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# **Nut Crop Molecular Breeding**

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### Message from the Guest Editors

Nut crop breeding includes both scion and rootstock and targets multiple horticultural trait improvements to introduce better cultivars to commercial orchards. In particular, disease resistance or tolerance, environment adaptation, nut yield and quality are the major goals for the nut tree breeders. Scion cultivar breeding contains improvement of tree form, tree size, disease/pest resistance, nut quality, and nut yield. Rootstock breeding includes tree growth, soil environment adaptation, root microbiome, and disease/pest resistance.

In the past, nut tree breeding was conducted mostly using the traditional methodologies, i.e., artificial pollination and a long process of field evaluation. Nut breeding has now entered its genomic era with the dramatic increase in nextgeneration sequencing technology. New genetic tools have been applied to germplasm evaluation and conservation, population structure, high-throughput screening of the breeding population, and trait-marker association. However, molecular breeding of nut crops faces many challenges compared to other common crops.



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### Message from the Editor-in-Chief

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