Toxicity of Biopesticide Metarhizium anisopliae var acridium "Green Muscle" on the Cuticle of the Desert Locust Schistocerca gegaria (Forskål, 1775)

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Abstract : Locust is causing significant losses in agricultural production in the countries concerned by the invasion. Up to the present control strategy has consisted only of the spreaders chemicals; they have proven harmful to the environment and. For this, a new control method appeared it comes to the biological control based mostly by using microorganism. It is in that sense is we've made our contribution by the use of a biopesticide which is entomopathogenic fungus Metarhizium anisopliae var acridium "Green Muscle" on part of the cuticule the larval of fifth instar locust Schistocerca gregaria (Forskål, 1775). Preliminary test on the study of the pathogenicity of M. anisopliae var acridium biocontrol agent, was conducted in the laboratory on L5 S. gregaria, on which we inoculated treatment in the digestive tract and it administrant 20µl of entomopathogenic solution orally at a dose $DL50 = 3.25 \times 107 \text{ sp./}$ ml (median lethal dose estimated at earlier), 5 days after treatment individuals are sacrificed. After dissection cuticles are recovered and then subjected to histological sections. The histological technique followed is that of Martoja Martoja-Pierson (1967). Microscopic observation revealed alterations in the architecture of the cuticule which leads to disorganization of cell layers.

Keywords : biopesticide, cuticle, desert locust, toxicity

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