VARIATION IN SOILS WITH RESPECT TO THE DISPOSITION
OF NATURAL PRECIPITATION
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DURING recent years, when much attention has been given to the
problems of soil conservation, it has become increasingly appar-
ent that more information regarding the properties of soils is needed
than is now available. As has been pointed out (2), the infiltration
capacity of soils is one of the properties about which more information
is needed upon which to build erosion control practices.

The infiltration capacity of soils is a complex property which varies
not only between different soils, but also in the same soil with chang-
ing conditions within the soil. The securing of this type of information
which is applicable to widely scattered soils with different physical
properties is attended by many difficulties. Probably the method in
which the erosion type lysimeter (2) is used comes as near to securing
this information as any method yet evolved. But even this method has
certain shortcomings, in addition to the limitations of rather high
cost, that should be recognized. This point will receive further atten-
tion later in this paper.

A project in which the erosion type lysimeters are used was set
up at the Illinois Agricultural Experiment Station at Urbana, and the
results for more than 18 months are now available. It is the purpose
of this paper to describe the methods used in setting up this project
and to give a summary of the results. At a later time an analysis
of the results and a further consideration of the factors involved in
such a study will be taken up.

OBJECT AND PLAN

The primary object of this study is to determine how soils, with
different physical and chemical characteristics, differ in their dispo-
sition of natural precipitation. Eight soil types, extensively developed
in Illinois and possessing profiles of differing permeabilities, were
sampled in triplicate in cylinders 36 inches in diameter and 40 inches
long without disturbing the natural structure. The filled cylinders
were installed on the University South Farm in such a manner that
the precipitation falling on them can escape by runoff, percolation, or
evaporation. The runoff and percolate are caught and measured sepa-
rately and, therefore, since the soils are kept fallow, it is possible to
determine the amounts of water lost from each cylinder in the differ-
ent ways. This makes it possible to compare the soils with respect to
what becomes of the water falling on them.