THE DETERMINATION OF MOISTURE IN SOILS.1

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INTRODUCTION.

The method commonly employed for determining moisture in soils is that of direct drying in an air oven heated by various means, as steam, gas, or electricity. A desire to overcome the objectionable features of these methods and to obtain an absolutely dry basis instigated the work reported in this paper. The objections which should be overcome are the long time necessary for removing the moisture, the contamination of the sample by gases from combustion, the oxidation of the organic material due to the long heating at a temperature of 105° to 110° C. in air ovens, and the incomplete removal of all the moisture from the sample.

HISTORICAL.

In 1898 Tryller2 constructed a drying oven in which the heat from the small ring burners passed through a series of spaces in the walls and out at the top. The idea of this construction is to prevent contact between the soils and gases resulting from combustion. The author considered the results obtained by this oven to be sufficiently concordant for accurate work. However, drying for fourteen days at 105° C. and cooling and weighing daily did not yield absolute nor constant results. Often the sample shows an increase in weight after

1 Contribution from the Laboratory of Soil Technology, Ohio Agricultural Experiment Station, Wooster, Ohio. Received for publication February 23, 1918.