Special Issue

Molecular Genetics and Breeding of Disease Resistance in Cereal Crops

Message from the Guest Editor

Cereal crops, including wheat, maize, rice, barley, sorghum, millet, and oats, provide approximately half of the world's caloric consumption. Crop diseases are major factors responsible for substantial yield losses. Large amounts of chemical fertilizers and pesticides are applied to agroecosystems. However, the application of these chemicals in farming on a large scale results in pest resurgence. Plant resistance against major pathogens is an effective alternative to agrochemicals and a more ecologically sustainable approach to controlling cereal diseases. Molecular breeding techniques such as next-generation sequencing (NGS) and CRISPR-Cas systems are used worldwide. Progress has been achieved pertaining to the molecular methods used in cereal crops with regard to molecular genetics, functional genomics, transformation, gene editing, and marker-assisted selective breeding. Presenting fundamental and application-oriented studies on resistance to major diseases is significant to cereal breeding efforts. This Special Issue will publish recent research that describes the state of the art and development of molecular genetics and breeding for disease resistance in cereal crops.

Guest Editor

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Message from the Editor-in-Chief

Agriculture (ISSN 2077-0472) is an international, cross-disciplinary and scholarly journal on the science and technology of crop and animal production, and management of the natural resource base for agricultural production. We invite submissions from authors according to the aims and scope of the journal described in more detail on this page. *Agriculture* is published in an open access format – articles are published on the journal's website immediately after acceptance, giving the scientific community and the public unlimited and free access to the content.

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