

PREFACE

DURING the last century great and widespread changes have been made in agricultural practice—changes largely associated with the increase in the use of artificial fertilisers as supplements to the bulky organic manures which had hitherto been used. The value of certain chemical compounds as artificial manures is fully recognised, yet many attempts are being made to prove the value of other substances for the same purpose, with a view to increase in efficiency and decrease in cost. The interest in the matter is naturally great, and agriculturists, botanists and chemists have all approached the question from their different standpoints. In the following pages an attempt is made to correlate the work that has been done on a few inorganic substances which gave promise of proving useful in agricultural practice. Much of the evidence put forward by different workers is conflicting, and it is clear that no definite conclusions can yet be reached. Nevertheless, examination of the evidence justifies the hope that results of practical value will yet be obtained, and it is hoped that the analysis and coordination of the available data put forward in this book will aid in clearing the ground for those investigators who are following up the problem from both the academic and the practical standpoints.

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PREFACE TO THE SECOND EDITION

SINCE the publication of the first edition of this book two of the elements therein dealt with—manganese and boron—have come prominently into notice in certain parts of the world, largely for economic reasons, but also because of new discoveries with regard to their function in plant nutrition. This has resulted in considerable activity in research and consequently in the output of literature connected therewith, much of which has now been incorporated in the text. There is still much variation in the results obtained by different investigators, but on the whole it seems that the position with regard to the action of some of the elements is more firmly established, giving promise that a time will come when it will be possible to make regular economic use of them.

A considerable amount of work has also been done with other of the elements less commonly found in plants and the question arose of including them here. After due consideration it was decided to confine the scope of the book within its original limits, as justice could not be done to the whole subject without unduly increasing the size of the volume. It is, however, hoped that at some future time it may be possible to deal with the matter and to present an epitome of our knowledge on all the less common elements concerned in plant nutrition, especially as evidence of their specific importance is gradually accumulating.

My indebtedness may here be expressed to all the librarians who have rendered me much assistance in tracing references, special gratitude being due to Miss Aslin (Rothamsted) and Mr. F. W. Clifford (Chemical Society).

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