DISAPPEARANCE OF NITRATES FROM SOIL UNDER TIMOTHY.

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An examination of the literature reveals an increasingly large amount of attention to the study of crops in their relation to the production of nitrates in soils. The bulk of this work seems to be concerned with the use of green manures and cover crops, and the relative rapidity with which plant materials or residues decompose in the soil with the formation of nitrates. Considerably less attention has been given to the production and disappearance of nitrates in the soil during the growth of the crop. Growing crops constantly remove nitrates from the soil and since plants of different species differ so much in their requirements for nitrogen the comparative effects of crops on nitrate production are somewhat difficult to determine. The accumulated data on this subject have now reached a fairly large volume and while the results are not always easy to interpret they contribute valuable information which is highly suggestive.

The difference between certain species of plants in their relation to the nitrate content of soil has been discussed at length in a previous publication of the Cornell Agricultural Experiment Station (1). To summarize briefly—the nitrate content of soil under timothy, corn, potatoes oats, millet and soy beans was different for each crop when on the same soil. During the most active growing period of the corn crop nitrates were frequently higher under the corn than in cultivated soil bearing no crop. Under a mixture of corn and millet, the nitrates at this period

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1 Paper read at the meeting of the New Orleans meeting of the Society. Received for publication October 18, 1922.
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3 Reference by number is to "Literature cited" p. 326.