Special Issue

Gene Editing and Molecular Markers for Crops Genetics and Breeding

Message from the Guest Editors

Due to the global population explosion and climate change, the yield of major crops needs to double to satisfy the diet demands by 2050. The new breeding techniques provide an opportunity to develop crops with higher production. Molecular markers are well-known tools for breeding selection, which is important for foreground and background selection. Gene editing is becoming the most popular technique to create mutants for genetic study and can also improve a specific variety quickly in a short period. Therefore, the combinational use of marker selection and gene editing will be the best way to break through the ceiling of crop production.

This Special Issue focuses on various dimensions of the efficient use of molecular markers or gene editing for crop genetics and breeding research. Submissions of molecular marker research could cover the development of functional markers targeting important genes and marker packages suitable for population discrimination, gene mapping, and breeding selection. Gene editing research could include the creation of beneficial alleles of known genes or function validation of unknown genes and clarifying the phenotypic effect of different mutations.

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