







Special Issue Reprint

Vegetable Genetics and Genomics

www.mdpi.com/books/reprint/11671

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ISBN 978-3-7258-5375-5 (Hardback) ISBN 978-3-7258-5376-2 (PDF)



Olericulture is one of the subdisciplines of horticulture, primarily focusing on three core areas: the genetic breeding, cultivation, and postharvest physiology of vegetable crops. In addition to classical genetic research methods, modern genetic research approaches based on high-throughput sequencing technology—such as QTL-seq and GWAS—have been widely applied. Meanwhile, with the decreasing costs of genomics, transcriptomics, metabolomics, and proteomics, these omics technologies have also been commonly used in olericultural research. These two research approaches—genetics and omics—have significantly advanced studies on the exploration and utilization of genetic resources in olericulture, leading to the acquisition of numerous new research findings.

To summarize and showcase these academic achievements, we launched our Special Issue. The Special Issue concluded on February 28, 2023, and included a total of 14 papers, consisting of 1 editorial, 1 review article, and 6 papers focusing on Solanaceae crops, 2 on Cucurbitaceae crops, 2 on Brassicaceae crops, 1 on Chinese chive, and 1 on olive. As of August 20, 2025, this Special Issue has been viewed 45,487 times, attracting substantial attention. All papers in this Special Issue closely address specific traits of the corresponding vegetable crops, covering research hotspots such as male sterility, secondary metabolism synthesis, abiotic stress responses, and fruit development. These research achievements provide new perspectives for understanding the genetic regulatory mechanisms underlying these specific traits and demonstrate their application value in genetic improvement.



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