

- Smith, N.A., Singh, S.P., Wang, M.B., Stoutjesdijk, P.A., Green, A.G., Waterhouse, P.M.: Total silencing by intron-spliced hairpin RNAs. - *Nature* **407**: 319-320, 2000.
- Srisomchai, T.: [Studies on papaya ringspot virus.] - In: NEROA Rep. Pp. 228-232. 1975. [In Thai.]
- Tennant, P.F., Gonsalves, C., Ling, K.S., Fitch, M.M.M., Manshardt, R.M., Slightom, J.L., Gonsalves, D.: Differential protection against *Papaya Ringspot Virus* isolates in coat protein gene transgenic papaya and classically cross protected papaya. - *Phytopathology* **84**: 1359-1366, 1994.
- Topfer, R., Matzeit, V., Gronenborn, B., Schell, J., Steinbiss, H.H.: A set of plant expression vectors for transcriptional and translational fusions. - *Nucl. Acids Res.* **15**: 5890, 1987.
- Voinnet, O.: RNA silencing: small RNAs as ubiquitous regulators of gene expression. - *Current Opin. Plant Biol.* **5**: 444-451, 2002.
- Wesley, S.V., Helliwell, C.A., Smith, N.A., Wang, M.B., Rouse, D.T., Liu, Q., Gooding, P.S., Singh, S.P., Abbott, D., Stoutjesdijk, P.A., Robinson, S.P., Gleave, A.P., Green, A.G., Waterhouse, P.M.: Construct design for efficient, effective and high-throughput gene silencing in plants. - *Plant J.* **27**: 581-590, 2001.
- Wu, F.-S., Wang, M.-Y.: Extraction of proteins for sodium dodecyl sulfate polyacrylamide gel electrophoresis from protease-rich plant tissues. - *Anal. Biochem.* **139**: 100-103, 1984.
- Yang, J.-S., Yu, T.-A., Cheng, Y.-H., Yeh S.-D.: Transgenic papaya plants from *Agrobacterium*-mediated transformation of petioles of *in vitro* propagated multishoots. - *Plant Cell Rep.* **15**: 459-464, 1996.

Loyola-Vargas, V.M., Vázquez-Flota, F.: **Plant Cell Culture Protocols** (Second Edition). - Humana Press, Totowa 2006. 393 pp. USD 115.00. ISBN 1-58829-547-8.

There are many books now published on the topic of plant tissue cultures. In the series "Methods in Molecular Biology™" Vol. 318 the 2nd edition of *Plant Cell Culture Protocols* has appeared. This 2nd edition pursues the similar goals as its predecessor – to provide an updated step-by-step guide to the most common and applicable techniques and methods for plant tissue and cell culture. Readily reproducible and extensively annotated, the methods range from general methodologies, such as culture induction, growth and viability evaluation and contamination control to such highly specialized techniques as chloroplast transformation.

The total of 30 chapters is divided in 6 sections. The first section introduces readers to *in vitro* technology with the insight into the history of plant, cell, tissue, and organ cultures. The following part "Cell Culture and Plant Regeneration: the Fundamentals" contains eight quite different chapters. They bring some basic and useful information, but when we have in mind that it is the methodical book, the continuation of follow-up articles is rather pure. Inside the third part mostly dealing with plant propagation techniques, one very important paper about use of statistics in plant biotechnology is included. The

protocols of isolation, culture and plant regeneration from protoplasts we can find in the fourth part. The fifth part describes the methods for genomic manipulation – via *Agrobacterium*, particle bombardment and chloroplast transformation. The one of possibilities of commercial utilization of plant tissue cultures is the production and accumulation of pharmaceutically interesting metabolites and this is the topic of four articles in the last part of the book.

All the chapters are reviews of up-to-date literature. They start with short introduction summarizing the basic information. Further, the necessary equipment and reagents are mentioned. It is followed by step-by-step laboratory instructions. We can find there many diagrams and schemes illustrating the processes or strategies. The high formal level of this book is decreased with some photographs of pure quality and presence of only 3 colour pictures. Very beneficial is addition of two appendices with the composition of commonly used plant cultures media and the list with useful internet sites. I would like to recommend this book as a major resource of information to the all research team, which start with new plant cell culture techniques.

R. PODLIPNÁ (*Praha*)