



Breeding Healthy Cereals: Genetic Improvement of Fusarium Resistance

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Message from the Guest Editors

Dear colleagues,

Fusarium head blight (FHB) is one of the most hazardous diseases on small-grain cereals. Recent changes in climate and cropping systems have made FHB epidemics more frequent and severe in other production areas with humid climates. Strict toxin limits have also made the issues more pressing. Main results from the research have been that resistance is partial and quantitative, but general towards species and races of the fungi. Large numbers of QTL have been identified in wheat and barley, and metastudies have provided the identification of important loci like e.g. Fhb1 to Fhb5 in wheat. Three candidate loci have been found for the former, but the causal factor is still open. In other species, like oat, the studies are few, and comparative genomics across species are none. Developments from the past decade are the importance of flowering biology (avoidance), the potentials for genomic selection and more accurate phenotyping all hold promise for important savings in breeding new cultivars. New studies in these and emerging fields are welcome for this special issue.

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