

THE ABC
of
SOILS

By

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PREFACE

In 1931-1932, the late Dr. Jacob G. Lipman, the internationally known Dean of the College of Agriculture, Rutgers University, and Director of the New Jersey Agricultural Experiment Station, asked me to relieve him of teaching the introductory course in soils. It was then agreed that the presentation of the subject would have to be revamped in the light of pedology, *the science dealing with the natural laws governing the origin, formation, and geographic distribution of the soil as a distinct body in nature.*

During the 20 odd years of Dr. Lipman's teaching, to quote his own words: "Very few changes had been made in the presentation of the subject of soils." Back in 1915, as an undergraduate, I listened to Dr. Lipman's interpretations and comments on text assignments in soils. These comments were, to be sure, far more interesting and informative than the text material. There was personality and wide experience in his presentation, scholarly appreciation of many phases of the subject, and a broad outlook of agronomic problems in relation to soil conditions. Essentially, however, the introductory course in soils was limited to a presentation of accumulated facts on the physical, chemical, and biological properties of soils under cultivation in the humid regions in relation to crop production.

Agriculturists of Lipman's period had little appreciation of the soil as an organic unit in nature. The fundamental differences of soils under various climatic environments have scarcely been touched upon in English, French, and German textbooks. The subject matter revolved primarily around problems of fertile and poor soils and local methods of handling these. Courses in soils and their management consisted (and in many schools the world over still consist) of discussions of agronomic experiments with the plowed layer of different soil classes (texture). Problems of acidity, liming, organic matter, fertilizer practices, and of methods of working the land had been treated as independent subjects, with little or no relation to the specific properties of soils in their climatic-geographic location. No consideration had been given to the profile characteristics of the soil groups of the world.

We have as yet no texts in soils and their management, treating the subject from the pedologic point of view. My aim is to provide such a text. I have attempted to present the fundamental facts in the light of our modern knowledge of pedology. The teacher as well as the competent reader may enjoy the opportunity of adding their interpretation of the facts presented.

During my 10 years of teaching the introductory course in soils at Rutgers, I generally followed the presentation as given in this text. From time to time, the topics of Chapter X were discussed before those of Chapter VIII; on other occasions, the topics of Chapters VI and VII were discussed after those of Chapter IX. Experienced teachers will surely use their best judgment as regards the sequence of topics.

No bibliography is included in this text, since beginners ever avail themselves of references to literature. Experienced teachers will recognize that this approach is followed in introductory texts in chemistry, physics, botany, zoology, and other scientific disciplines.

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