

BOOK REVIEWS

The Blue Light Syndrome: Edited by HORST SENGER. Springer, Berlin, 1980. 700pp. DM98—(ca £25).

In July 1979 an International Conference on the Effect of Blue Light in Plants and Micro-organisms was held in Marburg, West Germany, organized by Professor Senger of the Philipps University. As he explains in the Preface to this volume, the variety of responses and the range of organisms affected by blue light are enormous. Presumably the epidemic proportions of the contributions gave rise to the rather cryptic title of the meeting, which survives in the book. Every contribution to the meeting is included in the present volume, as well as articles from some would-be participants (60 papers in all). On the one hand this ensures a complete documentation of this wide ranging and most significant event; on the other it inevitably yields a somewhat woolly, fragmented volume.

The book is divided into seven sections. In the first are to be found 11 reviews on various aspects of blue light action. Subsequent chapters contain the other contributions, grouped under the headings: Photoreceptors and Primary Reactions; Carotenogenesis; Carbon Metabolism and Respiration; Interaction between Blue Light and Nitrogen Metabolism; Chloroplast Development, and The Physiology of Blue Light Effects.

The book is valuable primarily as the most complete and up-to-date reference guide to current research on the action of blue light. No attempt (other than the chapter groupings) has been made to collate the findings

of the various contributors (admittedly a formidable task) and overlap and even apparent contradiction between papers is left to stand just as at the meeting. Hence, this volume is for the specialist rather than the tyro. The general reader may well be amazed at the ubiquitous diversity of responses reported but will probably soon become depressed as he perceives the extent of our ignorance of the early events associated with the absorption of blue light—in many cases we do not even know the nature of the photoreceptor. Indeed, the flavin-carotenoid controversy appears often in the volume, but rarely with the clarity evident in Song's outstanding contribution on the spectroscopic and photochemical characterization of flavo- and carotenoproteins. This is, for me, the highlight of the volume. Both phytochrome and photosynthetic pigments (as well as rhodopsin) find their way into *The Blue Light Syndrome* and the interactions of these photoreceptors with specific blue-light-absorbing receptors have posed many problems for researchers in this field. These too find their place here.

Collectively however the overall impression is of a disappointing lack of close analysis and an excess of purely descriptive work. This is not really a criticism of the present volume which doubtless represents a true reflection of the current state of the art. All those who succumb to The Blue Light Syndrome would do well to consult this volume before proceeding further.

*Plant Science Laboratories,
University of Reading*

CHRISTOPHER
B. JOHNSON

Chemie der Pflanzenschutz- und Schädlingsbekämpfungsmittel: Edited by R. WEGLER. Vols. 6 and 7. Springer, Berlin, 1981. 512 and 217 pp. DM258 and DM168.

Of these two latest volumes in this important series on pesticide chemistry, Volume 6 will undoubtedly be the most widely read since it covers a variety of topics of considerable current interest. The possible application of insect pheromones to pest control has raised many hopes but so far has not yielded many practical benefits. There is, however, the expectation of future developments and it is appropriate that the subject receives full treatment here in Volume 6. The general background is filled in with two introductory chapters on the biology of pheromones by Renwick and Vite and on their chemistry by Bestmann Vostrowsky. The latter chapter includes a formidable list running to 23 pages of identified, mainly sex, pheromones with

their insect sources. These two chapters are followed by a practically orientated account of the use of pheromones in the field by M. Bones.

The application of juvenile hormones to pest management is then discussed by Edwards and Mann, who are able to point to a small number of successful applications of juvenoid materials to pest control. Besides the deleterious effects of synthetic juvenoid analogues on the development of insect pest populations, it is worth noting that these substances can be applied beneficially to *Bombyx mori* larvae in order to increase silk production. The more conventional uses of purely synthetic insecticides based on phosphoric acid esters and on benzoylphenylurea are then described in two further chapters.

The remaining four chapters of this book are essentially plant orientated and deal with plant protective agents of microbial origin, the problems associated with biological pest control and the chemical

control of bacterial diseases and of fungal diseases caused by members of the Oomycetes. The latter chapter not surprisingly deals with the control of the familiar blights, *Phytophthora* spp., and downy mildews, *Peronospora* spp. It is salutary here to be reminded that in spite of the many systemic and specific fungicides that have been developed for these diseases, actual control in the field is still largely by means of long established non-systemic agents. Indeed, Bordeaux mixture, first introduced in 1885, and related copper formulations are still applied to crops to the tune of \$218 million worth each year.

Volume 7, also under review, is of more restricted interest and contains a single contribution on synthetic pyrethroids by K. Naumann. Both volumes are excellently produced and extensively documented and will be valuable reference works for all pesticide chemists.

Plant Science Laboratories, JEFFREY B. HARBORNE
University of Reading