

CONTRIBUTION OF PROTEOLYTIC GUT BACTERIA TO THE PROTEIN METABOLISM IN *ANTICARSIA GEMMATALIS*

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The oral administration of antibiotics to promote gut sterilization can be used as a strategy to study the insect-bacteria symbiosis. The aim of this work was to evaluate the contribution of microbial proteases for digestive processes in the gut of *Anticarsia gemmatalis*, an important soybean pest. Antibiotics were incorporated into the artificial diet at five specified doses. Proteolytic activity was assayed by incubating the intestinal extract with BApNA, TAME and azocasein. The effect of the antibiotics on the microbial flora was averigated by standard microbiological methods. The most effective treatment consisted of artificial diet plus 50 µg/mL tetracycline detected by a reduction of 99% on proteolytic bacterial flora. The 5-fold reduction of amidasic activity was achieved when 70 µg/mL tetracycline was used ($3,903 \pm 0,626\text{nM/s/mg} \times 20,228 \pm 8,157\text{nM/s/mg}$). No difference was seen in proteolytic and stearic activity. The other antibiotics had no effect on the activities testes. We can assume that gut bacteria may contribute to food digestion with the secretion of proteases.

Key-words: *Anticarsia gemmatalis*, gut bacteria, proteases

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