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DETERMINING RESISTANCE TO *PSEUDOMONAS SYRINGAE* IN TOMATO, A COMPARISON WITH DIFFERENT MOLECULAR MARKERS

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Solanum lycopersicum, Pseudomonas syringae pv. tomato (Pst), Marker Assisted selection, Duplex PCR, HRM

Pseudomonas syringae pv. tomato (*Pst*) is the causal agent of bacterial speck disease in tomato. Resistance to *Pst* is determined by *Pto* a single resistance gene, that belongs to a multi gene family clustered on chromosome 5. *Pst* resistant phenotypes in cultivated tomato are determined by a semi-dominant allele of *Solanum pimpinellifolium*, which was introgressed into *Solanum lycopersicum* in the past century. Seed companies which are continuously interested in constituting resistant varieties, can benefit from genetic markers tightly linked to the *Pto* locus in breeding programme based on marker assisted selection. In this research three SCAR (Sequence Characterised Amplified Region) markers have been developed for the identification of resistant and susceptible genotypes of *Solanum lycopersicum*. A CAPS marker has been adapted to a real-time PCR platform with an High Resolution Melting analysis. Application to a segregating population is described. Pros and cons of the different markers are discussed.