

Thymol: Insecticide and repellent activity
in life phases of *Aedes aegypti*

Aedes aegypti is a mosquito that causes great impact on public health, especially because it is responsible for transmission of arbovirus such as dengue, chikungunya and zika. The difficulty in controlling *Ae. aegypti* is most because it is an anthropophilic insect, highly adapted to urban environments, and present in all Brazilian states and in other tropical countries. The females of the mosquito are the only ones that feed on blood. When this blood is contaminated, the virus is transmitted at the time of blood repast. The primary way to fight these arboviruses is still to control the vector, either by destroying their breeding grounds or by using insecticides. Chemical insecticides are the most used on vector control; however, since the last decades, development of resistance by these insects has been reported. In addition, most of them have a high residual power, which can cause harm to human health directly or indirectly if used continuously. This fact led us to search for new alternatives insecticides and natural repellents, mainly because DEET (the most widely used insect repellent in the world) can cause serious damage to the nervous system, especially in children exposed continuously to this product. Thymol is a chemical that belongs to a class of monoterpenes and is present in the composition of several essential oils, such as thyme, oregano and rosemary. Essential oils are known for their function as anti-inflammatories, antibiotics and insecticides. As Thymol is found in large amounts on several essential oils, the objective of this work was to evaluate the insecticidal and repellent activity of thymol on *Ae. aegypti*. Bioassays were performed evaluating the insecticidal activity of thymol in every phase of the mosquito life cycle. The results showed that thymol presents insecticidal and repellent action since the high thymol larvicide activity caused the death of 100% of the *Ae. aegypti* larvae even at low concentrations (0,1 mg / mL), besides demonstrating inhibition in egg hatchability, adulticidal activity and repellent. Therefore, it can be concluded that thymol can be used as an active compound in the composition of insecticides and *Ae. aegypti* repellents.