These field experiments, I should add, were all conducted by Dr. Saunders, Director of the Experimental Farms.

GRAIN AFTER CLOVER.

In 1897, eight plots were sown with grain, four with the addition of clover seed at the rate of 10 pounds to the acre, four without the addition of clover. In October of the same year the crop of clover was turned under, the adjoining "no clover" plots being ploughed at the same time. The grain sown on these plots were; Preston wheat, Banner oats, Bolton barley, and Odessa barley. This land without any application of manure was sown in 1898 with Banner oats. Regarding the appearance of the growing crops on these plots, Dr. Saunders speaks as follows:—"The difference in the growth of the grain on these plots was soon very noticeable, and, as the season advanced, especially just before the heads appeared, the difference in height and vigour of growth in favour of the plots where the clover had been grown was very remarkable. So clearly was this manifest, that the difference could be distinctly seen at a considerable distance, and the outline of those plots on which no clover had been sown could be readily traced by the manifestly shorter and less vigorous growth. After the grain was fully headed, the difference in appearance was not so clearly seen at a distance, but by careful examination it could be easily traced." The plots were cut and threshed separately, and weighings made of the grain and straw from each plot obtained. The results showed an average increase in the yield of grain from the four clover plots of more than 11 bushels per acre over that on the plots on which there had been no clover sown.