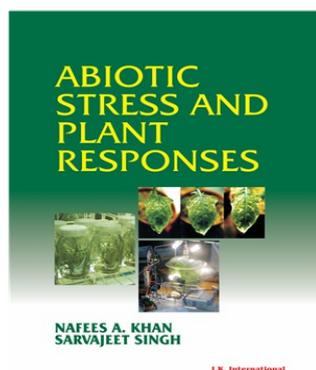


Abiotic Stress and Plant Responses, 1/e

Nafees A. Khan & Sarvajeet Singh



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About the Book

Abiotic stresses such as temperature, radiation, salinity, heavy metals and drought are the main factors that limit crop productivity. The anthropogenic activities and changed agricultural system, intense use of chemical fertilizers and artificial irrigation have increased temperature, UV-B radiation, drought, salinity and heavy metals stresses and caused yield losses annually to a greater extent. To overcome the yield losses due to abiotic stresses, plants need to possess mechanisms of avoidance and tolerance to stress. For sustainable agriculture development, future crops should have abiotic stress resistant traits and the mechanism for stress tolerance. The tolerance mechanisms can also be improved by the development of new techniques employing plant physiology and plant molecular biology tools. In this present book the advances in the area of abiotic stress responses and stress management have been included. The information may be useful in elucidating limits and tolerance of a plant to abiotic stress.

The present volume, comprising seventeen chapters by outstanding and eminent specialists across the world, covers the information on abiotic stresses such as salinity, heavy metals, drought and herbicides.

Salient Features

- ▶ Describes physiological and molecular responses, role of signaling molecules and plant phenolics in abiotic stress tolerance.
- ▶ Covers the information on salinity induced oxidative stress, strategies of halophytes to survive in a salty environment and tolerance mechanism.
- ▶ Discusses heavy metal induced modulation of gene expression, in general responses and role of metal binding peptides and antioxidants deals
- ▶ Resistance mechanism related to changes in endogenous polyamines to drought stress.
- ▶ Covers the information on herbicide contamination in plants.
- ▶ Describes the significance of salicylic acid, a plant hormone, in abiotic stress tolerance.

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