

BIOCHEMICAL RESPONSE OF *ANTICARSIA GEMMATALIS* FED WITH SOYBEAN PLANTS PULVERIZED WITH THE SYNTHETIC TRYPSIN INHIBITOR BENZAMIDINE

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Insects are responsible for severe crop losses. New alternatives for pest control other than agrochemicals have been investigated. Protease inhibitors are one of the prime candidates effective against insect pests. In this work we studied the effect of the synthetic trypsin inhibitor benzamidine on the development of *Anticarsia gemmatalis*, an important pest of the soybean culture. Larvae were reared on soybean plants containing 0.00, 0.15, 0.30, 0.45, 0.60 and 0.75% (w/w) of benzamidine. After 6, 12, 24 and 48 h of feeding midgut extracts were prepared and assayed for enzymatic activity (proteolytic, amidasic and stearic). Benzamidine altered the activity patterns but was not able to totally abolish enzyme activity. The proteolytic, amidasic and stearic activity showed the higher time of inhibition in 48 h in concentration of 0,75%, the inhibition was around 93%, 63.1% and 36.6%, respectively. We suggest that the presence of inhibitor has made insects to adapt and produce proteases which are insensitive to the action of benzamidine.

Keyword: Protease, inhibitor benzamidina, *Anticarsia gemmatalis*

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