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PRACTICAL PLANT BIOCHEMISTRY

BY

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PREFACE

THIS book is intended primarily for students of Botany. Such a student's knowledge of plant products is usually obtained, on the one hand, from Organic Chemistry, on the other hand, from Plant Physiology; between these two standpoints there is a gap, which, it is hoped, the following pages may help to fill. It is essentially a text-book for practical work, an aspect of Plant Biochemistry which has received up to the present time very little consideration in teaching. A number of experiments have been devised and have been actually tested in practical classes. These experiments should enable a student to extract from the plant itself the chemical compounds of which it is constituted, and to learn something of their properties. An elementary knowledge of Organic Chemistry on the part of the student has been assumed, as it appeared superfluous to incorporate the material which has already been so amply presented in innumerable text-books.

My sincerest thanks are due to Dr F. F. Blackman, F.R.S., for criticism and many suggestions throughout the writing of the book. I am further indebted to Mr H. Raistrick, M.A., for help in various ways, especially in reading the proof-sheets. I wish, in addition, to express my gratitude to Professor F. G. Hopkins, F.R.S., for the great interest he has always shown in the subject and for his kind and stimulating advice in connexion with the scheme of teaching presented in the following pages.

M. W. O.

CAMBRIDGE,
February, 1920.

PREFACE TO THE SECOND EDITION

IN the present edition, some account, accompanied in most cases by illustrative experiments, has been given of a number of substances, or groups of substances, involved in plant metabolism, which were not included in the first edition. These are notably the “vegetable acids,” waxes, sterols, lecithins, inositol, phytin, the “essential oils” and nucleic acid. Corrections have also been made in order to include more recent additions to our knowledge on certain problems, as, for instance, those connected with oxidizing enzymes.

Since it is advisable to keep the book as short as possible, a few of the original experiments have been omitted to make space for others considered to be of greater value to the student.

The chapter on the colloidal state is intended to give the student a preliminary conception, only, of the importance of such phenomena. Additional information, both as to theory and experiment, is to be found in text-books which deal more exclusively with this subject.

Sufficient experience has not yet been gained to admit of the inclusion, in the present edition, of quantitative class-work in Plant Biochemistry.

I am much indebted to Dr F. F. Blackman, F.R.S., for kindly assisting with the proofs.

M. W. O.

CAMBRIDGE,
December, 1922.

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