Special Issue

Integrating Multi-omics Data and Genomic Selection in Rice

Message from the Guest Editors

Genomic selection enhances hybrid rice breeding by intensifying selection and expediting breeding cycles. Beyond genomic data, technological advancements produce diverse omic datasets including transcriptomic, proteomic, and metabolomic data. Integrating these omics datasets can deepen our understanding of the genetic and biochemical foundations of agronomic traits. Multi-omics data enable the prediction of expected breeding values (EBVs) for agronomic traits and facilitate the selection of superior hybrids. However, research indicates that the optimal combinations of multi-omics data for prediction vary depending on the trait and population under consideration. Consequently, it is essential to evaluate the prediction accuracy of different omics datasets within specific populations and for targeted traits in rice breeding endeavors.

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