

- MONDAL, R., CHOUDHURI, M. A.: Interaction of phytohormones with H_2O_2 metabolism and senescence of excised leaves of some C_3 and C_4 plants. — *Biochem. Physiol. Pflanzen* **179** : 463–471, 1984.
- MUKHIA, M., YONZONE, M., SADHU, T. K.: Studies on squash (*Sechium edule* Sw.) of Darjeeling district. — *Indian Agr.* **26** : 295–299, 1982.
- OSBORNE, D. J.: Ethylene and plants of aquatic and semiaquatic environments: A review. — *Plant Growth Regulation* **2** : 167–185, 1984.
- OSBORNE, D. J., HALLOWAY, M.: The auxin, 2,4 dichlorophenoxyacetic acid as a regulator of protein synthesis and senescence in detached leaves of *Prunus*. — *New Phytol.* **63** : 334–347, 1964.
- RICHMOND, A., LANG, A.: Effect of kinetin on protein content and survival of detached *Xanthium* leaves. — *Science* **125** : 650–651, 1957.
- THOMAS, H., STODDART, J. L.: Leaf senescence. — *Annu. Rev. Plant Physiol.* **31** : 83–111, 1980.

BOOK REVIEW

WANG, T. L. (ed.): IMMUNOLOGY IN PLANT SCIENCE. Society for Experimental Biology, Seminar Series. — Cambridge University Press, Cambridge—London—New York—New Rochelle—Melbourne—Sydney 1986. 256 pp., 60 figs., 8 tabl., £ 27.50.

This book contains nine papers presented at the Leeds meeting of the Society for Experimental Biology in January 1985. After a brief introduction to immunology including the diary of a successful experiment to derive a set of monoclonal antibodies (McAb), several authors demonstrated the impact of immunology in different fields of plant science.

In Chapter 2, antibody-based immunoassays of plant hormones are summarized showing quantitation at the femtomole level. Both antisera and McAb are used in radioimmunoassay (RIA), enzyme-linked immunosorbent assay (ELISA) and fluoroimmunoassay (FIA) with comparable specificities. The localization of enzymes at tissue, cellular and subcellular levels (Chapter 3) and the preparation of suitable tissue section by fixation, dehydration and embedding are discussed in view of different immunocytochemical procedures. The potential of immunofluorescence with different probes and the use of epifluorescence microscopy are demonstrated in Chapter 4 with the cell surface as research object, and further emphasized with the cytoskeleton in Chapter 5. The use of antibodies in molecular biology is treated in Chapter 6. The experimental approach is shown of how the cascade of information transfer, which comprises the expression of genes, can be unraveled with antibodies against DNA, RNA and polypeptides. Chapter 7 deals with the immunochemical analysis of the legume root nodule. Monoclonal antibodies have been used to identify the molecular components involved in the surface interactions between the endosymbiotic nitrogen-fixing bacteroid and the enveloping peribacteroid of plant origin. Chapter 8 studies quantification of phytochrome by immunoassay (ELISA, FIA and RIA) and its cytochemical localization, and describes blotting procedures to transfer protein gels to nitrocellulose membranes and subsequent immunological detection. This technique is called Western blotting, distinct from Northern and Southern blotting where RNA and DNA, respectively are transferred. Chapter 9 describes possible choices of immunoassay procedures (ELISA, FIA and RIA) in plant pathology. One of the authors (M. F. Clark) is the originator of ELISA in plant virology.

Almost all chapters contain several protocols (total of 19) and very illustrative figures, schedules and flow diagrams. At the end of each chapter key and general references till 1985 are given.

The book is recommended to all plant pathologists both to the beginners and experienced workers in immunology. Using this book, one should realize that immunoassay is such a flexible technique that there seems to exist little limitation, other than imagination of the researcher, for the improvement of existing assays and the development and use of the new ones.