
Physiology and Biochemistry of Metal Toxicity and Tolerance in Plants

Edited by M.N.V. Prasad and Kazimierz Strzałka

Metal toxicity has great impact and relevance to plants; however, this is not limited only to plants but also effects the ecosystem, of which the plant forms an integral component. Plants growing in metal polluted locations exhibit altered metabolism, growth reduction, lower biomass production, and metal accumulation. Edible plants with high doses of accumulated toxic metals are not only harmful to humans but also to animals when used as animal feed.

Various physiological and biochemical processes in plants are affected by metals. The contemporary physiological, biochemical and molecular investigations on toxicity and tolerance in metal stressed plants are prompted by the growing metal pollution in the environment. In order to understand how plants survive and accumulate metals from the contaminated environment, the physiology, biochemistry and molecular biology of plants under metal stress are studied to describe the underlying processes of acclimation (short term) and adaptation (long term).

The aim of this book is to give an overview of the most important aspects of physiological and biochemical basis for metal toxicity and tolerance in plants. The book is expected to serve as a reference to university and college teachers, students of plant sciences, environmental biology, environmental biotechnology, agriculture, horticulture, forestry, plant molecular biology, and genetics.