

*The Genetic Manipulation of Plants and its  
Application to Agriculture*

---

CONTENTS

Achievements, prospects and limitations of conventional plant breeding <i>J. Bingham</i>	1
An introduction to the techniques of genetic manipulation <i>B.G. Forde</i>	19
Ribulose biphosphate carboxylase: properties and synthesis <i>R.J. Ellis and A.A. Gatenby</i>	41
Molecular genetics of <i>Rhizobium leguminosarum</i> nodulation and nitrogen fixation <i>J.A. Downie, Q-S. Ma, C.D. Knight, L. Rossen, G. Hombrecher, N.J. Brewin and A.W.B. Johnston</i>	61
Genes of nitrate and ammonium assimilation <i>J.C. Wootton and M.J. McPherson</i>	89
Structure and regulation of the expression of pea storage protein genes <i>D. Boulter</i>	115
Soybean heat shock proteins: temperature regulated gene expression and the development of thermotolerance <i>F. Schoeffl, C-Y. Lin and J.L. Key</i>	129
Manipulation of key pathways in photorespiration and amino acid metabolism by mutation and selection <i>S.W.J. Bright, P.J. Lea, P. Arruda, N.P. Hall, A.C. Kendall, A.J. Keys, J.S.H. Kueh, M.L. Parker, S.E. Rognes, J.C. Turner, R.M. Wallsgrove and B.J. Mifflin</i>	141

*The Genetic Manipulation of Plants and its  
Application to Agriculture*

---

Rapid induction of mRNAs involved in defence reactions in plants <i>K. Hahlbrock, J. Chappell and D. N. Kuhn</i>	171
The use of cloned hybridisation probes to detect viral infections in a potato breeding programme <i>D. C. Baulcombe, R. B. Flavell, R. E. Boulton and G. J. Jellis</i>	183
Clonal propagation of plants from cells, tissues and meristems <i>G. Hussey</i>	197
Secondary Embryogenesis in Brassica: a tool for research and crop improvement <i>D. S. Ingram, C.-S. Loh, M. V. MacDonald and D. M. Newsholme</i>	219
The use of the Ti plasmid of <i>Agrobacterium</i> to study the transfer and expression of foreign DNA in plant cells <i>P. Zambryski, L. Herrera-Estrella, M. de Block, M. Van Montagu and J. Schell</i>	243
Abstracts of Poster Contributions	264
The genetic manipulation of plants and its application to agriculture: A summary of current progress and future possibilities <i>B. J. Miflin</i>	295