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EFFECT OF OILS AND SOAPS ON THE EFFICACY OF SILICONE FILMS USED FOR MOSQUITO LARVAL CONTROL.

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Abstract The control of mosquitoes is crucial to prevent diseases and to allow an acceptable standard of life. The application of monomolecular films (MMFs) is an emerging strategy for culicid larval control, due to their low environmental impact and the reduction of the availability of alternative larvicides. MMFs form a one-molecule-thick layer that reduces water surface tension impeding mosquitoes from breathing. Because of their way of action, which is mechanic and not chemical, MMFs are not included in the category of Biocides (BPR, Regulation (EU) 528/2012), and do not require the registration to be placed on the market. One of the most common mosquitoes breeding sites in built-up areas are represented by storm drains, but because it happens that treated drains are found positive for the presence of mosquito larvae, this study was planned. The storm drains do not only collect rain water but also any other liquid the citizens pour, like soapy water used to wash the floor or the car and oil used to fry.
In this study the consequence of the pouring of soaps and vegetable oils on the efficacy of the most known MMF, Aquatain AMF®, were investigated. Through laboratory experiments, different quantities of sunflower oil and car-washing soap were tested in 22-liter plastic basins, filled with water, containing 25 larvae of *Aedes albopictus* and treated with 1mL of Aquatain AMF®. The results show that at the tested dosages, the soap does not compromise the action of Aquatain AMF®, instead of the oil that can reduce significatively its efficacy.

Key words Aquatain, mosquito, larvicide, cooking oil