Effect of two fatty acid methyl esters on metabolism and ATPase activity of *Culex quinquefasciatus* larvae

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Larvae of *C. quinquefasciatus* exposed to different insecticides, showed significant biochemical changes, and a useful parameter to measure the larvicidal activity. The objective of this work is to investigate the effect of two fatty acid methyl esters (FAME) extracts on total carbohydrate, lipid and protein level and Na, K-ATPase activity of *Culex quinquefasciatus* larvae. The larvae at early fourth-instar stage were used for larvicidal assay and exposed to LD\(_{50}\) FAME extracts for 1h as per standard WHO procedure. Carbohydrate (glucose) and total lipid were estimated by analytical commercial kits and protein concentration by Hartree method. The ATPase activity was measurement by ATP hydrolysis. The initial results show that there is no modification on glucose and protein levels after the treatment. For triglycerides there is an increase for FAME3 and a decrease for FAME2 and the cholesterol was reduced after both treatments. The larvae present a higher activity of Mg-ATPase with lower activity of Na,K-ATPase and Ca-ATPase. The treatment with both drugs caused an activation of Na,K-ATPase. We concluded that FAME2 and FAME3 extracts produce significant alterations in the biochemical profiles of culicine larvae interfering in larvae development.

Key Words: *Culex quinquefasciatus*, Na,K-ATPase, larvae, fatty acid methyl esters.

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