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# Physio-Molecular Tools for **DIAGNOSIS OF ABIOTIC STRESSES IN PLANTS**

## About the Book

Abiotic stresses, such as low or high temperature, deficient or excessive water, high salinity, heavy metals, and ultraviolet radiation, are hostile to plant growth and development, leading to great crop yield penalty worldwide. Abiotic stress factors are the non-living factors influencing the metabolism, growth and development of plants tissues at that particular time when such abiotic stress affect them. This triggers a wide range of plant responses, such as altered gene expression, cellular metabolism, changes in growth rates, and crop yields. Various physio-biochemical and molecular responses are being formulated in plants in response to abiotic stress, so the plant can survive even in such extreme environmental conditions. These stress response, are orchestrated by a complex regulatory network involving upstream signalling molecules including stress hormones, reactive oxygen species, gasotransmitters, polyamines, phytochromes, and calcium, as well as downstream gene regulation factors, particularly transcription factors. The present edited book is a modest attempt to present.

- Diverse physio-molecular responses in plants in reciprocation to abiotic stress.
- Conceptual approaches being used to quantify the expression of the multiple stress responses in plants.
- Modus operandi illustrated in understandable pattern for the benefit of researchers, teachers and students.

**A.K.Singh | Anand Kumar Pandey  
Ankit Singh | Deeksha Tiwari**

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