

The growth retardant, cycocel used in these experiments, was a gift from the Cyanamid India Ltd. Financial assistance from C.S.I.R. is gratefully acknowledged.

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BOOK REVIEWS

HEATH, O. V. S.: *Physiologie der Photosynthese*. — Deutsche Übersetzung von D.-P. HÄDER. G. Thieme Verlag, Stuttgart 1972. X, 314 S., 155 Abb., 16 Tab., DM 14,80.

In der vom G. Thieme Verlag herausgegebenen Reihe „flexible Taschenbücher“ erscheint diesmal die deutsche Übersetzung des Buches von Prof. O. V. S. HEATH (University of Reading) *The Physiological Aspects of Photosynthesis*, Heinemann Educational Books Ltd., London 1969. Um den Umfang des Buches möglichst gering zu halten, widmet sich der Verf. nicht der chemischen Seite der Photosynthese, sondern behandelt nur deren Physiologie; besonders berücksichtigt werden die experimentellen Ansätze und Methoden, mit denen man Schlüsse aus den Ergebnissen zieht. Verf. bespricht im ersten Teil des Buches die morphologischen (Struktur der Chloroplasten, Pflanzenpigmente — Kap. 1) und physikalisch-chemischen (Diffusionsvorgänge — Kap. 2) Grundlagen der Photosynthese. Der zweite Teil des Buches enthält 8 Kapitel, die der eigentlichen Physiologie der Photosynthese gewidmet sind: gegenseitige Beeinflussung innerer und äusserer Faktoren, Lichtatmung, Wasserversorgung und Wassergehalt der Blätter, Licht, Temperatur und Kompensationspunkte, Chlorophyllgehalt und Lichtabsorption, Lichtqualität und Dauer der Belichtung, Teilreaktionen der Photosynthese und zum Schluss ein Ausblick auf physiologische Untersuchungen in der Zukunft. Kap. 3 enthält eine Übersicht über die Untersuchungsmethoden der Photosynthese. Besonders ausführlich werden im Buch, die Probleme behandelt, die der Verf. selbst bearbeitet, wie die minimale CO₂-Konzentration in den Interzellularen (I), der Widerstand der Spaltöffnungen usw. Das Buch schliesst mit einem Literaturverzeichnis (338 Zitationen) und einem Sachregister. Es ist die genaue und gute Übersetzung des englischen Originals, es wurde nur das Autorenverzeichnis am Ende des Buches weggelassen. Einige Fragen hätten eine modernere Überarbeitung verdient, da die Photosyntheseforschung in der Zeitspanne von 3 Jahren, die zwischen der englischen Ausgabe und dem Erscheinen der deutschen Übersetzung liegt, wieder grosse Fortschritte gemacht hat. An der sonst tadellos ausgestatteten deutschen Ausgabe habe ich nur die unästhetischen Dezimalzeichen z. B. auf Abb. 2.6, 4.2—4.8, 5.9, 5.20, 5.21, 7.7, 9.4 u. w. auszusetzen. Vorliegendes Buch ist für fortgeschrittene Botanikstudenten und junge Wissenschaftler und Lehrer bestimmt, die gewiss auch den erschwinglichen Preis dieses Taschenbuches begrüssen werden.

INGRID TICHÁ (Praha)

CARR, D. J. (ed.): **Plant Growth Substances 1970**. — Springer-Verlag, Heidelberg 1972. 837 pp. DM 60.—.

The book presents proceedings of the 7th International Conference on Plant Growth Substances which was held in Canberra, Australia, in December 1970. Some of the seventeen sections of the book are dealing with the general topics (inhibitors, cytokinins, ethylene, growth and morphogenesis, transport and tropisms, hormones and flowering) but most of the sections reflect the modern aspects of the plant growth substances research: cell extension (models, membranes and wall properties), rapid action of auxin, biosynthesis of auxins, biosynthesis of gibberellins, hormones and nucleic acids, hormones and isoenzymes, binding of hormones to cell constituents, gibberellins (the cereal aleurone layer), hormones in relation to senescence, and application of GLC — MS to hormone research. This seems to be the only way how to make such conferences attractive and interesting for both, participants and readers interested in special fields of plant growth substances research.

Specialists in various fields of plant growth substances studies may find interesting papers in different sections of this book but the first three sections (cell extension, rapid action of auxins and biosynthesis of auxins) are rich on fresh ideas and valuable data which may be interesting for plant physiologists in general. Application of automated chemical techniques to plant growth substances research is well demonstrated in the last section which contains only two papers (application of gas-liquid chromatography and mass spectrometry). Despite of their number they may represent a beginning of a "new age" in analysis of growth substances in plant material.

The edition of the book was very well prepared. Unfortunately the advantage of the offset printing did not prevent a delay of the publication of the conference proceedings.

M. KAMÍNEK (Praha)

KALDEWEY, H., VARDAR, Y. (ed.): **Hormonal Regulation in Plant Growth and Development**. Proceedings of the Advanced Study Institute, Izmir, 1971. — Verlag Chemie, Weinheim 1972. 524 pp. DM 85.—.

Proceedings of the Conference on Modern Aspects of Hormonal Regulation in Plant Growth and Development which was held in Izmir, Turkey, in 1971 are presented in this book which is a good reflection of our knowledge in this field in 1971. The subject is divided in eight chapters dealing with Basic problems of growth promotion and growth inhibition (1), Transport and excretion problems (3), Growth regulation in shoots and roots (3), Mode of action of auxins, gibberellins, and cytokinins (4), Mode of action of ethylene, abscisins, and morphactins (5), Plant movements and correlations (6), Flowering, fruiting and ageing of plants (7) and Growth regulation in sugar cane (8). Although most of the papers present original results approximately one third of authors, like I. D. J. Phillips, A. Skytt Andersen, K. V. Thimann, J. MacMillan, A. C. Leopold, K. Dörffling, G. Schneider and others tried to summarize our present knowledge in their fields. A considerable space is devoted to discussions which express the various points of view of participants and are a source of information about similar work which has been in progress in other laboratories. This, together with the well prepared subject index and short period in which the volume was published, make this book very useful for obtaining nearly up-to-date data concerning hormonal regulation of plant growth and development.

M. KAMÍNEK (Praha)

RUTTER, A. J.: **Transpiration**. — Oxford Biology Readers. Vol. 24. Oxford University Press, London 1972. 15 pp., in English.

This small booklet represents the 24 volume of the Oxford Biology Readers series edited by J. J. Head and O. E. Lowenstein. This publication offers the reader, in a condensed and for general public clearly understandable form a basic knowledge about transpiration. It is introduced by historical view of important discoveries in this field since the years of Stephen Hales. So far this booklet is concerned with an analysis of the physics of transpiration, especially of diffusion, many of the physiological aspects of transpiration are only briefly mentioned. The booklet is well produced and it is illustrated with 15 graphic figures.

J. POSPÍŠILOVÁ (Praha)