

1. Record Nr.	UNINA9910253876803321
Titolo	Abiotic Stress Physiology of Horticultural Crops [[electronic resource] /] / edited by N.K. Srinivasa Rao, K.S. Shivashankara, R.H. Laxman
Pubbl/distr/stampa	New Delhi : , : Springer India : , : Imprint : Springer, , 2016
ISBN	81-322-2725-5
Edizione	[1st ed. 2016.]
Descrizione fisica	1 online resource (369 p.)
Disciplina	570
Soggetti	Plant physiology Environmental management Agriculture Sustainable development Climate change Plant Physiology Water Policy/Water Governance/Water Management Sustainable Development Climate Change/Climate Change Impacts
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Part 1. Mechanisms of Abiotic Stress Tolerance Responses -- 1. Physiological and Morphological Responses of Horticultural Crops to Abiotic Stresses -- 2. Role of Plant Hormones in Abiotic Stress Tolerance Responses -- 3. Role of Antioxidants in Abiotic Stress Tolerance Responses -- 4. Molecular Mechanisms of Thermotolerance -- 5. Mechanisms of Heavy Metal Toxicity in Plants -- 6. Seed Priming for Abiotic Stress Tolerance: An Overview -- Part 2. Abiotic Stress Tolerance in Horticultural Crops: Vegetables -- 7. Tomato -- 8. Onion -- 9. Capsicum (Hot Pepper and Bell Pepper) -- Part 3. Abiotic Stress tolerance in Horticultural Crops: Fruit Crops -- 10. Mango -- 11. Grapes -- 12. Banana -- 13. Arid Zone Fruit Crops -- 14. Litchi -- Part 4. Abiotic Stress Tolerance in Horticultural Crops: Plantation and Tuber crops -- 15. Coconut and Arecanut -- 16. Cashew and Cocoa -- 17. Water Stress Induced Changes in Black Pepper -- 18. Oil Palm -- 19. Tuber Crops.

This book brings together recent advances in the area of abiotic stress tolerance in various vegetables, fruit crops, plantation crops and tuber crops. The main challenges to improving the productivity of horticultural crops are the different types of abiotic stresses generally caused by climate change at the regional and global level. Heat, drought, cold and salinity are the major abiotic stresses that adversely affect growth and productivity and can trigger a series of morphological, physiological, biochemical and molecular changes in various horticultural crops. To date, there are no books covering horticultural crop-specific abiotic stress tolerance mechanisms and their management. Addressing that gap, the book is divided into 2 sections, the first of which highlights recent advances in the general aspects of abiotic stress tolerance like the role of hormones, reactive oxygen species, seed treatments, molecular mechanisms of heat tolerance and heavy metal toxicity, while the second focuses on the abiotic stress tolerance mechanisms of various vegetables, fruit crops, plantation crops and tuber crops. It includes comprehensive discussions of fruit crops like mango, grapes, banana, litchi and arid zone fruits; vegetables crops like tomato, capsicum, onion and tuber crops; and plantation crops like coconut, areca nut, oil palm and black pepper. Among the strategies for plant stress survival, examples of both avoidance and tolerance relevant to particular crops are examined in detail, supported by selected comprehensive case studies of progress. As such, the book offers a valuable resource suited for scientists and graduate students working in the fields of crop improvement, genetic engineering, and the abiotic stress tolerance of horticultural crops.
