

The clover plots were sown on 22nd October, 1914, and were hard grazed in the autumn following when the sheep were eating off the kale, as the kale was not fenced off from the clover plots. The grazing and treading given to the clover was consequently heavy, and it suffered severely, at one time looking as if it might not make a satisfactory recovery. The seeding was 20 lb. per acre. The manure used per acre was 84 lb. basic slag, 84 lb. superphosphate, and 42 lb. sulphate of potash. This was a mixture which in a box test with Marton soil gave very satisfactory results, and for that reason was the one I selected for use.

On 14th January some observations were made on the subsoiled plot 23, and it was found in many places that a good top soil of dark colour existed to a depth of fully 11 in., and that the clay subsoil was loosened for about 2 in. below that; also that the clover-roots had penetrated still considerably farther than that into the clay below the subsoiled area. The average depth of the top soil on this plot used to be about 8 in.

On the same date, on plot 13, which had received the same treatment as plot 23 without subsoiling, the average depth of true top soil appeared to be about 8 in., with pure clay subsoil underneath. This had been penetrated to a moderate depth only by the clover-roots. On plot 3, also not subsoiled, the depth of the dark top soil was about 8 in.

It would appear, therefore, that the process of subsoiling has considerably assisted in deepening the top soil proper, and that in such a process a deep-rooting leguminous plant, such as cow-grass, is likely to accomplish far more subsoil tillage than shallow-rooting crops such as oats, barleys, &c. This evidence as to the increase in depth of true top soil on the subsoiled plot, No. 23, explains doubtless in a great measure the increased productiveness of plot 23 over the other clover plots in areas B and A, which were not subsoiled.

For the other plots in the rotation chou moellier was selected instead of swedes. At time of writing these have not yet been fed off, and will be reported upon later. All stubble plots in the rotation were sown in Italian rye-grass for grazing off during the winter season.

