

Ontario Department of Agriculture

ONTARIO AGRICULTURAL COLLEGE

Fertilizers

IN RELATION TO SOILS AND CROP PRODUCTION

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INTRODUCTION.

On our comparatively new lands, and in general farm practice where a judicious rotation of crops is followed, and where grain is fed on the farm and the manure properly cared for, it may not be necessary to use commercial fertilizers; but where the nature of the crops grown prevents rotation, and where very little farmyard manure is produced, they may be required. More and more each year it is found that the increased cost of production and the consequent need of producing maximum crops, and the growing demands of the larger towns and cities for garden and fruit products of high quality, are causing market gardeners and fruit growers to consider seriously the advisability of using some form of fertilizer. This has created a demand for information concerning these substances which it has not been easy to fill; for experience has shown that the farmer must possess a wide knowledge of plants, soils, and the fertilizers themselves before he can properly use them.

To intelligently and economically use fertilizers, it is essential that the farmer understands the needs of the crops, their power to gather the essential plant food constituents from the soil, and the purpose of their growth, i.e., whether the object is to produce an immature plant for early market, or whether maturity is required. He must also know something about the available supply of plant food in the soil and the nature of the fertilizer being used. These fertilizers are expensive, and unless they are intelligently applied in conjunction with very thorough cultivation they will not give their best results. They cannot take the place of cultivation; for they are food materials, and can only aid the growth of the plant as they are absorbed by the roots, and these cannot develop fully in a poorly cultivated soil.

Because of the wide variation in the amount of available plant food in soils, the differences in the needs of plants, and the necessity of the farmer gaining some definite information regarding the nature of the fertilizers he is using and