Foster, G.D., Taylor, S.C. (ed.): **Plant Virology Protocols.** Methods in Molecular Biology. Vol. 81. - Humana Press, Totowa 1998. 571 pp. USD 89.50. ISBN 0-89603-385-6.

This issue of the series Methods in Molecular Biology comprises comprehensive collection of state-of-art techniques for generating transgenic plants that are resistant to plant viruses via clonning and expression of coat protein gene. The book covers a wide range of methods required for plant virus isolation, RNA extraction, cloning coat protein genes, introduction of the coat protein gene into the plant genome, and testing transgenic plants for resistance.

The book is divided into six major sections, containing 55 chapters in total. Part I gives the introduction to the main problems in plant virology, including both plant-virus interaction and the structure of virus particle, genome organisation and viral life cycle. Main attention is paid to the questions concerning virus co-infections leading to the improved resistance, that means "classical crossprotection", its advantages and disadvantages, and possible impact of coat protein-mediated protection. Part II describes in detail methods essential for virus purification and RNA or DNA extraction of the major positive-sense RNA and DNA viruses. Each chapter includes a diagram of the genomic map, illustrating the location of the coat protein gene. Techniques for RNA quality determination as well as for cDNA library construction and DNA sequencing are given in Part III. Part IV focuses on the introduction of coat protein gene into the plant using vector and covers the primary analysis of transgenic plants including testing for transformation by PCR and Southern blotting, and detection of RNA transcripts by Northern blotting, as well as the production of protein by Western analysis. Cited techniques are applied on the main crops as potato, tomato, tobacco, and cereals. Part V is devoted to the evaluation of resistance to viruses in transgenic plants, testing the presence and content of virus by means of all currently used methods as ELISA, PCR, Dot-Blot and local lesion hosts. Resistance of transgenic plants in field and their agronomic performance is clearly outlined in this part as well. Part VI discusses both coat protein-mediated and RNA-mediated mechanisms of resistance and their possible risk and asset.

In conclusion, this book gives an excellent coverage of procedures used in the enhancement of plant resistance by means of viral coat protein gene introduction and certainly is a useful tool for all working with plant viruses. In my opinion, the book can serve not only for the construction of transgenic plants but also as a laboratory manual of time-proven methods applicable in virus research.

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