

Molecular Breeding

New Strategies in Plant Improvement

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Aims and Scope

Molecular Breeding is an international journal publishing papers on applications of plant molecular biology, i.e., research most likely leading to practical applications. The practical applications might relate to the Developing as well as the industrialised World and have demonstrable benefits for the seed industry, farmers, processing industry, the environment and the consumer.

All papers published should contribute to the understanding and progress of modern plant breeding, encompassing the scientific disciplines of molecular biology, biochemistry, genetics, physiology, pathology, plant breeding, and ecology among others.

Molecular Breeding welcomes the following categories of papers: full papers, short communications, papers describing novel methods and review papers. All submission will be subject to peer review ensuring the highest possible scientific quality standards.

Molecular Breeding core areas

Molecular Breeding will consider manuscripts describing contemporary methods of molecular genetics and genomic analysis, structural and functional genomics in crops, proteomics and metabolic profiling, abiotic stress and field evaluation of transgenic crops containing particular traits. Manuscripts on marker assisted breeding are also of major interest, in particular novel approaches and new results of marker assisted breeding, QTL cloning, integration of conventional and marker assisted breeding, and QTL studies in crop plants. In considering QTL papers for the journal, the editors will favour reports of QTL governing important traits that have at least some of the following characteristics:

At least some called QTL with high LOD scores (>5); As full analysis as possible with available software; Dense marker coverage, taking into account the population size, with appropriate phenotypic analysis; Larger populations with replication of phenotyping, taking into account the crop species and the actual phenotype; The production of immortal lines (RILs, NILs, DHs etc) that will enable further work; Clear discussion of the statistical significance of the called QTL; Independent testing of the QTL (analysis of different crosses, response to marker selection). Manuscripts on germplasm characterization will be considered only if describing the use of new strategies or marker systems.

Manuscripts submitted to *Molecular Breeding* will focus on applications but we will also accept fundamental science papers as long as they are of direct relevance to crop plants and not model systems. *Molecular Breeding* also welcomes relevant articles addressing intellectual property issues, regulation and public attitudes to plant biotechnology and also significant technology advances in applied plant molecular biology and (trans)gene expression technology.

Molecular Breeding

New Strategies in Plant Improvement

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