

Histochemical Study of the Midgut in Resistant *Anticarsia gemmatalis* (Hübner) (Lepidoptera:Noctuidae) Larvae to Nucleopolyhedrovirus AgMNPV, Fed with Genotypes of Soybean Resistant to Insects

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This study aimed verify the chemical composition of the midgut of resistant *A. gemmatalis* larvae to its nucleopolyhedrovirus, treated with soybean genotypes with different concentrations of rutin and genistin. The caterpillars, obtained at the Embrapa/Soja (Londrina-PR-Brazil), were fed with the following genotypes "in natura": BRS257 (control), BR16, Dowling, PI229358, PI227687 and IAC100. The midguts were collected, fixed and processed for detection of acids and neutral polysaccharides (glycogen/PAS), proteins and lipids. The midgut of larvae fed on genotypes IAC100 and PI227687 showed strongest PAS positivity in columnar cells, as observed in control treatment, indicating the presence of neutral polysaccharides, particularly glycogen; only the genotype PI229358 caused moderate reaction to PAS in the goblet cells. To total proteins technique, the columnar cells showed a weak positive staining with moderate response to treatment with PI227687; the goblet cells were positive to the genotypes PI229358 and IAC100. There was a positive reaction for lipids in the columnar cells with PI 229358, IAC 100 and PI 227687. No reaction was detected for acid carbohydrates in the epithelial cells of the insects fed with any of the genotypes. We conclude that the rutin and genistin from resistant genotypes alters the chemical composition of the midgut epithelium in resistant *A. gemmatalis* larvae, changing the synthesis of compounds related to the digestion, being directly implicated in decreasing of the resistance of the insect to the AgMNPV after feeding on the resistant plants.