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Titolo	Epigenetics in Plants of Agronomic Importance: Fundamentals and Applications : Transcriptional Regulation and Chromatin Remodelling in Plants // edited by Raúl Alvarez-Venegas, Clelia De-la-Peña, Juan Armando Casas-Mollano
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Livello bibliografico	Monografia
Note generali	Includes index.
Nota di contenuto	Chapter 1 - The role of small RNAs in plant somatic embryogenesis -- Chapter 2 - Past, present and future: plant epigenetic memory -- Chapter 3 - Casein kinase-mediated histone phosphorylation in model plants and crops -- Chapter 4 - Epigenetics in light regulation of plant development -- Chapter 5 - Canonical histones and their variants in plants: evolution and functions -- Chapter 6 - Plant epigenetic mechanisms in response to biotic stress -- Chapter 7 - Targeted epigenome editing for activation of plant defenses -- Chapter 8 - Epigenetics in crop biotechnology -- Chapter 9 - The Role of Germinally Inherited Epialleles in Plant Breeding -- Chapter 10 - Epigenetics and Heterosis in Crop Plants -- Chapter 11 - Epigenetic Variation Amongst Polyploidy Crop Species -- Chapter 12 - Histone H3 Phosphorylation in Plants and Other Organisms -- Chapter 13 -

Tomato Epigenetics: Deciphering the “Beyond” Genetic Information in a Vegetable Fleshy-Fruited Crop -- Chapter 14 - Epigenetic Advances on Somatic Embryogenesis of Agronomical and Important Crops -- Chapter 15 - MicroRNA Expression and Regulation During Plant Somatic Embryogenesis -- Chapter 16 - Can Epigenetics Help Forest Plants to Adapt to Climate Change? -- Index.

Sommario/riassunto

Over the past few decades, chromatin modulation has emerged as an important regulator of gene expression. This second edition provides detailed information on the epigenetic mechanisms in plants, illustrating the value of this research in plants of agronomic importance. It examines recent advances regarding plants' epigenetic regulation in response to abiotic and biotic types of stress; the epigenetic basis of plant immunity; evolution and functions of plant histones; epigenetic variation and plant breeding; and epigenome editing and crop improvement. The content is intended to promote the development of future biotechnologies to manipulate and selectively activate/inhibit proteins and metabolic pathways to counter pathogens, to treat important diseases, and to increase crop productivity. The development of new fields, like epigenome editing and RNA epigenetics, will certainly improve our understanding of currently known epigenetic modifications and their roles in e.g. host-pathogen interactions, crop productivity, and in response to environmental stimuli. This volume contains twelve new/revised chapters, written by an international team of experts on plant epigenetics, and addresses the needs of researchers and professionals in the fields of agronomics, crop breeding, epigenetics, plant biochemistry, plant developmental biology, and related disciplines.
