Technology for the Control of Mosquito larvae population in water BIOMOSKILL *PLUS*

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During the first outbreak year (2011) of dengue fever in the country efforts were made to curtail the spread in the community. We took the specific task in the Biological control of mosquito population using Bti. The initial results with the suspension culture of *Bacillus thuringiensis* alone were encouraging enough to go for its application strategies. This *Biomoskill Plus* tiles were introduced for the first time and its successful trails were accomplished with the control of Ades, Culex and Anopheles larvae in the water. Only mosquito larvae are killed and the presence of Bti does not harm the other invertebrate larvae, moreover, the water remained fit for animal consumption.

The active ingredients of *B. thuringiensis* and *B. sphaericus* showed their equal larvicidal potential against all the major types of mosquito population (Table 1). The ratio of 1:1 proved optimal for the control of larvae.

Table 1. Larvicidal activity of *Biomoskill plus* suspension against different mosquito types larvae

Mosquito Larvae	***LC-$_{50}$***
Culex	$1X10^{-6.75}$
Anopheles	$1X10^{-6.6}$
Ades	$1X10^{-6.5}$

Appropriate management of vector control is essential to curtail the further spread of mosquito born infection in the public community. *Biomoskill plus* provide best biological control strategy which is easy to use and safe for sustainable control of mosquito population in the environment.

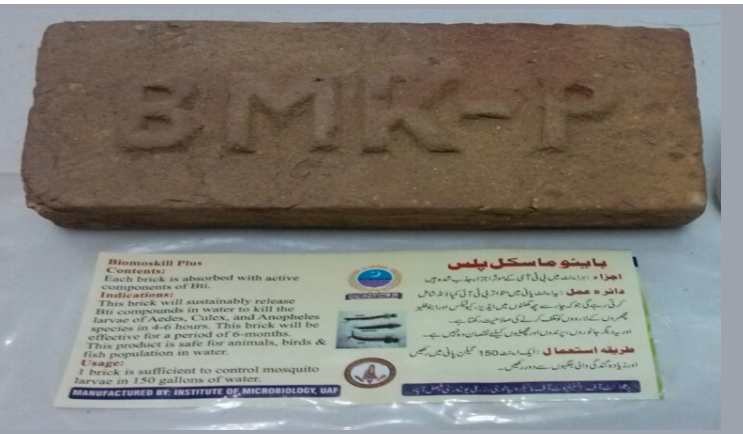

Plate 1. Earthenware tile adsorbed with bioactive compound for the active control of mosquito larvae in water

For the killing of mosquito larvae in the water, a product **Biomoskill plus** (Plate 1) was successfully developed in the Institute of Microbiology in collaboration with EFS/USDA grant. The earthenware brick is adsorbed with the specific *Bacillus thuringiensis* and *Bacillus sphaericus* basic ingredients which provided sustainable release of active compound in the water and specifically targeted the mosquitos larvae. It is recommended for application in the ponds and water reservoirs, lakes, swimming pools, water courses and canal. Water proved perfectly safe as drinking purpose for animals. It will reduce the mosquito population in the surrounding environment thus leads to reciprocal reduction in the Malaria, Chicken Guinea virus, Dengue fever virus and Zika virus incidence in human.
Biomoskill plus is easy to apply and it does not present any environmental pollution and its application is safe for the public.

Contents:

Each tile is adsorbed with active components of Bti for sustainable release.

Indications:

This brick will sustainably release Bti compounds in open water to kill the larvae of Aedes, Culex and Anopheles spp. in 4-6 hours. This tile will remain effective for the period of 6 months.

Usage:

One tile is sufficient to control mosquito larvae in 150 gallons of water.