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BOOK REVIEW

THOMAS, H., GRIERSON, D. (ed.): *DEVELOPMENTAL MUTANTS IN HIGHER PLANTS*. Society for Experimental Biology, Seminar Series 32. — Cambridge University Press 1987. 288 pp. Hardcover £ 25.00; US \$ 39.50.

Research on mutants in microorganisms and animals has contributed to the present knowledge of the regulation of development in biological systems. Similarly, this approach of using mutants in plants has offered a means to increase our understanding of plant behaviour. The experimental approach is highly interdisciplinary. Plant physiology, morphology, biochemistry, molecular biology and genetics are integrated. Many of the mutants used in developmental biology of plants are hormone mutants. The volume contains a paper dealing with metabolism of and sensitivity to gibberellin studied in connection with stem elongation. The pathway of abscisic acid biosynthesis studied in the well-defined mutants is the main topic of another contribution. Seed dormancy and the gravitropic response have been analyzed with the help of GA- and ABA mutants. The possible mechanisms of gravitropism and phototropism are discussed. There is also a contribution on foliar senescence mutants and their use in hormonal and metabolic studies and a contribution devoted to hormone autonomy induced in tissue culture. Nice examples of integrated developmental and genetic analysis of morphological differences between closely related genotypes are presented in another set of contributions. Sophisticated methods of molecular genetics have helped to gain some insight into the regulation of pollen formation. Another example of phenotypic expression of the changes taking place at the molecular level is demonstrated in the contribution on anthocyanin biosynthetic pathways.

The volume presents a diversity of problems which may be studied on mutants. It demonstrates some results of research in which the mutants have assisted in studying the control mechanisms of plant development and it also shows the perspectives of this approach. The contributors of the volume gathered a reasonable amount of information on the modern and very promising approach to plant development. The book demonstrates a great variety of excellent examples of solving problems by using the mutants. It also serves as a reference source of defined genotypes suitable for developmental research. Each paper of the thirteen chapters is supplied with an extensive list of references on the particular topic. The book is of great interest to biologists engaged in plant sciences, particularly to those engaged in problems of plant development. The book may also be recommended to advanced undergraduate and postgraduate students of biology.