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Titolo	The Castor Bean Genome // edited by Chittaranjan Kole, Pablo Rabinowicz
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ISBN	3-319-97280-4
Edizione	[1st ed. 2018.]
Descrizione fisica	1 online resource (XXV, 272 p.)
Collana	Compendium of Plant Genomes, , 2199-4781
Disciplina	581.35
Soggetti	Plant genetics Plant breeding Agriculture Plant Genetics and Genomics Plant Breeding/Biotechnology
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Botanical descriptions of castor bean -- Cytogenetic details of castor bean -- Genetic diversity in castor bean -- Classical genetics and traditional breeding in castor bean -- Molecular linkage maps in castor bean -- Structural & functional genomic resources developed -- Genome sequence of Castor Bean -- Comparative Genomics in Euphorbiaceae -- Mining gene families in the castor bean genome -- Castor bean chloroplast genome -- Genomics of Sexual Reproduction in Castor Bean -- Gene Imprinting in Castor Bean -- Oil Biosynthesis and Biotechnology in Castor Bean -- The ricin toxin -- Castor bean metabolomics -- Genetic engineering in castor bean -- New Technologies in Castor Bean Breeding for Improved Oil Content.
Sommario/riassunto	This book addresses various aspects of the current castor bean research, including genetics, biotechnology, comparative genomics, and more specific topics such as oil metabolism and the ricin toxin. It also presents the whole genome sequencing of the castor bean and its impact on the mining of gene families and future plant breeding. Castor bean (<i>Ricinus communis</i>), an oilseed plant, belongs to the Euphorbiaceae (spurge) family. It is a tropical and subtropical crop

valued for the high quality and uniform nature of its oil, which is mostly composed of the uncommon fatty acid ricinoleate. Castor bean oil has important industrial applications for the production of lubricants, cosmetics, medicines, and specialty chemicals, and castor bean has also been proposed as a biodiesel crop that does not pose concerns regarding the “food versus fuel” debate. However, it accumulates the type 2 ribosome-inactivating protein ricin in its seeds, and health concerns posed by ricin’s high toxicity have prevented broader cultivation. Recently, there has been renewed interest in castor bean due to potential biosecurity issues.
