Phytochemistry, 1979. Vol. 18, p. 1587. Pergamon Press Ltd. Printed in England.

BOOK REVIEW

The Control and Growth and Differentiation in Plants (2nd Edition): by P. F. WAREING and I. D. J. PHILLIPS. Pergamon Press, Oxford, 1978. 347 pp. £7.00 paperback.

The second edition of this famous book is most disappointing. When the first edition appeared in 1970 it seemed to combine, in a remarkable way, a command of traditional plant physiology and of the exciting new developments in plant hormone research which seemed then to be on the verge of offering a rational basis for explanation of the control of growth and differentiation. The authors' abilities to integrate these two fields in a convincing manner was probably unique and was certainly a major factor contributing to the book's success.

However, whilst the book purported to cover the whole topic of the control of plant growth and development it, in fact, dealt almost entirely with the role of plant hormones, an approach which seemed acceptable enough to many at the time. The scant treatment given to studies on the control of gene expression, a central problem, and the absence of any attention to photocontrol of development, for example, must also have been apparent but probably seemed less important then than now. Indeed these weaknesses could be overlooked because of the conviction with which the remainder was presented.

Times change and most readers in 1979 will, I expect, consider that what is primarily an account of plant hormones and their action is less than is now required. There seems to be two main reasons for this; first, the confidence that a detailed study of plant hormones would reveal all has diminished and, secondly, direct studies of the control of gene expression itself have become possible with the development of methods for the study of protein synthesis *in vitro*. It is indeed remarkable that there is not a single reference to these studies in the book, even in the sections on hormonal control of enzyme levels. These contain much perfunctory data based on inhibitor studies but omit the elegant and conclusive experiments which, using *in vitro* protein synthesis as a tool, have enabled the mechanism whereby gibberellin controls enzyme levels to be elucidated. It must be said though that the whole section on the control of gene expression (idiosyncratically entitled 'control of development') seems out of touch with recent developments.

Elsewhere too, the feeling persists that the vigour and remarkable grasp of the field, evident in the first edition, is diluted in the second. There is, it is true, a new chapter on phytochrome and photomorphogenesis but the content of this is superficial in the extreme (a comparison with equivalent chapters in other recent plant physiology texts is illuminating).

Perhaps the truth is that a completely new book was needed, that the approach, once used so successfully, is now inappropriate. Certainly, in its inevitably-dated way, the first edition still makes for more coherent reading. The same may be said too of the quality of production which in the new edition ranges from the barely acceptable to the inexcusably bad. Anyone who believes this to be an exaggeration should examine the photographs on, e.g. pp. 153–5, 245, 266 and compare them with those in the first edition (pp. 147–9, 213, 243). Much of the information originally contained in the photographs is completely lost because of the amazingly poor quality of the reproductions.

It is most disappointing to have to write in this vein, the more so since I am sure that everyone involved could have done so much better. Those who admire these authors' approach should hold on to their copies of the first edition.

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