

European Food Chemistry & Eating Disorder Congress

July 26-27, 2018 | Amsterdam, Netherlands

Preimaginal exposure to azadirachtin affects fecundity and oviposition site preference in two successive generations of *Drosophila melanogaster* (Diptera: Drosophilidae)



Maroua Ferdenache

Badji Mokhtar University, Algeria

University of Paris-Sud, France

co-author: **Samira Kilani-Morakchi**¹, **Radia Bezzar-Bendjazia**¹ and **Frederic Marion-Poll**²

¹Badji Mokhtar University, Algeria

²University of Paris-Sud, France

Azadirachtin, is a biorational insecticide, is one of the prominent biopesticide commercialized today and represent an alternative to conventional insecticides. In this study, we aimed at assessing the lethal and sublethal behavioral and physiological effects of azadirachtin on *Drosophila melanogaster* Meigen, 1830 (Diptera: Drosophilidae) as biological model. Early third instar larvae (L3) of parental generation (F0) were exposed topically to azadirachtin at two doses DL25 (0.28 µg) and DL50 (0.68 µg). Its effects were evaluated on fecundity and oviposition site preference with and without choice in two successive generations (F0: exposed and F1: non-exposed). Azadirachtin affected fecundity of flies by a significant reduction of the number of eggs laid of the two tested generations. Results showed that, females present a clear preference for oviposition in control medium. Pre-imaginal exposure (L3) to azadirachtin increased aversion to this substance in comparison to naive flies. Results strongly support that azadirachtin-induced transgenerational inheritance of behavioral traits that may be due to epigenetic modifications.

Biography

Maroua Ferdenache has completed her Master's degree in Biology from the University of Annaba, Algeria, graduated with first class honors and she is the winner of the Doctoral competition. Last year, she got a scholarship to Paris-Saclay University. Now, she is pursuing her PhD at the French National Center for Scientific Research (CNRS) in Paris, France. She has participated in three conferences and till now, she has two papers in reputed journals.

maroua.ferdenache@gmail.com

Notes: