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Wm. P Brooks -

Agriculture

VOL. I

SOILS, FORMATION PHYSICAL AND CHEMICAL CHARACTERISTICS AND METHODS OF IMPROVE- MENT & *Including* TILLAGE DRAINAGE & IRRIGATION



. . . *By* . . .

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FOURTH EDITION

Published by

THE HOME CORRESPONDENCE SCHOOL

SPRINGFIELD, MASSACHUSETTS

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Preface

The reception accorded to the first edition of "Agriculture" has been so cordial that it has seemed to the author that the books may find a field of usefulness in schools and colleges where the subject is studied. It is believed that the systematic and at the same time concise and comprehensive style of treatment renders them well fitted for text-book use; and in the hope that they may, in this field, help to meet a want of the times the three volumes of "Agriculture" have been revised and a most complete index added.

Volume I. treats of the composition and food of plants and tells from what sources the necessary elements are derived. This serves as an introduction to the study of soils, which embraces a brief consideration of the action of the various agencies which have helped to form and to improve them. Especial attention is paid to the action of agencies which are now active; and the means which the farmer may take to promote such action are carefully pointed out. The peculiarities of the different classes of soil and their suitability to different crops are discussed. Then follows a careful study of soils in their relation to air, water, and heat. The chemistry of soils, with especial reference to composition and the more important chemical changes which go on in them, is treated at length. Following this the various operations which have for their object the amelioration of the soil are fully treated. This section includes a careful ex-

PREFACE.

planation of the objects, results, and methods of tillage and a description of the principal tillage implements.

Drainage is treated at considerable length, as also is irrigation. Illustrations, many of which have been prepared especially for this work, have been largely introduced and will be found helpful to an accurate understanding of the various subjects.

Throughout the book an effort has been made to present the truths of science in simple language, devoid of technical terms which are not generally understood. This plan has perhaps forced some sacrifice in possible brevity and conciseness of expression; but it is hoped this will make the book more widely useful to the class for which it is intended.

The author has drawn from the most varied sources for assistance in the preparation of this book. Credit in all important matters has, it is believed, been given in the text and no attempt will here be made to enumerate the different books which have been consulted.

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