



**Fr. Dr. S. Ignacimuthu, S.J.**

M.Phil., Ph.D., D.Sc., FRES, FNAAS

Director

Ph : 044 - 2817 8210 (R)

: 044 - 2817 8348 (O)

Fax : 044 - 2817 5566

E-mail : eriloyola@hotmail.com

Web : www.loyolacollege.edu / entomology.html

November 24, 2017

**Mr A. Arul Raj,**  
**NIMBION ORGANICS,**  
Chennai.

Dear Arul Raj,

Wishes and Greetings.

We have tested the two different samples of the formulation 'MOSQILL' that you had developed for the control of mosquitoes and we are giving below the test report:

## Report

### **Larvicidal and ovicidal effects of 'MOSQILL' liquid formulation samples against *Aedes aegypti* and *Culex quinquefasciatus***

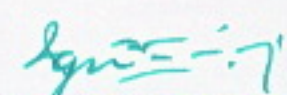
For Laboratory experiments, the World Health Organization protocol (WHO, 2005) was followed.

#### **Materials and Methods**

- 'MOSQILL' Formulation (Two different samples) (Concentration used: 0.02 % (i.e., 0.2 ml in 1000 ml water)
- Micro pipettes (20-100 and 100-1000  $\mu$ l)
- Disposable tips, droppers with rubber suction bulbs to collect the larva
- Disposable cups (preferred as they avoid contamination) or, if not available, glass bowls or beakers (120 ml)
- Graduated measuring cylinder

#### **Bioassay test Procedure**

- About 0.02% of the formulation was prepared in 120 ml bowls/disposable cups with water.
- Five numbers of mosquito larvae (third instar larvae) were released into each concentration and a set of untreated control (water only) was also maintained. Each control and treatment were replicated 5 times
- After the treatment, the number of moribund or dead larvae was counted at every one hour interval up to a period of 24 to 48 hours

  
**FR. DR. S. IGNACIMUTHU, S.J.**  
DIRECTOR  
ENTOMOLOGY RESEARCH INSTITUTE  
LOYOLA COLLEGE  
NUNGAMBAKKAM, CHENNAI-600 034  
TAMILNADU, INDIA



**Table 1. Larvicidal activity of two different formulations against *Aedes aegypti***

Treatment	Larval mortality after					
	1 hour	2 hours	3 hours	8 hours	20 hours	48 hours
MOSQILL (sample 1)	0	76.0±16.7	84.0±8.9	100.0±0	100.0±0	100.0±0
MOSQILL (sample 2)	0	64.0±16.7	80.0±14.1	100.0±0	100.0±0	100.0±0
Temephos (0.01 ppm)	30.7±12.6	89.3±8.4	100.0±0	100.0±0	100.0±0	100.0±0

**Table 2. Larvicidal activity of two different formulations against *Culex quinquefasciatus***

Treatment	Larval mortality after					
	1 hour	2 hours	3 hours	8 hours	20 hours	48 hours
MOSQILL (sample 1)	0	77.7±18.5	80.0±17.3	98.4±6.5	95.5±8.8	100.0±0
MOSQILL (sample 2)	0	86.6±14.4	91.1±14.5	100.0±0	100.0±0	100.0±0
Temephos (0.01 ppm)	40.6±15.8	98.2±10.7	100.0±0	100.0±0	100.0±0	100.0±0

### Results

- MOSQILL-sample 2 was more effective against *Cx. quinquefasciatus* larvae
- Sample 1 was more effective against *Ae. aegypti*; it showed 100% larvicidal activity in 8 hours
- Sample 2 recorded 100% larvicidal activity against both mosquito species in 8 hours
- At 48 hours, the two samples killed 100% larvae of both mosquito species.
- Ovicidal activity experiments showed that both formulations inhibited 100% egg hatching in *Cx. quinquefasciatus* eggs. In *Ae. aegypti*, MOSQILL-sample 1 and sample 2 recorded only 8.4 and 12.3% ovicidal activities, respectively.

### Conclusion

- Though both samples of MOSQILL formulations showed slight variation in their efficacy, they were equally effective at 48 hours of treatment against the larvae of *Ae. aegypti* and *Cx. quinquefasciatus*.
- The two samples had 100% ovicidal activity against *Cx. quinquefasciatus* eggs.

### Reference

World Health Organization (WHO), 2005. Guidelines for laboratory and field testing of mosquito larvicides. World Health Organization communicable disease control, prevention and eradication WHO pesticide evaluation scheme.

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