TEST REPORT ON BIOVECTROL™ – 20EM

Public Health Vector Control
Animal Health Ectoparasite Control

~ Translated Copy ~

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BIOVECTROL™ – 20EM

Test Report on Vector & Ectoparasite Control of Public Health & Animal Health Importance

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Summary of Report

The efficacies of BIOVECTROL™ – 20EM have been tested with the following results:

1. Mosquitoes, *Aedes Aegypti*, Liverpool Strain

   (A) Direct spray at 1:100 dilution, it is an effective adulticide.
   (B) The residual efficacy; after 3 months, showed excellent killing effect on adult mosquitoes with 100% mortality in 24 hours. Refer to Figure 1-1(B).

Figure 1-1(B) 100% mortality in 24 hours.

   (C) Larvicidal Efficacy
   - Effective larvicide at concentrations ≥ 10^{-6} with 100% mortality in 24 hours. Refer to Figure 1-1(C).
   - Effective larvicide at dilution of 1:100 where all larvae killed at the vicinity of dried eggs. Refer to Figure 1-2(C).

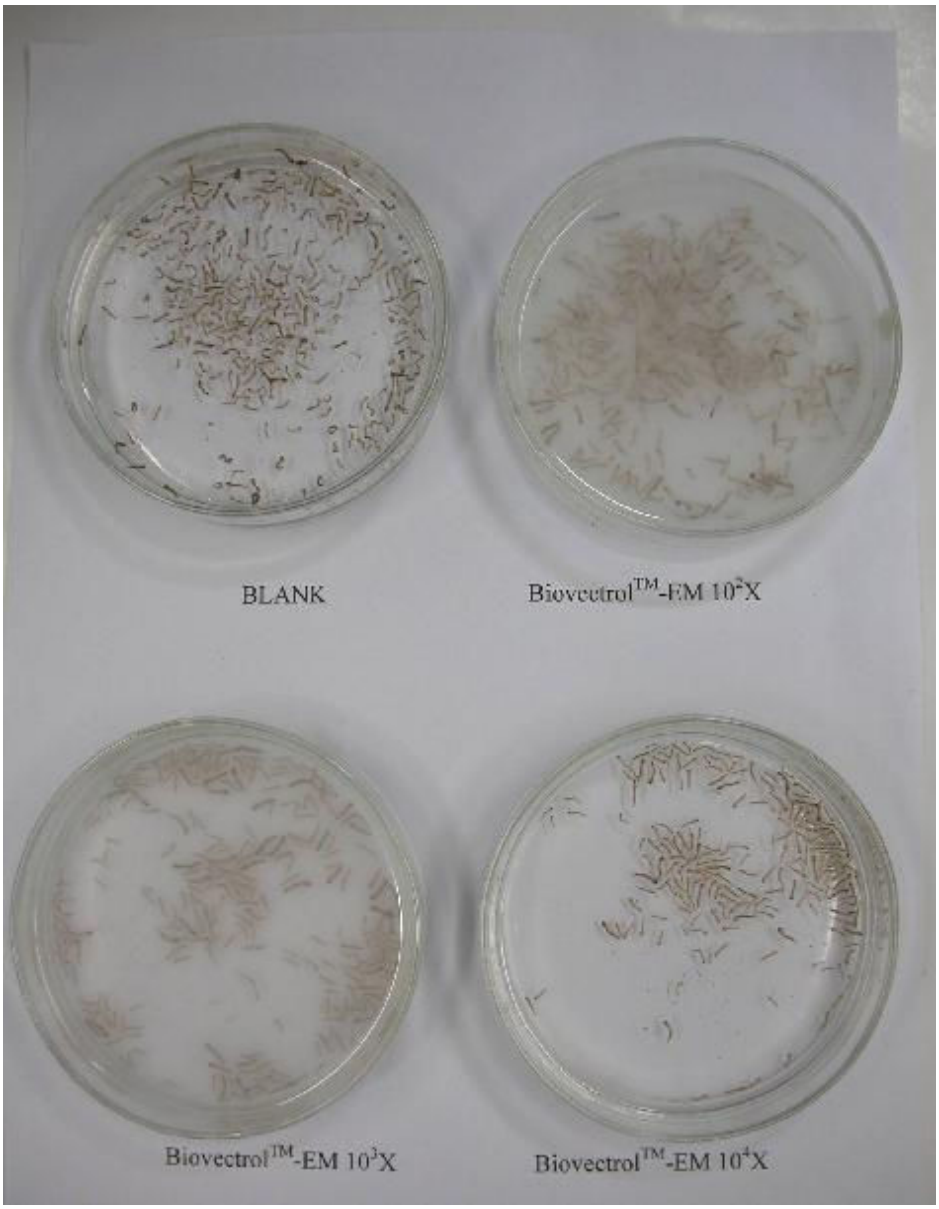

Figure 1-1(C) Mosquitoes Larvae killed with various dilutions of BIOVECTROL™-20EM

Figure 1-2(C) All larvae died after hatching

(D) Repellency Efficacy

At 1:100 dilutions, excellent repellency effect is observed on rat tail repellency test. Figures 1-1(D), 1-2(D), 1-3(D). (Although mosquitoes were seen flying around treated rat tail).

Figure 1-1(D) Repellency Test.

Figure 1-2(D) Treated, no biting

Figure 1-3(D) Control Rate, Mosquitoes biting.

2. Rabbit Ear Mite

Excellent Clinical Effect at 1:100 dilution sprayed into infected rabbit ear. Infected ear appeared dry (sign of recovery) 1 DAT (Day After Treatment). The dried skin dropped off 3 DAT. The effect (no infection) lasted for 45 days.

Figure 2-1 Rabbit ear infected with ear mite

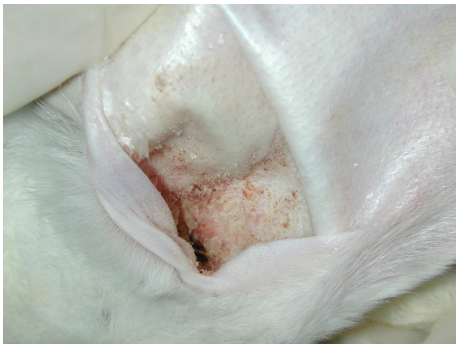

Figure 2-2 Dried skin dropped of 3 DAT

Figure 2-3 Clean and no infection ear (after 45 days)

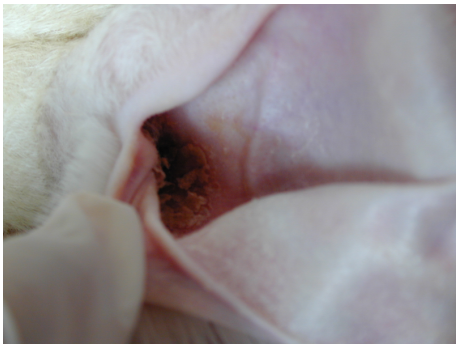

Figure 2-4 Re-infestation of ear mite (after 45 days)

3. Cattle Stable Fly (*Stomoxys Calcitrans*)

The appearance of cattle stable fly is shown in Figure 3.

Figure 3 Cattle Stable Fly

(A) Residual Efficacy
At 1:100 dilution sprayed onto the interiors of a glass container with aerated cover. Stable flies were introduced into the container after spray film is dried, all stable flies killed within 60 min representing residual efficacy.

Figure 3-1(A) Dried interior of container

Figure 3-2(A) Stable flies in contact with dried spray surface, killed within 1 hour

(B) Direct Spray Efficacy
At 1:100 dilution sprayed onto the interiors of a glass container with aerated cover. Stable flies were introduced into the container while spray film is still moist, all stable flies killed within 5-10 min; representing direct spray efficacy.

Figure 3-1(B) Moist interior of container

Figure 3-2(B) Stable flies in contact with moist spray surface, killed within 5-10 min

(C) Repellency Efficacy

At 1:100 dilution, excellent repellency is observed on treated cattle body where no biting by stable flies occurred. However, cattle flies were seen flying around at a distance from treated cattle body (no biting).

Figure 3-1(C) Untreated cattle body – biting occurred

Figure 3-2(C) Treated cattle body – no biting but cattle flies seen flying around at a distance from treated surface

4. Fleas (Cat Fleas)

(A) Direct Spray Efficacy

At 1:100 dilution sprayed on body of dog with fleas introduced, fleas dropped to the ground and killed within a short while (few min.).

Figure 4-1(A) Cat fleas on body of dog

Figure 4-2(A) Dead cat fleas dropped to the ground

(B) Residual Efficacy

At 1:100 dilution sprayed on body of dog. At 30 DAT, fleas killed within 24 hours.

5. Ticks

At 1:100 dilution sprayed onto the interiors of a glass container with aerated cover. Ticks were introduced into the container after sprayed film is dried, ticks were seen killed at the vicinity of mouth of container.

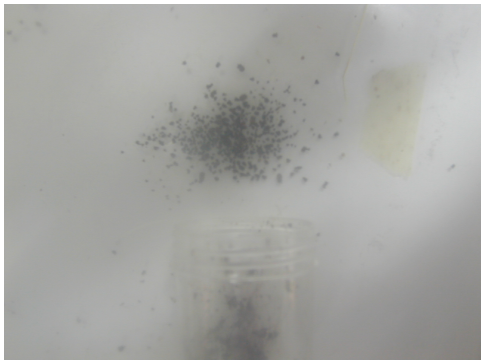

Figure 5-1 Ticks died at the vicinity of mouth of container

Figure 5-2 Dead ticks – magnified