

## ABSTRACT

### INVESTIGATION ABOUT THE SUPPRESSION OF INSECTICIDE RESISTANCE OF TOMATO MINER (*TUTA ABSOLOUTA* (Meyrick, 1917) LEP.: GELECHIIDAE) AND RETARDING THE POSSIBILITY

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Tomato Miner (*Tuta absoluta* (Meyrick, 1917), Lep.: Gelechiidae) is one of the most important tomatoes pest. It causes 50-100 % production losses in the first entry region Urla and intensive tomato production area Aydın. For that reason in *T. absoluta* management strategies, chemical application is mostly used. Because of the intensive chemical usage, resistance was occurred. Due to these reasons it is aimed to determine the resistance status of *T. absoluta* in Urla and Aydın regions and which enzyme system is responsible from this resistance, along with the results which synergist can inhibit the insecticide resistance. According to the results when Aydın population compared by Urla population LC<sub>50</sub> values Indoxacarb, Metaflumizone, Spinosad and Chlorantraniliprole were found higher. LC<sub>50</sub> values for Azadirachtin was higher in Urla region as compared by Aydın region. Resistance in the *T. absoluta* population of Urla and Aydın can reduce the resistance by using insecticide with synergists (PBO, DEM, TRIP). Therefore the result of enzymatic assay showed that GST and EST activities of Aydın population was found respectively 1.905 unit activity/mg protein/dk and 0.110 n mol  $\beta$  NA/mg protein/dk, with this values GST enzyme activities of Aydın population was found significant according to the Urla population. As a result *T. absoluta* population in Aydın and Urla region have insecticide resistance and synergists play an important role for insecticide management program is determined. Besides this molecular studies for this pest can be improved was observed.

**Key words:** Tomato Miner, *Tuta absoluta*, Resistance, Synergism