
Book Reviews

Papavizas, G. C.: Biological Control in Crop Production. London, Toronto, Sidney: Granada 1982. IX, 461 pp. Hard bound £ 20.-.

The Beltsville Symposia in Agricultural Research were established in order to focus on the role of science in discovering solutions to agricultural problems. The subject of Symposium V: Biological Control in Crop Protection – was addressed to scientists in the field of microbiology, soil science, taxonomy, weed science, entomology, plant pathology, nematology, mycology, physiology, chemistry, ecology and economy. Symposium topics were selected which emphasized the use of organisms in controlling insects, plant diseases, nematodes and weeds. Thirty papers and 35 posters were presented in the 4 sessions on biological control: 1. Concepts, principles and mechanisms; 2. Agents, resources and production considerations; 3. Strategies; 4. General considerations. Only the use of biological agents in implementing biological control was discussed, including insects, vertebrates, mites, nematodes and a great variety of microbial organisms. Many other important topics of biological control, i.e. crop rotations, resistance, environmental manipulations etc. were not covered.

W. Dedek, Leipzig

Hoffschneider, P. H.; Goebel, W.: Gene Cloning in Organisms Other than *E. coli*. Berlin, Heidelberg, New York: Springer 1982. VIII, 264 pp., 63 figs. Hard bound DM 92.-.

This book is the first to give an account of cloning in organisms other than *E. coli*, including *B. subtilis*, *Pseudomonas*, *Neurospora*, *Saccharomyces* and *Streptomyces*. It also covers vectors and selection procedures for animals and plants, including the liposome technique. In most cases at least two leading scientists have contributed to each of the thirteen chapters covering these areas.

The bacterial systems are described in the first five chapters, where details are given on the use of plasmids and phage

in *Bacillus* as well as the use of plasmids from *Staphylococcus aureus* for cloning in *B. subtilis*. The latter has been used due to the early lack of success in utilizing plasmids from *B. subtilis* itself (now overcome).

The two chapters devoted to the pseudomonads are among the most interesting and reveal the enormous potential that lies within this very diverse group. The point is made that the pseudomonads exhibit enormous metabolic versatility, they are oxidative and only a few, e.g. *P. aeruginosa* and *P. putida*, are well characterized genetically. The broad host specificity vectors described may be particularly useful in enabling the powerful genetic engineering technology to be extended to a large number of these poorly characterized but important bacterial species, while allowing also the use of *E. coli* where a wider range of genetic procedures can be carried out prior to transfer of hybrid plasmids into a desired *Pseudomonas* strain.

The fungi are dealt with in great depth and the possibilities for industrial application pointed out. The use of fungi as an expression system for genes of other eukaryotic origin is also discussed.

No book on this topic is complete without consideration of gene transfer in higher organisms, and this one deals extensively with the use of viruses in this way in both animals (*Herpes simplex* virus) and plants (Cauliflower mosaic virus). Nucleic acid encapsulation in liposomes and delivery to both animal and plant cells are also dealt with and a final chapter on the Ti plasmid of *Agrobacterium* rounds off an extremely readable and informative volume. The book has a subject index, while all chapters have an extensive bibliography and are effectively illustrated, making the book extremely useful to both the specialist already in the genetic engineering field and to those biologists who are not, but wish to keep themselves informed on how this powerful technology can impinge on their own field of study.

J. F. Jackson, Glen Osmond