

**A-22: Mosquito repellent activity of citronella oil and neem oil**

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An important component of control programmes of vector borne diseases such as malaria and filariasis is reduction of man-vector contact.

We have investigated the killing and repellent effects of 4 substances, namely, citronella oil (*Cymbopogon nardus*), neem oil (*Azadirachta indica*), a commercially available repellent Autan, and distilled water, by direct feeding of laboratory bred mosquitoes from a colony of *An. tessellatus* on 4 torque monkeys at the Malaria Research Station, Kataragama. 25 female mosquitoes were obtained into a plastic cup and direct feeding was done at hours 0, 2, 4, 6, 8, and 10 after application. The number of mosquitoes dead and the number which fed were noted after each feeding.

There was a significant difference in mean log number of mosquitoes dead between the 4 treatment groups at 0, 2 and 4h ( $p=0.0003$ ,  $p=0.0002$ , and  $p=0.0385$ , respectively). At 2 h the killing effect of citronella oil and autan was significantly greater than distilled water and neem oil. At 4 h the only difference in the killing effects was between autan and distilled water and the differences disappeared at hours 6, 8, and 10. The repellent action of the treatments, as measured by the number of mosquitoes taking a blood meal, was significantly different at all time points considered (i.e. 0, 2, 4, 6, 8 and 10 h). Autan, neem oil and citronella oil had significantly higher repellent effect than distilled water. There is no difference in the repellent action against mosquitoes of neem oil, citronella oil and autan upto 10 h after application.

The use of citronella oil and neem oil should be promoted as a mosquito repellent in the control of vector borne diseases as it is locally available, cheap, effective and culturally acceptable.