

## Special Issue

# Plant Breeding: From Biology to Biotechnology

### Message from the Guest Editor

Plant breeding is an important branch of agricultural science, with the primary goal of improving plant yield, disease resistance, and adaptability through selective breeding. With the advancement of biotechnology, plant breeding has entered a new era. Marker-assisted selection is an important tool in modern plant breeding. By detecting molecular markers associated with target traits, breeders can identify promising plant individuals early in the breeding process, significantly improving the efficiency and speed of the breeding process. Modern biotechnologies, such as genetic engineering and genome editing, provide more precise and efficient means for plant breeding. For instance, gene transfer or gene knockout (CRISPR/Cas9) can introduce new traits or modify existing ones in plants. In vitro culture methods can also rapidly propagate genetically uniform plant materials, which is particularly valuable for plant species that are difficult to propagate through traditional means. Furthermore, tissue culture can be used to produce pathogen-free planting materials.

### Guest Editor

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## Biology

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### Message from the Editorial Board

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