
Book review

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Plant Stress Biology: From Genomics to System Biology, edited by H. HIRT. XVI+257 pp. Weinheim: Wiley-VCH Verlag GmbH & Co. KGaA (2009). ISBN: 978-3-527-32290-9.

Plants do not possess the ability to move away from environmental and other stressors and have therefore developed a host of measures by which they can reduce the damage such stressors cause. This book covers the systems that underpin how plants respond to stress and how they alleviate the effects of stress. *Plant Stress Biology* is a detailed and up-to-date text exploring current understanding of the responses of plants to biotic and abiotic stressors.

The book is presented in three distinct sections: Part 1 (*From Model Systems to Crop Improvements*) very much sets the tone, describing two model systems (Bacterial and Moss) before detailing responses to stress in crop species (and the drive towards stress tolerance in these). The latter represents an area of importance if we are to extend world cropping area to, for instance, high salinity soils. Part 2 (*Stress Responses and Newly Involved Plant Hormones*) details plant responses to stressors in more detail at the plant physiology, biochemical and genetic level. This section also describes the roles that plant hormones play in both stress response and in stress

tolerance, with a distinct focus on the less well documented Jasmonates and the Brassinosteroids. A chapter is devoted to each of these plant hormone groups. Part 3 (*From Transcriptomics and Proteomics to Signal Networks*), where ‘the nine stresses’ are related to genetic response in *Arabidopsis*, identifies the similarity and differences in responses to different stressors at a transcription level. The utilization of network models including PINs to elucidate protein interactions and response pathways to stressors brings the book to a close. Perhaps surprisingly, this text does not discuss plant stress relating to either pollutants (with the exception of heavy metals) or to agrochemicals, although it may be that the editor feels such areas are out of the scope of the text. Indeed, the editor does stress in the preface that this work is intended to focus on both new findings and on areas previously overlooked by other, similar, books.

The use of well thought out and presented diagrams and figures throughout this text to bring together the diverse interactions related to stress responses greatly aids in clarification of the principles and theories being discussed. Overall, this is a comprehensive book that is set to become a key text for anyone studying or teaching in the field of plant stress biology. It is up-to-date, very well referenced and written in a clear and accessible style.

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