

ANALYSES OF *PTO* AND *FEN* GENES IN TOMATO CULTIVARS

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Pto and *Fen* are genes in linkage in tomato genome. *Pto* confer resistance against *Pseudomonas syringae* pv. *tomato* (Pst), the causal agent of bacterial speck; *Fen* confer susceptibility to the insecticide Fenthion. Breeders assay tomato lines for resistance against Pst by spraying Fenthion than bacterial inoculation. Nevertheless, using this system of selection, it's possible loss of resistance against Pst by segregation of *Pto* and *Fen*. In the 2002, some tomato cultivars classified as resistant to Pst, showed bacterial spots during natural infections. Previously studies performed on *avrPto* gene in Pst strains isolated from these cultivars, showed large presence of this avirulence gene, that interact with *Pto* generating resistance. These results support the hypothesis that loss of resistance in these tomato cultivars is probably due to loss or mutation of *Pto*.

In this work, these cultivars were analysed for the presence of *Pto* by PCR. Analyses were performed also on tomato and reference cultivars that showed really resistance against Pst; analyses for the presence of *Fen* were performed too. The amplification of *Pto* in some cultivars was in agreement with their susceptibility to Pst but, sometime, *Pto* was amplified in susceptible cultivars. To test functionality of *Pto* in these last cultivars, investigation about *Pto* sequence and *Pto* expression are in progress.