

II. INFLUENCE OF SUMMER COVER ON NITRATE AND ORGANIC MATTER CONTENT OF A POOR GRADE OF NORFOLK SOIL

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The arrangement and handling of the plots growing the different summer cover crops in rotation with corn and sweetpotatoes made it possible to study the effect of these manuring crops on the soil. Two types of observations were used to determine this effect: (1) The periodic determination of the accumulation of nitrates in the soil permitted a study of the annual seasonal effect of the cover crops plowed into the soil, and (2) the determination of the organic matter content of the soil at intervals after the start of the rotations gave an indication of the efficacy of the summer cover crops in building up or maintaining the organic matter content of the soil.

Studies of the nitrate content of the soil were made during the growing season of sweetpotatoes and corn following the incorporation of the different summer cover crops in 1927 and 1928. Samples of soil for the determination of the organic matter content were taken in 1926 and 1927 from the various sections of the field on which the rotations were conducted. The results of these studies will be discussed separately.

SEASONAL EFFECT OF INCORPORATING SUMMER COVER CROPS ON NITRATE CONTENT OF THE SOIL

Methods of Sampling and Analysis: The nitrate content of the soil of selected plots of the rotation experiment was determined for three different depths after plowing in the cover crops in 1927 (cover crop grown in 1926) and 1928 (cover crop grown in 1927). The determinations were started two weeks after the incorporation of the summer cover crops late in January and continued at semi-monthly intervals until October. Representative plots of the field having the following rotations were sampled in 1927 and in 1928.

Sweetpotatoes following	<ul style="list-style-type: none"> “Florida pusley” <i>Crotalaria striata</i> Velvet beans Beggarweed Cowpeas 	Corn following	<ul style="list-style-type: none"> “Florida pusley” <i>Crotalaria striata</i> Velvet beans Beggarweed Cowpeas
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