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## **Selection of tomato genotypes with high levels of acylglucoses and resistance to *Tuta absoluta***

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### **ABSTRACT**

Several pests, such as tomato leafminer, can reduce tomato (*Solanum lycopersicum* L.) fruit production. Selection of resistant genotypes is an important pest management method. Thus, the objective of the present study is to evaluate the relationship between the levels of acylglucoses and types of leaf trichomes in tomato genotypes from two segregating populations, and to associate them with resistance to tomato leafminer (*Tuta absoluta*). The treatments were genotypes F<sub>2</sub>BC<sub>4</sub> and F<sub>2</sub> ([M08 × F<sub>2</sub>BC<sub>3</sub>) *S. pennellii* × *S. lycopersicum*] with contrasting levels of acylglucoses, *Solanum pennellii* – LA-716 (resistance pattern) and *Solanum lycopersicum* lineage UEL M08 and *S. lycopersicum* cv. Redenção (susceptibility pattern). Evaluations of the genotypes were carried out by analyzing the densities and types of trichomes and damage severity of *T. absoluta* were evaluated 15 and 31 days after the infestation using a rating scale. Densities of glandular trichomes are positively correlated to levels of acylglucoses. The advanced genotypes with high levels of the allelochemical reduced the severity of *T. absoluta* damage, compared to commercial material. The desired characteristic of *S. pennellii* is inherited throughout backcrosses. The groups of genotypes with low levels of the allelochemical obtained greater similarity with the susceptibility parents. The genotypes RVTA-2010-31-319-214-238-pl#427M and RVTA-2010-31-177-177-325-pl#42R indicated potential to advance the tomato breeding program to obtain pest-tolerant cultivars.

**KEYWORDS:** *Solanum lycopersicum* L., *Solanum pennellii* L., allelochemical, trichomes, tomato leafminer, genetical enhancement.

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