

TITLE: LARVICIDAL EFFECTS OF *BACILLUS SUBTILIS*, SURFACTIN, SODIUM SULFATE DODECYL (SDS) AND LYOPHILIZED OF ENZYMES AND BACTERIA ON *CULEX QUINQUEFASCIATUS* SPECIMENS

Authors Parreira, A. G.^{1,2}, Alves, S.N.¹, Sousa, F.V.²

Institution: ¹ UFSJ- Universidade Federal de São João del Rei-Campus CCO (Avenida Sebastião Gonçalves Coelho, 400, Chanadour - Divinópolis, MG CEP: 35501296 Tel.: +55 - 37 - 3221 1590), ² UEMG – Universidade do Estado de Minas Gerais - Unidade Divinópolis MG (Avenida Paraná, 3001, Jardim Belvedere, Divinópolis MG).

Summary

Mosquitoes are diptera insects belonging to Culicidae family found throughout the Brazil. Its development is closely associated with the presence anthropogenic and although they feed on the blood of animals have a special preference for human blood. In an attempt to eliminates them the chemical industry has been investing in the research for new products due to multiple reports of insect resistance to insecticides, such as those used routinely in the management of populations of *Aedes aegypti* and *Culex quinquefasciatus*. In this context the research for new compounds with larvicidal or mosquitocidal action and also biodegradable is an important initiative in order to find a more effective and environmentally friendly alternative for controlling the infestation of diseases vectors mosquitoes. Based on these considerations this study aims to determine the susceptibility of stages third and fourth larvae of *C. quinquefasciatus* of stages third and fourth to concentrations of the biosurfactant surfactin, lyophilized of enzymes and bacterial cells, *Bacillus subtilis* cells and the surfactant sodium dodecyl sulfate (SDS). Therefore the experiments were conducted in insectary with controlled temperature and humidity and evaluated four concentrations of all the mentioned componentes. The larvae counting, pupae and adults living or dead occurred in 24h intervals for a period of up to 7 days. After data analysis it was concluded that among the components of biological origin stood out the lyophilized of enzymes and bacterial cells which reduced the initial population of larvae in about 50% after 48 hours in its highest concentration, followed *Bacillus subtilis* cells and biosurfactant surfactin. SDS surfactant was more effective, reducing by more than 50% of the population of larvae in the first 24 hours also at its highest concentration.

Keywords: Mosquitoes, *Culex quinquefasciatus*, insecticides.

Financial support: Fapemig