

2nd World Biotechnology Congress

December 04-05, 2017 | Sao Paulo, Brazil

Technological innovation against arbovirolos: Development of bioinsecticide against the mosquito *Aedes aegypti*

Fabiola Nunes

Federal University of Paraiba, Brazil

Recently, several emerging and reemerging arboviruses have caused concern around the world. The *Aedes aegypti* mosquito is the vector of dengue, urban yellow fever, chikungunya and zika. Dengue is the most common arboviruses in the world, affecting more than 2.5 billion people a year. On the other hand, the zika virus brought an alarming fact since it was linked to babies born with microcephaly. Currently, Brazil is experiencing an outbreak of wild yellow fever in several regions of the country, which brings out the fear of the return of urban yellow fever. The most efficient way to combat all these diseases is through the control of the mosquito vector. This is mainly done by chemical insecticides, despite the emergence of resistance. In this sense, the search for new, safe and effective insecticides is necessary. Our research group has explored the biotechnological potential of natural products, especially the *Agave sisalana*. Preliminary studies showed that the *A. sisalana* crude extract has important larvicidal activity against *Ae. aegypti*. Through flow cytometry and histopathology, we observed that exposure to the crude extract of *A. sisalana* caused the necrosis of hemocytes of the exposed larvae, besides lysis of the intestinal cells and the peritrophic membrane. These results show the potential of *A. sisalana* as raw material for the production of an insecticide that helps control emerging and reemerging arboviruses transmitted by *Aedes aegypti*.

fabiola@cbiotec.ufpb.br