POT TESTS WITH FERTILIZERS COMPARED WITH FIELD TRIALS.¹

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INTRODUCTION.

After the reconnaissance soil survey of Ohio had determined the important soil types of the State, it was purposed to make studies upon these different types to find out their peculiar requirements. Among the most important of these studies is the determination of the relative need of the different types for the three principal fertilizing elements.

While field trials are considered the most reliable method of solving this question, they are expensive and must be "systematically planned and thoroughly executed over a period of years, long enough to give a fair average of climatic conditions, which would mean at least ten or twelve years," before the experimenter "can feel that he has the solid ground of positive knowledge under his feet."² A quicker and less expensive method is therefore very desirable. Several such methods have been proposed, among which may be mentioned chemical analysis, wire basket tests and pot tests.

The results with pots seemed to give most promise and it was therefore decided to make pot tests with soils as similar as possible to those upon which field trials are being conducted, and to compare the results with those secured in the field. In this work the idea has been to duplicate field conditions and treatments as nearly as possible.

Ohio has several experiment farms located in various parts of the State on widely different types of soils. Upon these, fertilizer plot work has been conducted for periods ranging from ten to twenty years. Soils from the farms at Wooster, Strongsville and Carpenter have been studied in pot tests and the results so far secured are reported here.

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