

Successful release of new and better crop varieties increasingly requires genomics and molecular biology. This volume presents basic information on plant molecular marker techniques from marker location up to gene cloning. The text includes a description of technical approaches in genome analysis such as comparison of marker systems, positional cloning, and array techniques in 19 crop plants. A special section focuses on converting this knowledge into general and specific breeding strategies, particular in relation to biotic stress. Theory and practice of marker assisted selection for QTL, gene pyramiding and the future of MAS are summarized and discussed for maize, wheat, and soybean. Further, approaches in silviculture on the examples of *Fagus*, *Populus*, *Eucalyptus*, *Picea* and *Abies* are presented. The volume ends with a comprehensive review of the patents relevant for using molecular markers and marker assisted selection.

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