Pre-treatment of Stegomyia aegypti mosquitoes with a sublethal dose of imidacloprid impairs behavioural avoidance induced by lemon oil and DEET

Titre	Pre-treatment of Stegomyia aegypti mosquitoes with a sublethal dose of imidacloprid impairs behavioural avoidance induced by lemon oil and DEET
Type de publication	Article de revue
Auteur	Thany, Steeve Hervé [1], Tong, F. [2], Bloomquist, Jeffrey R [3]
Editeur	Wiley
Type	Article scientifique dans une revue à comité de lecture
Année	2015
Langue	Anglais
Date	2014/08/25
Pagination	99-103
Volume	29
Titre de la revue	Medical and veterinary entomology
ISSN	1365-2915
Résumé en anglais	The present study was conducted to determine whether imidacloprid can impair the avoidance behaviour of the mosquito Stegomyia aegypti. Laboratory investigations using a T-maze apparatus showed that St. aegypti mosquitoes present long term avoidance behaviour when they are exposed to repetitive trials with lemon oil and DEET. The present study tested the effect of a sublethal dose of imidacloprid on the avoidance behaviour of St. aegypti mosquitoes over a 48 h period. Data suggest that 0.5 ng of imidacloprid/mosquito reduces the avoidance behaviour of mosquitoes exposed to lemon oil, on the first day of exposure, after the second trial; whereas imidacloprid affected DEET repellency only the first day of exposure, after the second trial. Imidacloprid was toxic against St. aegypti mosquitoes, and at sublethal doses was able to impair the repellency induced by lemon oil and DEET. The present data were consistent with the finding that St. aegypti mosquitoes exhibit long term avoidance behaviour, and treatment of mosquitoes with a sublethal dose of imidacloprid under DEET application can affect the repellency of DEET against St. aegypti.
URL de la notice	http://okina.univ-angers.fr/publications/ua7593 [4]
DOI	10.1111/mve.12082 [5]
Lien vers le document	http://dx.doi.org/10.1111/mve.12082 [5]
Titre abrégé	Med Vet Entomol

Liens

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