THE ANALYSIS OF SOILS.

Dr. Sturtevant, who is the Director of the New York Agricultural Experiment Station, thus replies to inquiries as to whether the station undertakes the analysis of soils, setting forth the reason why the station does not undertake soil analysis.

A cubic foot of soil in the average condition of moisture weighs from 70 to 100 pounds. The soil taken ten inches deep from an acre of land would therefore weigh about 3,000,000 pounds.

For the purpose of analysis, in the ordinary method, about 1-10 of an ounce of this soil would be taken, and this represents about 1-480,000,000 part of an acre.

If one ton of superphosphate, containing ten per cent. of phosphoric acid, were thoroughly mixed with the upper ten inches of an acre of soil we should have added 200 pounds of phosphoric acid to 3,000,000 pounds of soil, or one part to 15,000; that is to say, that each 15,000 pounds of soil would contain one pound of the added phosphoric acid. As but 1-10 of an ounce of this would be used for analysis, this 1-10 of an ounce would contain but 1-15,000 added parts of phosphoric acid, and this proportion would be represented by the percentage figures 00.0066, or .0000066 of an ounce.

This will be better understood if we repeat that in percentage figures it would require the addition of over 300 pounds of the superphosphate to the acre to change the third decimal figure of the analysis by a unit. The corollary of this is that as the chemist rarely works in this class of analyses beyond the second decimal figure, the addition of an ordinary fertilization, or that sufficient to make the difference between a good and bad crop, would not be detected.

We can moreover state the practical improbability of taking two samples of

soil from different places in the same field which would analyze alike within even the second decimal figure.

In the beginning of the application of science to agriculture, the public attention was strongly attracted by the theory that a chemical analysis of soil was about to offer a sure means for determining definitely the condition and the needs of our soils, and various charlatans disseminated the idea of this possibility for purposes of their own, in order to secure the privilege of prescribing and furnishing the diet required for each field of the farm.

At the present time it is universally recognized by men of scientific training that the analysis of the soil for the purposes of the individual farmer can offer no solution to the problem of what fertilizer or how much to apply.

PROFESSOR TANNER'S REPORT.

This report just submitted to the Council of the Institute of Agriculture, England, states that the Protessor traveled fully 5000 miles within Canadian Territory and that throughout the whole of his tour he found those settled upon the lands, prosperous, healthy He goes on to say, " after and happy. conversing freely with large numbers of these settlers, I am able to state that I did not meet with a single instance in which they were not fairly successful, contented, and full of hope for the future. They worked hard, it is true, but that labour was sweetened by the knowledge that they were improving their own property. Their personal requirements were easily provided for by the aid of a rich and productive soil, their families were growing up around them in the enjoyment of health, and without any anxiety being felt as to their future success in life. In speaking of Canada as I have done, I must not be supposed to repre-