



Special Issue Reprint

Crop Functional Genomics and Biological Breeding

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Over the past two decades, the rapid development of functional genomics has gradually clarified the regulatory effects of genotypes on phenotypes. Crop breeding researchers have discovered numerous genes influencing critical traits such as yield, resistance, and quality. By targeting these genes, scientists have achieved a more customized variety of breeding through biological breeding. Crop functional genomics research is a vital pathway for biological breeding. Understanding the functional genomics of crops provides deep insights into the genetic mechanisms controlling key traits like yield, stress resistance, and quality improvement. The goal of this Special Issue in Plants, "Crop Functional Genomics and Biological Breeding", is to present an overview of the latest research and discoveries in crop functional genomics from plant journals, including studies on gene responses to stresses through whole-genome and transcriptome analyses and the identification and cloning of new genes related to crop yield, resistance, germination, and quality, and also covers functional analyses of these genes and their applications in biological breeding. We welcome all readers to this Reprint that covers several fields: the genetic and functional characterization of genes regulating critical agronomic traits or plant development; the genetic improvement in crops using modern biotechnologies, such as gene editing; and the discovery, characterization and application of germplasm resources with elite characteristics.



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