



Application of Gene Editing on Functional Characterization of Immunity-Associated Genes and Disease Resistance Breeding in Tomato

Guest Editors:

Dr. Ning Zhang

Dr. Qijun Chen

Dr. Zhiqi Jia

Dr. Cristina Crosatti

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Message from the Guest Editors

The production of tomato, as one of the most important vegetable crops in the world, is threatened by many pathogens including bacteria, fungi, viruses, nematodes, oomycetes, and insects, which cause various infectious diseases leading to severe economic losses due to reduced yield and quality. To defend against pathogen infection, plants have evolved a sophisticated immune system that includes pattern-triggered immunity (PTI) and effector-triggered immunity (ETI). A large number of tomato candidate immunity-associated genes can be identified using RNA-seq data, but validation of the functional importance of these immunity-associated genes in tomato had been technically challenging before the emergence of genome editing technology, especially the CRISPR/Cas9 system. Genome editing has become a powerful tool for targeted gene editing in many organisms including tomato, revolutionizing basic research in functional genetics and applied research in plant breeding. Therefore, we are launching this Special Issue, the focus of which is captured in the title, **Application of Gene Editing on Functional Characterization of Immunity-Associated Genes and Disease Resistance Breeding in Tomato**.





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Editor-in-Chief

Prof. Dr. Dilantha Fernando
Department of Plant Science,
University of Manitoba, Winnipeg,
MB R3T 2N2, Canada

Message from the Editor-in-Chief

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Plants Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

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