CHARACTERIZATION OF THE REPELLENT ACTION OF INSECTICIDES ON Aedes aegypti (Diptera: Culicidae)

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Aedes aegypti is a vector of significant importance to public health, transmitting viruses responsible for diseases such as Dengue, Zika, and Chikungunya. Addressing these arboviruses primarily relies on the use of insecticides; however, prolonged usage has led to the selection of resistant populations. For this reason, many studies have been dedicated to understanding this phenomenon, yet little is known about the repellent effect of these compounds. Repellency is defined as the ability of a compound to induce behavioral avoidance in insects. In this study, we investigated the potential repellent effect on *A. aegypti* (Rockefeller strain, female adults, aged 1–9 days post-emergence, blood-deprived) of insecticides commonly used for field control (Fludora Fusion – deltamethrin 6.25% and clothianidin 50%, and Ficam VC80 – bendiocarb 80%) and their technical-grade equivalents (deltamethrin P.A. and bendiocarb P.A.). Control group assays were performed simultaneously with the test groups, using only the solvents (commercial products – water; technical grade – chloroform and vaseline). The assays were conducted with 30 insects in triplicate on different days, with test and control groups evaluated simultaneously. Contact repellency was assessed using an adapted HITSS methodology with WHO kit tubes, confirming repellency for commercial products (52% for Fludora, 42.4% for Ficam) and technical grades (63.2% for deltamethrin and 55.9% for bendiocarb). Spatial repellency was evaluated using "hand-in-cage" tests, showing effects for commercial products (72.4% for Fludora and 15.7% for Ficam) and only for technical-grade deltamethrin (34.6%). Repellency for technical-grade clothianidin will be evaluated. The information generated by this study could contribute to a better understanding of the interaction between A. aegypti and insecticides, potentially improving chemical control strategies for this vector.

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