use of the two methods would be for the general crops and fertilizer
needs of a soil type to be determined by outlying fields and then this
should be supplemented by other tests on individual farms or even
fields, as well as by laboratory tests to ascertain more definitely the
specific needs of small areas.

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THE INFLUENCE OF CROPPING SYSTEM AND FERTILIZATION ON THE REACTION OF SASSAFRAS SILT
LOAM SOIL

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The purpose of this investigation was to make a comparison of the
pH values of soil from certain of the fertility plats which were laid out
on the Delaware Agricultural Experiment Farm in 1908. It was
hoped that by comparing plats on which different cropping systems
have been grown some indication as to the influence of the cropping
system on the pH value of the soil might be secured. Incidentally,
since various plats have had different fertilizer and manure treat-
ments, it was thought that the results secured would indicate also the
effect of fertilization on the reaction of this soil under field conditions.

HISTORICAL

Blocks B and F were selected for the comparisons because these
blocks are adjacent, on the same type of soil (Sassafras silt loam),
and because different cropping systems have been used on them. So
far as is known the soil on both blocks is as nearly alike as could be
conveniently secured.

Block B contains 16 one-tenth acre plats. Each plat of this block is
divided into two equal parts, one half having been limed, the other
not. All the limed sections received hydrated lime at the rate of
2,000 pounds per acre in 1908 and 1916, while 1,500 pounds per acre
were used in 1912, 1920, and 1924. This makes a total of 8,500
pounds per acre applied before any soil samples were taken.
The limed and unlimed parts of each plat have always received the
same fertilizer and manure treatments. The total amounts are given
in Table 1. Details of the treatments have been published else-
where.3

The rotation used on this block from 1908 to 1912 was corn, oats,
wheat, and timothy and clover, but in 1912 this was changed to corn,
soybeans, wheat, and timothy and clover. The latter rotation has
been continued to the present.

1 Contribution from the Department of Agronomy, University of Delaware
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the Director of the Station. Received for publication February 16, 1933.
2 Assistant Professor.
3 SCHUSTER, GEORGE L. Fifteen years of field experiments with manure, fertil-
Bul. 4.) 1924.