1. Record Nr. UNINA9910999687303321

Titolo	Male Sterility Systems in Vegetable Crop Improvement / / edited by Saurabh Singh, Shyam Sundar Dey, Reeta Bhatia
Pubbl/distr/stampa	Singapore : , : Springer Nature Singapore : , : Imprint : Springer, , 2025
ISBN	981-9634-29-6
Edizione	[1st ed. 2025.]
Descrizione fisica	1 online resource (XV, 224 p. 19 illus., 16 illus. in color.)
Disciplina	630 664.024
Soggetti	Agricultural biotechnology Plant biotechnology Botany Agricultural Biotechnology Plant Biotechnology Plant Science
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Chapter 1. Insights into male sterility systems delivering tomato hybrids -- Chapter 2. Male sterility systems expediting breeding of leafy vegetables: a case of lettuce -- Chapter 3. Sources, genetics and gene identification of male sterility and fertility restoration in pepper (Capsicum spp.) -- Chapter 4. Male Sterility in Cruciferous Vegetable Crops -- Chapter 5. Current Understanding of Genetics and Molecular Mechanisms of Male Sterility in Muskmelon -- Chapter 6. Male sterility systems and associated mechanisms in beets -- Chapter 7. Male sterility in watermelon: current insights and advances -- Chapter 8. Development of Vegetable Crop Hybrids Using Male Sterility System -- Chapter 9. Male Sterility Systems in Carrot Crop Improvement -- Chapter 10. Male sterility in eggplant, advances in research and its exploitation hybrid breeding.
Sommario/riassunto	This book covers different male sterility systems employed for genetic improvement of vegetable crops. Various aspects such as cytoplasmic male sterility (CMS), genic male sterility (GMS) and cytoplasmic genic male sterility (CGMS), and their exploitation in hybrid breeding of

vegetable crops is also discussed. This book provides the timeline of key breakthroughs made in the male sterility systems and their exploitation in vegetable crop improvement. The information compiled is of great relevance to current need of global food security. Precise genome editing through CRISPR/Cas9 and other advanced techniques has made it possible to engineer male sterility in vegetable crops. Due to the pressing issue of climate change, the diversification of cytoplasm is important and hence, the role of alien cytoplasm in developing novel male sterility systems in vegetable crops is also explored. This book is resourceful for the researchers, students, scientists, teachers and private players interested in hybrid vegetable seed industry.