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The Molecule Preserve Environment: Effects of Inhibitor of the Angiotensin Converting Enzyme on Reproductive Potential and Composition Contents of the Mediterranean Flour Moth, Ephestia kuehniella Zeller

Authors : Yezli-Touiker Samira, Amrani-Kirane Leila, Soltani Mazouni Nadia

Abstract : Due to secondary effects of conventional insecticides on the environment, the agrochemical research has resulted in the discovery of novel molecules. That research work will help in the development of a new group of pesticides that may be cheaper and less hazardous to the environment and non-target organisms which is the main desired outcome of the present work. Angiotensin-converting enzyme as a target for the development of novel insect growth regulators. Captopril is an inhibitor of angiotensin converting enzyme (ACE) it was tested in vivo by topical application on reproduction of Ephestia kuehniella Zeller (Lepidoptera: Pyralidae). The compound is diluted in acetone and applied topically to newly emerged pupae (10µg/ 2µl). The effects of this molecule was studied,on the biochemistry of ovary (on amounts nucleic acid, proteins, the qualitative analysis of the ovarian proteins and the reproductive potential (duration of the pre-oviposition, duration of the oviposition, number of eggs laid and hatching percentage). Captopril reduces significantly quantity of ovarian proteins and nucleic acid. The electrophoresis profile reveals the absence of tree bands at the treated series. This molecule reduced the duration of the oviposition period, the fecundity and the eggviability.

Keywords : environment, ephestia kuehniella, captopril, reproduction, the agrochemical research
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