

Molecular Marker Application for Tomato Improvement in Thailand

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Thailand seed consortium was initiated in 2007 to facilitate the R&D for seed industry by coordinating the research resources and allocating fund support for activities in germplasm collection, evaluation, characterization and utilization, disease diagnosis and so on. These include the use of biotechnology approach in the processes such as diversity analysis, identity verification, gene targeting, gene cloning and marker assisted selection. Our lab has been involved with the research related to the use of DNA marker for disease resistant gene/QTL targeting, marker assisted backcross for resistant tomato. We had been working with AVRDC to localize the late blight resistant gene, *Ph-3*, to the long arm of chromosome 9. The markers derived from the project were used in introgressing the *Ph-3* gene into breeding lines. We have been combining 5 disease resistant genes, *Mi*, *Tm-2a*, *Ty-2*, *Ph-3* and *I-2* into local cultivars through marker assisted selection. We have also been working on QTL mapping and association analysis of bacterial wilt resistance. The recent progress will be discussed.