

Special Issue

Advances in Genetics and Breeding of Grain Crops

Message from the Guest Editors

All the human inhabitants and domesticated animals depend on grain crops for food and feed. Grain crops are field crops, and are categorized into major cereals, minor cereals, small grains, pseudocereals, legumes, and others. These crops are used as carbohydrate sources, protein sources, and edible oils. The changing climate impacts crops by reducing the yield and quality attributes. Breeding these crops is a means of sustainable agriculture. Researchers are attempting to apply various approaches: manipulating agronomical practices, assessing the interaction of the crops with environments, breeding strategies involving the incorporation of beneficial traits, utilizing ever losing ancient genetic resources, high-throughput in-field phenotyping by using UAVs and spectral platforms, finding the responsible genes and their mechanism of action for particular traits of interest, genetic analysis and QTLs for stress, tolerance and resistance to diseases, mutagenesis and gene editing technologies to validate gene functionality, etc. As we are unable to manipulate the climate, scientific research on grain crops can delimit the barrier to improve grains for the world's inhabitants.

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