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Nota di contenuto	Preface -- Part I: Bulbs -- Chapter 1. Traditional and Novel Approaches in Garlic (Allium sativum L.) Breeding (Einat Shemesh-Mayer and Rina Kamenetsky Goldstein) -- Chapter 2. Genetic Improvement of Leek (Allium ampeloprasum L.) (Fevziye Celebi-Toprak and Ali Ramazan Alan) -- Chapter 3. Shallot (Allium cepa L. Aggregatum group) Breeding (Haim D. Rabinowitch) -- Part II: Roots -- Chapter 4. Molecular Breeding Strategies of Beetroot (Beta vulgaris ssp. vulgaris var. conditiva Alefeld) (Farrag F.B. Abu-Ellail, Khaled F.M. Salem, Maysoun M. Saleh, Lina M. Alnaddaf, and Jameel M. Al-Khayri) -- Chapter 5. Carrot (Daucus carota L.) Breeding (Philipp W. Simon) -- Chapter 6. Parsnip (Pastinaca sativa L.) Breeding for the Future (Lauren H.K. Chappell and Adrian J. Dunford) -- Chapter 7. Radish (Raphanus sativus L.): Breeding for Higher Yield, Better Quality and Wider Adaptability (Binod Kumar Singh) -- Chapter 8. Sugar Beet (Beta vulgaris ssp. vulgaris L.) Improvement with Next-generation Breeding Technology (Chiara De Lucchi, Enrico Biancardi, George Skaracis, Marco De Biaggi, Ourania Pavli, Samathmika Ravi, Claudia Chiodi, Chiara Broccanello, and Piergiorgio Stevanato) -- Chapter 9. Turnip (Brassica rapa var. rapa L.) Breeding (Hesham S. Abdel-Razzak) -- Part III: Tubers -- Chapter 10. Recent Advances in Potato (Solanum tuberosum L.) Breeding (Emre

Aksoy, Ufuk Demirel, Allahbakhsh Joiya, Muhammad Abu Bakar Zia, Muhammad Naeem Sattar, Faisal Saeed, Sevgi Çalkan, and Mehmet Emin Çalkan) -- Chapter 11. Application of Genome Editing Tools to Accelerate Potato (Solanum tuberosum L.) Breeding (Zafar Iqbal and Muhammad Naeem Sattar) -- Chapter 12. Sweet potato (Ipomoea batatas L.) Breeding (Jolien Swanckaert, Dorcus Gemenet, Noelle L. Anglin, and Wolfgang Grüneberg).

Sommario/riassunto

Plant breeders and geneticists are under constant pressure to sustain and expand food production by using innovative breeding strategies and introducing minor crops, which are well adapted to marginal lands, provide a source of nutrition, and have abiotic and biotic stress tolerance, to feed an ever-increasing human population. The basic concept of this book is to examine the use of innovative methods, augmenting traditional plant breeding, towards the improvement and development of new crop varieties, under the increasingly limiting environmental and cultivation factors, to achieve sustainable agricultural production and enhanced food security. Three volumes of the book series Advances in Plant Breeding Strategies were published in 2015, 2016 and 2018, respectively: Volume 1. Breeding, Biotechnology and Molecular Tools; Volume 2. Agronomic, Abiotic and Biotic Stress Traits and Volume 3. Fruits. In 2019, the following four volumes were published: Volume 4. Nut and Beverage Crops, Volume 5. Cereals, Volume 6. Industrial and Food Crops and Volume 7. Legumes. Recent volumes published in 2021 include: Volume 8. Vegetable Crops: Bulbs, Roots and Tubers, Volume 9. Vegetable Crops: Fruits and Young Shoots and Volume 10. Vegetable Crops: Leaves, Flowerheads, Green Pods, Mushrooms and Truffles. This Volume 8, subtitled Vegetable Crops: Bulbs, Roots and Tubers, consists of 12 chapters focusing on advances in breeding strategies using both traditional and modern approaches for the improvement of individual vegetable crops. Chapters are arranged in 3 parts according to the edible vegetable parts. Part I: Bulbs - Garlic, Leek and Shallot; Part II: Roots - Beetroot, Carrot, Parsnip, Radish, Sugar beet and Turnip, Part III: Tubers - Potato and Sweet potato. Each chapter comprehensively reviews the contemporary literature on the subject and reflects the experiences of the authors. Chapters are written by internationally-reputable scientists and subjected to a review process to assure quality presentation and scientific accuracy. Each chapter begins with an introduction covering related backgrounds and provides in-depth discussion of the subject supported with high-quality color photos, illustrations and relevant data. The chapter concludes with recommendations for future research directions, a comprehensive list of pertinent references to facilitate further reading, and appendixes of genetic resources and concerned research institutes. This book series is a valuable resource for advanced students, researchers, scientists, commercial producers and seed companies as well as consultants and policymakers interested in agriculture, particularly in modern breeding technologies.