

BOOK REVIEWS

Introduction to the Biochemistry and Physiology of Plant Growth Hormones: by I. D. J. PHILLIPS, McGraw-Hill, London, 1972. £2.40 (hard back), £1.40 (soft back).

THE UNDERLYING biochemistry of plant growth and development is still in a state of flux. Rather than simplifying the whole process, the remarkable discoveries during the last two decades of the new plant hormones which regulate these systems, have led to a greater complexity than before. This has been confounded to a large extent by the desire of plant physiologists to mount the fashionable bandwagon of molecular biology and describe hormonal regulation in plants solely in terms of repression or stimulation of the transcription and translation of the genetic code. There are few papers on the subject in the fashionable journals which do not mention the use of actinomycin-*D* or cycloheximide or both. This is not to say that growth and development are not ultimately controlled by molecular processes, but if we stop all transcription and translation *in a growing cell* we are bound to affect its elongation, and indeed, any other of its multifarious activities. It is not a simple matter. Of course cellulose synthesis or hydroxyproline incorporation will be inhibited by the application of the antibiotics. But so will many other things which are never measured, like phosphorylation of ADP, transport of materials from the golgi apparatus to the cell wall and so on. In other words, an effect does not point to a cause (unless we define the cause so broadly as to constitute a non-answer). But if we want to make a start on understanding these processes, we must make sure that we have grasped the essential details of the discoveries which have led to our present knowledge. Over the past few years there has been a plethora of books dealing with the subject matter covered by the title of this volume. Most of them can be recommended for use at different levels. However, none, in my opinion, is more suitable for the beginning student than this book by Dr. Phillips. It is not only clearly written, but clearly organized. Rather than deal with each hormone separately, he has chosen the more difficult task of showing their individual and combined effect on various single aspects of plant growth and development, in separate chapters, and moreover succeeded in giving a well rounded account of each. He has chosen his examples with care and illustrated them with well produced figures and graphs. And above all, he is honest enough to admit to the reader that regarding the mechanism of action of plant hormones 'we just do not know' and I applaud his last sentence: 'There is unquestionably plenty more to do and time enough for you, the student, to become one of the researchers doing it'. Needless to say, the book is well produced and in my opinion a worthwhile investment for every first year student of botany and plant biochemistry.

Royal Botanic Gardens, Kew

T. SWAIN

Systemic Fungicides: edited by R. W. MARSH, Longman, London, 1972. 321 pp. £4.00.

THIS timely volume comprises twelve reviews of the development, theory and uses of earlier chemotherapeutants and recent systemic fungicides. The distinguished authors are well