VITAMINS of the B-complex are of particular interest to the microbiologist since they are required for microbial development. Some organisms are able to synthesize all of the necessary vitamins, whereas others require an external source of at least some of them. Higher plants likewise require these vitamins, but from available information there is little reason to believe that they depend upon vitamins contained in soil to satisfy their requirements. Since excised roots can absorb vitamins from cultural media, however, it is reasonable to expect that plants can and probably do take up such material from the soil. Whether or not absorption is appreciable under farming conditions and can be regulated to affect the quality of the plant material still remains to be established. In this connection the observation of Nath (19), Hunt (12), Clark (1, 2, 3) and others (10, 15, 20) are of interest.

Since little is known of the vitamin content of soils or the factors affecting the formation, persistence, or destruction of vitamins in the soil, it would be premature to conclude that absorption by plants is negligible or that an external source of vitamins is without effect on plant development. Thiamin and biotin were found in soil by Lilly and Leonian (16), and Lochhead and Chase (17) obtained evidence that various growth factors, including some as yet unidentified, are present in soil. It can surely be supposed that all of the vitamins of the B-complex occur in soil, since they are present in plant materials which become admixed with the soil, and since these vitamins are also contained in the cells of the microbial inhabitants of the soil. Information concerning the amounts of vitamins and factors affecting their persistence is of more interest than evidence of their mere presence in soil.

The present study deals with the influence of microorganisms on the vitamin content of certain residues and of cow manure during periods of decomposition in composts. Information concerning transformation of vitamins during microbial attack of plant materials not only may be expected to contribute to a better appreciation of soil processes affecting plant development but may also give some indication of the influence of microorganisms on the vitamin content of the animal feeding materials which undergo more or less alteration by microorganisms.