

Upadhyay, R.K. (ed.): **Advances in Microbial Toxin Research and its Biotechnological Exploitation.** - Kluwer Academic / Plenum Publishers, New York - Boston - Dordrecht - London - Moscow 2002. 288 pp. ISBN 0-306-47255-4.

In the most recent years, much progress has been made towards understanding the plant-pathogen interactions. Microbial toxins, secondary metabolites produced by some fungi and bacteria, belong to quickly developing areas of this field. In the recent time, new technologies including modern separation techniques and spectral analysis of data involving nuclear magnetic resonance, FAB-mass spectroscopy, crystallography, *etc.*, have lead to improved knowledge of biochemical and molecular bases of these biologically active molecules.

The book discusses the role of toxins in plant pathogenesis, disease epidemics, plant breeding, biological control of plant pathogens and insects, as well as in induced resistance. 16 reviews, on which preparation participated 47 authors, cover main aspects of toxin production, signal transduction during host-pathogen interactions, characterization of toxin-binding molecules including binding sites, molecular basis of mechanism of toxin action, and transgenic plants having TOX<sup>+</sup> genes with reference to host specific toxins.

The reviews start with the explanation the role of host-specific toxins (HSTs) and suppressors, the known factors

determining fungal pathogenicity. Diversity of clones toxinogenicity in population of *Fusarium graminearum*, and possibilities of regulation of toxinogenesis, as well as evolution, function and prospects for the control of aflatoxins are discussed in the next chapters. Reactive oxygen species are involved in pathogen signalization. Their activation by fungal and bacterial toxins is described including their possible role in carcinogenesis and inflammatory processes. Comprised are other important topics as thermoresponsive phytotoxin production, activity and properties of cerato-ulmin, a toxin produced by pathogens of the Dutch elm disease, the role of lipopeptides from *Pseudomonas syringae*, the significance of syringomycins in pathogenesis, biological activity and potential use of lichen metabolites, bioactive compounds from algae and cyanobacteria, engineering disease resistance in plants using phytotoxins, and insecticidal proteins of *Bacillus thuringiensis* and their application in agriculture.

The publication can be used as a source of information both for researchers and advanced students in plant pathology.

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