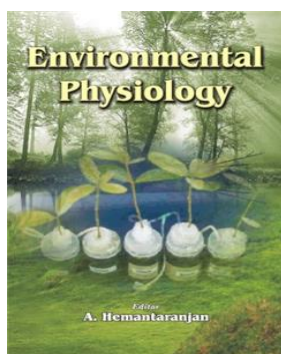


Environmental Physiology



A. Hemantaranjan

ISBN	: 9788172337209	Book Format	: Book
Language	: English	Binding	: Paper Back
Imprint	: Scientific Publishers	Edition	: 1
Pages	: 824	© Year	: 2016
Weight	: 1570 Gms	Trim Size	: 7.5 x 9.75

Print Book : ₹950.00 **₹855.00** 10%Off

Blurb

The innovative theme of the book entitled Environmental Physiology is basically molecular physiology of abiotic stress response in plants. This has been especially edited for realistic and rational utilization by planners, scientists, investigators, academicians and postgraduate students. This book is an exceptional assimilation of well-timed, crucial and comprehensive twenty-one worthy reviews of diverse significance contributed by sincere dedication of experienced, laudable and well-known scientists/ stalwarts all over the world. The genuineness that due to incredible harmony with the world scientists of various disciplines developed in the last eight years, over nineteen Indian and twenty-nine foreign intellectuals enthusiastically came forward and associated in this extensive project of pragmatic importance. In fact, this kind of momentous work cannot be accomplished effectively and productively by a single person belonging principally to a specific field of specialization. This is also strongly realized that there is progressively more a need of united effort of experts in the ground-breaking work of precise importance above all in the agricultural sciences, which absolutely depends on environmental situations. The intricacies of abiotic and biotic stresses on growth and development of plants have been understood in the last few decades. This is the right time to apply the knowledge acquired in this direction, out of exhaustive research throughout the globe, in anyhow enhancing yield of crop plants cultivated under a variety of environmental stresses, in general, and extending basic research, in particular, for having more insight in establishing new cultivars under higher intensities of abiotic stresses like drought, high and low temperature, salinity, sodicity, flooding, mineral, oxidative, heavy metals, etc. This book too is an endeavour to make aware the young workers with allied techniques comprising destructive and non-destructive methods for extending relevant research incessantly in the years to come to gain further information of both basic and applied significance for sustainability of agriculture under environmental stresses. The manifold ideas on basic problems of the present and the future as well as resolutions have been consolidated through precious reviews by distinguished personnel of plant sciences in twenty-one chapters. In this enthusiastic and forceful enterprise, the real appreciation is due to all notable and brilliant authors, for bringing up most needed unrivalled, practical, thoughtful and comprehensive reviews of international standard on physiology of plants and their responses under wide-ranging environmental stresses. Hopefully, the wonderful multifaceted reviews selected and compiled very systematically in this exclusive book for the first time by genuine experts and distinguished scientists would enable to plan meaningful advanced research and profuse consequential teaching on the extremely crucial theme of abiotic stress responses in plants. This unique collection must be of enormous help for post-graduate studies and higher research in all disciplines of plant science in every university and research institute of the world.

Table of Contents

1. Imaging techniques for physiology of plants under stress L. Chaerle, R. Valcke, and D. Van Der Straeten
2. Abiotic Stresses and Different Techniques Vijaylaxmi, A. Bhattacharya and J.D.S. Panwar
3. Chlorophyll Fluorescence as a Screening Tool in Plant Breeding Sergey Shabala and Jiayin Pang
4. Influence of High Temperature on the Photosynthetic Apparatus Katya Georgieva and Enrico Brugnoli
5. Function of plant hormones and antioxidants in the regulation of plant responses to drought Leonor Alegre Battle and Sergi Munn Bosch
6. Photosynthetic Responses of C3 Plants to Drought J. Flexas and H. Medrano
7. Drought as a Multidimensional Stress Affecting Photosynthesis in Tropical Tree Crops Fabio M. DaMatta
8. Responses to Defoliation of Perennial Grasses under Water Stress C.A. Busso, R.E. Brevedan, A.C. Flemmer and A.I. Bolletta
9. Biological Role and Regulation of Heat Shock Proteins Saroj Dua and Gurpreet Kaur
10. Molecular, Biochemical and Ultrastructural Responses of Plants to UV-B Radiation Isabel Santos and Jos Manuel Almeida
11. Calcium Signalling in oxidative stress Tracey Ann Cuin
12. Oxidative Stresses in Plants and Glutathione Sheela Agarwal
13. Ca²⁺ signalling systems in plants. The cell as the minimum unity for complexity Rui Malhand Lusa Camacho
14. Abiotic Stress Response to Symbiotic Nitrogen Fixation V.S.G.R. Naidu, J.D.S. Panwar and S.P. Saikia
15. Recent advances in the physiological and molecular mechanism of Al toxicity and tolerance in higher plants H. Matsumoto, Y. Yamamoto and B.Ezaki
16. Aluminum tolerance in Glycine max L.: The physiological mechanism Hideaki Matsumoto, Zhen Ming Yang, Jiang Feng You and Hai Nian
17. Soil acidity and alkalinity: two main constraints influencing plant performance H. Zad, A. Hemantaranjan, R. Layachi and A. Alem
18. Salt stress tolerance mechanisms - cellular and molecular responses Neera Garg and Monika Singhi
19. Rhizobium legume symbiosis under salt stress: effects, adaptations and amelioration Neera Garg, Anu, Geetanjali and Vini Arora
20. Adaptive strategies For coconut palm under stressful conditions S. Naresh Kumar, V. Rajagopal and K.V. Kasturi Bai
21. Fungal Host Pathogen Interaction: Attack and Defense Mechanisms A Biotechnological Approach Balwant Kumar Singh and R.S. Upadhyay

