Abstract
This work aimed to evaluate the effects of Metarhizium anisopliae on Diatraea flavipennella and investigate their immune response. Was observed the effect of M. anisopliae against larvae of D. flavipennella sprayed at concentrations of 10^3, 10^4, 10^5 conidia / mL, in which showed differences relative the larval period, extending up to 72.0 days in treatment and 25.0 days in the control. The results for hemocytes revealed that the most frequent cells when sprayed at the concentrations of 10^3, 10^5, 10^7 conidia / mL were the prohemocytes, spherulocytes, plasmatocytes and granulocytes in relation to adipohemocytes and oenocytoids. The level of nitric oxide was different between the control and the concentration 10^7 spores / mL (24), while the activity of phenoloxidase was similar among treatments in 24 and higher concentration 10^7 spores / mL (60h). In biochemical profile of hemocytes was a change in carbohydrates, lipids and proteins in response to the fungus. The results indicate that the fungus M. anisopliae can be used in the Integrated Management of D. flavipennella by presenting pathogenicity and interfere with their development even when exposed to small concentrations.

Keywords
Entomopathogen, hemocytes, histochemistry, nitric oxide, phenoloxidases, sugarcane borer.