## Book Reviews

**Panopoulos, N.J. (ed.): Genetic Engineering in the Plant Sciences.** New York: Praeger 1981. 271 pp., 52 figs., 24 tabs. Bound $ 26.25.

No doubt, design and construction of better crop plants is a goal of plant breeders as explained by Peter R. Day in his foreword. And that, entering the 80s with the discovery of restriction enzymes, a new dimension of genetic engineering opened. But the present supplemented meeting report still carries the marks of the 1979 American Phytopathological Society which as part of its meeting organized a symposium of which the presented book contains the lectures. Those presented in Washington D.C. are subsequently supplemented with reviews on carrot somatic cell genetics, methodological papers on cloning soybean leghemoglobin genes and DNA sequences coding for corn proteins. But in general transposons and viruses are the topics of the more or less detailed abstracts. Even virus vectors in invertebrated and entomopathogenetic bacteria are included, so that the whole is a somewhat arbitrary collection. This does not mean that some articles are not interesting and very well written. In the fast developing scene of cell genetics this book reflects a transient stage, interesting enough for those who are active in the field.

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**Williamson, R. (ed.): Genetic Engineering Vol. 3.** London: Acad. Press 1982. xii, 173 pp., several figs., several tabs. Soft bound £ 11.80, $ 24.50.

This third volume in the Genetic Engineering series, like its two predecessors, is valuable to the expert and to the student or scientist in other disciplines. As such, its aim in bringing to the attention of these people the latest advances in the field of recombinant DNA technology are fulfilled. In this volume, phage and plasmid vectors expression of cloned genes in eukaryotic cells using vectors based on animals viruses is included.

The developments in plasmid vectors since 1973 are outlined in the chapter on plasmid and M 13 vectors by Russel Thompson. He explains how the well understood *lac* and *trp* operons of *E. coli* have been used to obtain expression of ectopic genes, while the development of cosmid and direct selection vectors has aided the construction of genomic and cDNA libraries. The emergence of systems for cloning in hosts other than *E. coli* is described and the advantages offered by M13 vectors explained. The use of vectors based on bacteriophage lambda is described in a chapter by Brammar. He points out that lambdoid vectors were slow to be adopted at first, largely because of complications with its genetics. However, as Brammar explains, lambda phages ability to recombine with the *E. coli* chromosome should provide a basis of a genetic method for clone extension and chromosome walking.

The final chapter of the book is entitled "Expression of cloned genes in eukaryotic cells using vector systems derived from viral replicons". This chapter is restricted to animal cells and tells of the use of SV40 (as well as some other animal viruses) as a vector in these cells. Rigby postulates that construction of mini chromosomes which segregate properly at cell division will surely come. The book is rounded off by a list, prepared by Davies, of all recombinants containing eukaryotic genes, as of October, 1981. The editor hopes to update this list in later volumes.

The set of volumes "Genetic Engineering" will thus represent a complete description of the art of genetic engineering, suitable for those learning about it and for those about to enter the field for the first time. For those alrady in it, the series provides a good source of practical information and references.

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