Hatzios, K.K. (ed.): **Regulation of Enzymatic Systems Detoxifying Xenobiotics in Plants.** - Kluwer Academic Publishers, Dordrecht - Boston - London 1997. 385 pp. NLG 315.00. ISBN 0-7923-4646-7.

Xenobiotics (foreign chemicals) are natural or synthetic substances that can not be utilised by organism for energy-yielding or cell-building processes. Plants are widely exposed to xenobiotics due to pesticide applications and as a result of industrial emissions and agriculture uses. Plants, like most other organisms, evolved a remarkable battery of metabolic reactions to defend themselves against the potentially toxic effects of xenobiotics. In recent years, the use of molecular modelling and molecular techniques associated with protein purification and gene expression have greatly advanced our understanding of the enzymatic systems mediating the detoxication of xenobiotics by plants. The regulation of these enzymes as the basic control mechanisms in xenobiotics biotransformation processes are in the centre of interest of many scientists engaged in xenobiotics metabolism in plants. Recent results in their research were presented on the NATO Advanced Research Workshop on "Regulation of Enzymatic Systems Detoxifying Xenobiotics in Plants" held at Greece, September 22-28, 1996.

The presented book is based on the oral presentations given at the workshop. The first chapter provides a brief overview of the plant xenobiochemistry and summarises the major directions for future research. The following 25 chapters are divided according to their subject into the five sections. The first section describes xenobiotic metabolism mediated by plant cytochrome P450s and esterases, induction and inhibition of these enzymes and their role in herbicide metabolism. The second section emphasises the importance of gluthatione and gluthatione transferases in metabolism of xenobiotics in plants. Knowledge of the main xenobiotics conjugations and the detoxified xenobiotics compartmentation in plant cells is presented in the third section. The next section concerns with the chemical regulation of plant enzymes detoxifying xenobiotics. The possibilities of enhanced xenobiotics detoxification in transgenic crops and resistant weeds are discussed in the fifth section.

The collection of all chapters represents an enormously important source of information for postgraduate students and scientists interested in the xenobiochemistry of plants. The modern aspects of xenobiotic metabolism in plants and comparison between xenobiotic biotransformation in plants and in animals can be also attractive for other researchers from a broad range of science.

L. SKÁLOVÁ (*Hradec Králové*)