

Botany

PRINCIPLES AND PROBLEMS

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FOURTH EDITION

McGRAW-HILL BOOK COMPANY, INC.

New York and London

1946

PREFACE

The present edition of this text, the fourth since the book first appeared in 1923, includes a considerable amount of additional material. An attempt has been made, as in earlier editions, to incorporate recent advances in botanical knowledge, which now seem well established, and topics that have come into prominence through the researches of recent years. Among these are included antibiotics, plant tissue culture, allometric growth, hydroponics, viruses, the use of "tagged" atoms, the genetics of *Neurospora*, the relation of genetics to evolution, vitamin physiology, and similar subjects. It is hoped that the inclusion of such fields of work as these, around which intensive research is being centered, will help to emphasize to the student the active progress that botanical science is making today.

A new chapter on plant distribution has been added, justified by the importance of this subject and the interest in it that has arisen during the war and will presumably increase as air travel becomes more general. The chapter on Bryophytes has been entirely rewritten by my colleague, Professor Hempstead Castle, an authority in this field, who has extended the treatment of the group and brought it into harmony with the results of modern research. A final chapter, "Botany and the Future," endeavors to present some of the most active fields of research today and their probable development in the years ahead, together with a brief statement of where these studies are being conducted and the journals in which the results are published.

A more radical addition is an Appendix containing the most important Greek and Latin roots used in the construction of botanical terms. It is hoped that by the use of this list the student will come to understand the derivation of most of the technical terms which he meets even though he has had no training in the classical languages; and that by this means the difficulty and confusion often attendant upon a new and imposing vocabulary may in some measure be avoided.

Much more attention is given in this edition than in previous

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