

BOOK REVIEWS

J. B. THOMAS, *Primary Photoprocesses in Biology*. North-Holland Publishing Company, Amsterdam, 1965; 333 pp., Dutch Guilders 36.—.

In the scientific literature on photobiology one often can read statements which have great shortcomings from the point of view of physics.

It is not always realized that when a biologist is experimenting in photobiology he should know not too little about the fundamentals of the physics of light. Usually literature about this subject is meant for physicists and therefore not easily understood by biologists. The book of dr. Thomas however is a book for biologists written by a biologist.

In the first chapters dr. Thomas gives us an insight in the physics and chemistry of the photobiological processes which occur in nature. He does this in such a way that it is quite understandable for a biologist.

Then he turns to the biological phenomena themselves. First comes an up to date picture of the fundamentals of photosynthesis according to modern views. This is important because most of the handbooks for students in biology are not quite modern when discussing photosynthesis.

Then comes vision. Different structures of eyes are given, the visual pigments are discussed. Afterwards one finds chapters on phototaxis, photokinesis, photodinesis, phototropism and photomorphogenesis. Many of these phenomena have different photoreceptor pigments and therefore are of great interest to the student of photobiology.

A last chapter is dedicated not to the effect of illumination but to emission of light by organisms: bioluminescence. This subject stands more or less apart from the other phenomena but on the other hand it should be discussed in a book on "Photoprocesses in Biology".

This book is not only most valuable but in fact quite necessary for biologists and students in biology as soon as they are confronted with problems of photobiology. For a plantphysiologist it is practically impossible to evade photoprocesses; for a zoophysiologicalist light plays a less dominating role although in the life of animals too photoreactions often are very important.

Therefore dr. Thomas' book deserves a welcome reception from all biologists who are interested in physiology.

R. VAN DER VEEN

KONRAD MENGEL (Giessen), *Ernährung und Stoffwechsel der Pflanze*. VEB Gustav Fischer Verlag, Jena, 1965, revised edition; 34.— DM.

Although a review of the first edition has already been given in volume 12, pag. 354 of the journal in 1963 by van Die, it does seem worthwhile to once more direct attention to this excellent book. The nutrition of the plant is treated in a wide sense. Besides the relevant metabolic processes, the fertilisation and the nutrient medium, the soil, are thoroughly treated.

The book will thus be primarily of value for agronomy students. As the author, however, has managed to treat this important subject in such a wise as to give a concise and integrated review in an excellently readable manner, it should also be

able to give others, experts in this field included, worthwhile information. This characteristic of the book is due to a lucid style, an orderly division of subject matter and a certain contemplativeness, which, however, never leads to a verbosity sometimes inherent to German books. The problems are always clearly and concisely defined and elucidated by means of a single example, usually derived from recent literature. As a result the book is up to date. A small drawback of this procedure is, that older important literature has to be somewhat neglected.

It is evident that the author has taken into account criticisms on the first edition; some chapters have been rewritten or extended. Nevertheless the text has been kept down to 331 pages, despite an extension of 50 pages.

In a first part the general significance and the functions of the nutrients are dealt with. Besides chapters on the soil, the uptake of nutrients, the physiological and biochemical principles of the separate metabolic processes, chapters are included on the relationships between nutrition and yield and quality of the crop. In this first part the clear exposition of the yield laws, in which the above mentioned relationships are formulated, and the significance of the interrelationships of the different factors merits special attention.

In a second part the nutrient elements are treated separately. For each element occurrence in the soil, absorption and function in the nutrition of crop plants is elucidated.

This classification of the matter can be considered justified, although a different one is conceivable. The same holds for the choice of examples. The opinion of the reviewer is that the author has made a good selection.

The treatment of the problems related to soil science is good and also those on fertilization. The Dutch reader may regret the absence of information, which is of special importance to him, e.g. the fertilization of permanent grassland and a more detailed discussion on the applicability of soil analysis for determining fertilization requirements. As a result of the concise treatment some omissions are inescapable. Also the symptoms of excess zinc could have been mentioned in the appropriate part. A few shortcomings and faults, which will be noticed in the text, however, do not invalidate the favourable impression. It might be mentioned that the photographs of deficiency symptoms could be improved upon.

In conclusion a book, which reads very well and may be the best in its realm. For a more detailed review on the physiological chapters reference may be made to the previous review by van Die.

Acknowledgements are due to my colleagues dr. W. van Driel, dr. ir. K. W. Smilde and dr. L. K. Wiersum for reading chapters related to their field of specialisation. The writer of this review has been happy to utilize their opinion.

F. VAN DER PAUW

ELSEVIER'S WOOD DICTIONARY in seven languages. Volume 1, Commercial and botanical nomenclature of world-timbers; sources of supply, compiled and arranged by W. Boerhave Beekman. Elsevier Publishing Company, Amsterdam, London, New York, 1964. xxii + 479 pp., 4 figs. D. fl 55.—; £ 5.10.0.

During the congress of wood-experts held at Stuttgart in 1953, it became evident that a multilingual dictionary of world-timbers was urgently needed in order to conquer the great difficulties caused by the use of many confusing or even misleading

commercial names for several kinds of timber. Dr. Boerhave Beekman, Director of the Netherlands Wood Academy, Amsterdam, and well-known wood-expert, was asked to work out plans for such a book.

Now the first result of Dr. Boerhave Beekman's immense work lies before us. It is the first volume of a Wood Dictionary, volumes 2 and 3 of which will contain Production, transport, trade, and Research, manufacture, and utilization respectively.

This first volume mainly consists of two large tables. The first and basic one contains in alphabetical order no less than 3778 English and American names of kinds of wood with their French, Spanish, Italian, Swedish, Dutch, and German equivalents, and their sources of supply. The second table gives the scientific names of exactly 2500 botanical species together with a large number of synonyms, also arranged alphabetically, with cross-references to the first table. Alphabetical lists of the names in various other languages used in the dictionary are found at the end of the book. It is to be regretted that in the second table the author did not add the names of the families to the generic names. This would have been a useful addition especially for those users of the book who are not fully acquainted with the numerous tree genera mentioned.

This first volume, and I suppose also the two volumes still to appear, will be of great value to everyone concerned with forestry, timber, wood products, or economic botany in general. Let us hope that it will become the basis for a greater uniformity especially in commercial nomenclature of timbers.

S. J. VAN OOSTSTROOM