Special Issue

GMO and New Breeding Techniques for Abiotic Stress Tolerance in Crops

Message from the Guest Editor

Abiotic stress is one of the major threats to agriculture and concomitantly to food production. Traditional plant breeding has been used to improve this tolerance but has a limited margin of action, circumscribed to the genetic pool within each or closely related species. At present, many crop genomes are available, and we have new systems biology and molecular biology techniques that enable a deep study of the molecular basis of abiotic stress in crops, as well as the application of knowledge generated in recent years to increase agronomical yield under adverse environmental conditions and climate change. We will publish recent advances on:

1) Basic knowledge on the molecular basis of abiotic stress tolerance in crop plants.
2) Systems biology approaches to study abiotic stress in crop plants.
3) Description of the molecular basis underlying the effect of natural products, biostimulants, or mycorrhization on crop adaptation or tolerance to abiotic stress;
4) Description of novel GMO crops and its performance under abiotic stress conditions;
5) Application of new breeding techniques, including CRISPR/Cas9 to increase agronomical yield under abiotic stress conditions.

Guest Editor

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