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Forest Genetics and Tree Improvement

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Message from the Guest Editor

Genetics has been recognized as an important component of forestry for over a century, starting with an understanding of the importance of geographic seed sources. Tree breeding has taken place for over 70 years, and substantial improvements have been made in growth, disease resistance and form traits. Beginning in the late 1960s, isozymes were used as the first molecular markers to assist with tree breeding efforts. By the 1980s, forest geneticists dreamed of using marker-assisted selection in trees. Since then, considerable progress has been made in the discovery of genetic tools. We now have millions of molecular markers available and analytical methods that will accelerate tree breeding. Research on genetically modified trees was initiated in the 1980s and forest trees genetically modified for a variety of characteristics have been produced. In this Special Issue, we are particularly enthusiastic about the integration of molecular genetics and genomics into tree improvement, including the development of markers, association genetics, genomic selection, and genetically modified trees. However, all facets of forest genetics will be considered for inclusion.









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