THE DISTRIBUTION, AVAILABILITY, AND NATURE OF
THE PHOSPHATES IN CERTAIN KENTUCKY SOILS

M. C. FORD

This investigation was undertaken for the purpose of studying the availability and nature of the soil phosphates and their distribution in the soil separates of certain Kentucky soils. The study was suggested by results reported by Roberts, et al. (8, 9) which show in all cases a positive influence of lime on crop response to superphosphate, but both a positive and a negative influence in the case of rock phosphate.

The nature and availability of soil phosphates have been studied by many investigators and reference to pertinent work will be given in the discussion.

1Contribution from the Department of Soils, University of Wisconsin, Madison, Wis. Part of a thesis submitted at the University of Wisconsin in partial fulfillment of the requirements for the degree of doctor of philosophy. Also presented at the symposium on “Phosphorus” at the annual meeting of the Society held in Chicago, Illinois, November 14, 1929, and published with additions and revisions with the permission of the Director of the Wisconsin Agricultural Experiment Station. Received for publication September 25, 1931.

2In charge, Agricultural and Biological Sciences, State Teachers’ College, Bowling Green, Kentucky. The writer wishes to express his appreciation for the helpful suggestions and criticisms tendered by Professor Emil Truog, under whose general supervision this investigation was conducted. He also wishes to acknowledge his indebtedness to Thomas P. Cooper, Dean and Director of the Kentucky Agricultural Experiment Station, and to Professor George Roberts, Agronomist of that Station, for the privilege of sampling the Kentucky soil experimental fields, for the use of Experiment Station records, and other data. Acknowledgments are also due J. F. Freeman of the Kentucky Station for assistance in assembling data from the Experiment Station records.

3Reference by number is to “Literature Cited,” p. 410.