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PREIMAGINAL EXPOSURE TO AZADIRACHTIN AFFECTS DIGESTIVE ENZYMES IN ADULTS OF *DROSOPHILA MELANOGASTER* (DIPTERA: DROSOPHILIDAE)

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Among the plant derived product, azadirachtin, a neem-based insecticide, is exceptional in having a broad range of bioactivity including toxicity, growth, development and reproductions effects, repellency and antifeedancy. If considerable progress on the physiological and biological activities and agricultural application of azadirachtin had been achieved, its exact mechanism of action remains uncertain. In this study, we evaluated lethal and sublethal effects of azadirachtin on digestive enzymes of *Drosophila melanogaster* as biological model. The bio-insecticide was applied topically on early third instar larvae (L3) at two doses, DL_{25} (0, 28 μ g) and DL_{50} (0, 67 μ g). Results showed a clear disruption of digestive enzymes activities responsible for the broken down of dietary components before its absorption by the intestinal epithelium. Indeed, an inhibition of α -amylase, chitinase and protease activities and an increase of lipasic activity were noted. These results may reflect interference of azadirachtin with regulation of metabolism, and provide some evidence of a long term antifeedancy and delayed effects through developmental stage which may reinforce the insecticidal activity of this bioinsecticide.

Biography

Maroua Ferdenache was awarded a Master's Degree in Biology by the University of Annaba (Algeria), graduated with first class honors and the winner of the doctoral competition. Last year, she got a scholarship to Paris-Saclay University. Now she is a first year PhD student at the French National Center for Scientific Research (CNRS) in Paris (France). She participated in 4 conferences and till now she have 2 papers in reputed journals and preparing another one.

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