Martínez-Zapater, J. M., Salinas, J. (ed.): **Arabidopsis Protocols.** Methods in Molecular Biology. Vol. 82. - The Humana Press, Totowa - New Jersey 1998, 440 pp. USD 79.50. ISBN 0-89603-391-0.

Arabidopsis thaliana is nowadays the most known weed in plant research. Therefore, no wonder that many laboratories gained good experience in different techniques of genetic and molecular analyses in the mentioned plant. Among them there are laboratories which have internationally recognized long-time skill in classical genetic analysis, others represent updated modern molecular methods. In the reviewed book both this approaches are joint in one monograph. In harmony with the title, the book is drafted as a practical guide for researchers who intend to use *Arabidopsis* as a new model plant for study their problem or who are looking for some special method.

The book to which more than 70 authors contributed, is divided into seven parts. The first part presents procedures of *Arabidopsis* cultivation. It includes the standard soil techniques as well as the sterile cell suspension, callus and protoplast cultures with composition of best tested media. To the utmost detail advise to the reader is given how to be successful in cultivation of good vital plants. No doubt, of extreme value are the numerous "Notes" present not only here but regularly throughout the whole book. They contain minute but important information to which the beginner works towards in a complicated way in optimizing the experimental methods.

Part two is devoted to the purifcation of subcellular organelles and macromolecules. It consists of the basic methods which precede the molecular-genetic analysis, *i.e.* isolation of chloroplasts, purification of mitochondria, extraction of nuclear, chloroplast and mitochondrial DNA and preparation of RNA.

The third part of the book is dedicated to the classical induction of mutations treating the seeds with chemomutagen (EMS). That is followed by genetic analysis leading up to the construction of linkage maps. Although the cytogenetics of *Arabidopsis* is not frequently used in laboratories regarding the difficulties with such small chromosomes, it is now available method, *e.g.*, for analysis of ploidy level. This part also presents the most recent methods of identification of special T-DNA insertional mutants based on PCR methods.

Next part is focused on the gene mapping methods other than classical ones. The modern methods use recombinant inbred lines, AFLPTM fingerprinting technique and other molecular markers as well as the strategy of mapping cloned sequences on yeast artificial chromosomes (YACs).

The fifth part is devoted to the transient and stable transformation. The reader will find here different detailed procedures of *Agrobacterium*-, bombardment- or PEG-mediated transformation of *Arabidopsis* genome.

The gene cloning strategies described in the last but one part are useful for anybody who intend to clone any gene identifiable by mutations by chromosome walking strategy using yeast artificial chromosomes (YACs) or bacterial artificial chromosomes (BACs). Other methods use amplifed fragment length polymorphism (AFLP), different transposon tagging strategy or cloning genes from T-DNA tagged mutants.

Finally, the last part of the book presents the essence of each genetic analysis - the methods of study of the gene expression. The basic procedure of *in situ* hybridization in particular tissues as well as in the whole plants is followed by the method of vizualizing the gene expression using different reporter genes.

The reviewed book, though written by many contributors, makes, thanks to the editors, a complex and unified impression. Just this composite team of authors could present practically all contemporary methods which are used in distinguished laboratories in modern approach to the plant molecular genetics. As *Arabidopsis* gained the stabile place as model experimental organism, the book can be useful to anybody working in the field of plant research. The book is especially valuable for detailed step-by-step procedures including many important notes. It is indispensable guide, which should be at reach on the shelf in each laboratory where the plant molecular-genetic methods in *Arabidopsis*, and not only *Arabidopsis*, are used.

J. RELICHOVÁ (*Brno*)