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Nota di contenuto	Outline, Kiichi Fukui (Osaka University) -- Part I Genome and Molecular Analyses: Genome and chromosomes, Naoki Wada (Osaka University) -- Genome Analysis, Hideki Hirakawa (Kazusa DNA Institute) and Shusei Sato (Tohoku University) -- Transcription factors, Keiichi Mochida (RIKEN plant Science Center) -- Molecular marker, Atefeh Alipour (Osaka University) -- Linkage map, Chun Ming Wang (National University of Singapore).-Part II Metabolomics and Physiology: Toxic substances, Taku Demura (Nara Institute of Science and Technology) -- Metabolomics, Daisuke Shibata (Kazusa DNA Institute).-Flowering, Nobuko Ohmido (Kobe University) -- Part III Genetics and Phylogenetics: Core collection, Hisashi Tsujimoto (Tottori University) -- QTL analysis, Peng Liu (National University of Singapore) -- Association Analysis, Tomoe Inoue (Tottori University) -- Phylogeny, Fatemeh Maghuly (University of National Resources and Life Sciences, Vienna, Austria) -- Part IV Breeding and Application: Super jatropha, Alfredo Zamarripa (INIFAP, Mexico) -- Selection of drought-tolerant lines, Irish Bagsic (University of Philippines) -- Utilization of waste water, Adel Hegazy (Sadat City University, Egypt) -- Transgenic plants, Joyce Cartagena (Nagoya University).

This book presents the genetics and genomics of *Jatropha*, which is used for biofuel, and shows how plant genomics can be used to improve plant breeding. The utilization of plant biofuels is a promising solution to global issues such as the depletion of fossil fuels and resources and climate change. *Jatropha curcas* L. (*jatropha*) is a species of shrub belonging to the Euphorbiaceae family. Native to Mesoamerica, it is now grown widely in tropical and subtropical areas in America, Africa and Asia. The seed oil of *Jatropha* is a suitable source for biodiesel or bio jet fuel, and since it is not edible and can grow in semi-arid lands unsuitable for the cultivation of food crops, its production does not compete with that of food to inflate its price. The characteristics of this promising biofuel plant, however, have not been fully exploited in terms of breeding, mainly because of the lack of information on its genetics and genomics. The structure of the whole genome of *Jatropha* is analyzed, providing insights into the plant's genetic system and accelerating the molecular breeding process.

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