

INOCULATED SOIL.

ITS EFFICACY WHEN TAKEN FROM YEAR-OLD LUCERNE PLOT.

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THIS experiment was carried out on a small plot of lucerne sown on the face of the Big Hill paddock at Ruakura Farm of Instruction in November last. The plot was divided into three equal portions—a non-inoculated plot, a plot inoculated with one-year-old soil, and another with a soil in which lucerne had been growing for three years. For some time there was no apparent difference in the three plots, but at the date of writing (6th April) the non-inoculated plot, in comparison with the inoculated plots, is showing a decided yellowness in colour, while both inoculated plots look exceedingly healthy, being of a bright dark green, the plot inoculated with one-year-old soil being quite as healthy as that inoculated with three-year-old soil. The result is of considerable importance, as up to the present there was a great deal of uncertainty on this matter. I may say that the non-inoculated plot occupied the centre position, so that there could be no possibility of contact between the two inoculated plots. Judging from other similar experiments, however, it would seem as if the bacteria were almost non-motile. I may also mention that the lucerne plot in question is growing on pure red clay, and received a liberal dressing of carbonate of lime, followed by a liberal dressing of equal parts of Seychelles Island guano and basic slag. The splendid results from such land are extremely encouraging.

Farmers intending to sow lucerne on similar soil would do well to sow a small plot only in the first instance, applying double the quantity of inoculated soil. At the end of twelve months they would have sufficient soil to inoculate the whole farm, if required.

Agriculture and the practice of farming have passed through the stage of mystery to that of a trade, with professional aspects. Modern scientific agriculture aims to replace tradition with well-established facts. While the art varies with the individual who practises, it is now based on knowledge—*i.e.*, on experience viewed in the light of science. This is its essential characteristic, and the ability to call science into the service of agriculture is a modern accomplishment.—*U.S.A. Experiment Station Record.*