

A PROTOCOL TO TEST COILS OUTDOOR.

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INTRODUCTION

Laboratory test have always been preferred because all the parameters can be controlled. To register a mosquito coil to be used outdoor, its efficacy have to be proved outdoor, indeed. More, under the Biocide Law, many test will be performed in outdoor, overall the ones for professional use. Testing outdoor will be a normal practise but the protocols available sometime do not fit with the specific conditions (environment and species of mosquitoes), and often they do not exist at all.

To test coils against mosquitoes a protocol was designed. It was done to make as standard as possible the test, to compare different coils and to simulate as much as possible the normal use of the coil.

In Italy coils are used mainly outdoor while resting or eating so it is usually used under pergolas, gazebos and canopy houses.



METHOD

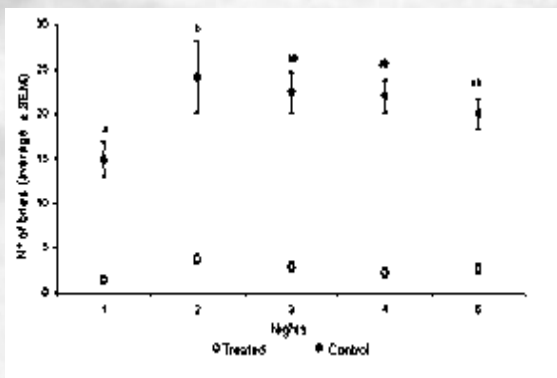
Two gazebo tents measuring 15 m² and a minimum height of 2,5 m. are set up at a minimum distance of 15 m between them. Each gazebo has two adjacent sides closed by a plastic sheet. One gazebo is used for the test, the other one as control.

Once the infestation level is verified by human landing the test coil is placed at the centre of Gazebo n.1. A volunteer is seated on a chair at one corner of Gazebo n.1 at 2,5 m. from the coil; a second volunteer is seated with the same procedure in Gazebo n.2 but without a coil.

The counts of probing mosquitoes is done for 10 minutes every 30 min. The hours of the day when to do the test depends by the species of mosquito on which the coil want to be tested. The first recording is performed after 30 min the coil's lighting.

Every night (or every day) the coil is placed under a different Gazebo, every night the volunteers are different but if this is not possible, then they are changed in position.

A total of 5 replicates corresponding to 5 different evenings, are performed.



RESULTS

The statistical analysis of data indicates that very important differences exist between the two test conditions considered (ANOVA, d.f. = 1; 68, F = 252.6, P<0,001), with a number of bites on the control volunteer HIGHER (20,6 ±6,9) than on the treated volunteer (2,5 ±1,5).

The test was repeated on 5 different evenings; anyway, they do not represent veritable replicas because the mosquito population present on the different evenings was not the same, statistically speaking.

In fact, significant differences were verified between the first (14,8 ± 5,1) and the second evening (24,1 ± 10,5) in the number of bites on the control subject (ANOVA, d.f. = 4; 30, F = 2.29, P <0.05)



OTHER KIND OF TESTS WITH GAZEBOS

Gazebos can also be used to test products like Transfluthrin, supposed to be effective as vapour as well, as in the picture beside where cages are placed at different level above the ground.

OUTDOOR GAZEBOS TO TEST INDOOR PRODUCTS

Another use of Gazebos is to test the repellent effect of indoor products like coils, candles, mats etc. In fact lab test carried out in rooms can only show the insecticide effect. In this case the Gazebo is provided of walls and just a window or a door is left open. The mat is put inside and a volunteer can check if mosquitoes are able to get in or not.