1. Record Nr. UNINA9910492145103321

Titolo	The Apple Genome / / edited by Schuyler S. Korban
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2021
ISBN	3-030-74682-8
Edizione	[1st ed. 2021.]
Descrizione fisica	1 online resource (424 pages)
Collana	Compendium of Plant Genomes, , 2199-479X
Disciplina	634.11
Soggetti	Plant genetics Plant biotechnology Agriculture Plant Genetics Plant Biotechnology
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Chapter 1. World Trade and Economic Importance of Apple -- Chapter 2. Botany, Taxonomy, and Origins of the Apple -- Chapter 3. Apple Genetic Resources: Diversity and Conservation -- Chapter 4. Ploidy, Genome Size, and Cytogenetics of Apple -- Chapter 5. Genetics and Breeding of Apple Scions -- Chapter 6. Genetics, Breeding, and Genomics of Apple Rootstocks -- Chapter 7. Genetic and Physical Mapping of the Apple Genome -- Chapter 8. The Apple Genome and Epigenome -- Chapter 9. Regulatory Sequences in Apple -- Chapter 10. Genome Editing in Apple -- Chapter 11. Flowering and Juvenility in Apple -- Chapter 12. Genetics and Genomics of Cold Hardiness and Dormancy -- Chapter 13. Genetics and Genomics of Fruit Color Development in Apple -- Chapter 14. Genomics of Fruit Acidity and Sugar Content in Apple -- Chapter 15. Metabolomic Approaches for Apple Fruit Quality Improvement -- 16. The Apple Microbiome: Structure, Function, and Manipulation for Improved Plant Health -- Chapter 17. Origin of the Domesticated Apple -- Chapter 18. Future Prospects of ‘Omics’ and of Other Technologies for Genetic Improvement of Apple.
Sommario/riassunto	This book covers information on the economics; botany, taxonomy,

and origin; germplasm resources; cytogenetics and nuclear DNA; genetic improvement efforts of scion cultivars; genetic and genomic improvement efforts of rootstocks; genetic and physical mapping; genomic resources; genome and epigenome; regulatory sequences; utility of whole-genome sequencing and gene editing in trait dissection; flowering and juvenility; cold hardiness and dormancy; fruit color development; fruit acidity and sugar content; metabolomics; biology and genomics of the microbiome; apple domestication; as well as other ‘omics’ opportunities and challenges for genetic improvement of the apple. The cultivated apple (Malus x domestica Borkh.) is one of the most important tree fruit crops of temperate regions of the world. It is widely cultivated and grown in North America, Europe, and Asia. The apple fruit is a highly desirable fruit due to its flavor, sugar and acid content,metabolites, aroma, as well as its overall texture and palatability. Furthermore, it is a rich source of important nutrients, including antioxidants, vitamins, and dietary fiber.