*This report is for the three replicated experiments we have done with the candle device, I’ve placed the most recent results first. The excel sheet has three tabs showing the raw data for these 3 replications. I’m including a wind profile chart for the 3rd replication because the wind was stronger overall during testing compared to the other two experiments.*

**Results from the most recent experiment with the candle on 10/26/2021.**

Graphical user interface

Description automatically generated with low confidence

For the third replicated experimental design, we used 48 hoop cages set up in 4 cardinal directions (N, S, E, W) from a center platform with the transfluthrin device centered on the platform 30in above the ground. Three vertical levels of hoop cages containing 25 *Aedes aegyptii* per cage were used for the 24 hour assay. Each arm of the assay had 4 hangars each spaced one meter apart. The three vertical levels were located at each hangar location. (see photos). The boxplot above shows the knockdown counts at each time point from start to 24 hours. The distances (1-4 meters) represent the average of all four cardinal directions radiating outward from the center platform, faceted by the time points. (ie..1m represents the knockdown counts for N, S, E, W arms of the assay at one meter from the transfluthrin device on the center platform).

Here are the results from the second experiment, I’ve also emailed you the raw data with the first and second experiment in an excel sheet. The summary weather data is at the end of the document.

Calendar

Description automatically generated with medium confidence

For the second replicated experimental design, we used 48 hoop cages set up in 4 cardinal directions (N, S, E, W) from a center platform with the transfluthrin device centered on the platform 30in above the ground. Three vertical levels of hoop cages containing 25 *Aedes aegyptii* per cage were used for the 24 hour assay. Each arm of the assay had 4 hangars each spaced one meter apart. The three vertical levels were located at each hangar location. (see photos). The boxplot above shows the knockdown counts at each time point from start to 24 hours. The distances (1-4 meters) represent the average of all four cardinal directions radiating outward from the center platform, faceted by the time points. (ie..1m represents the knockdown counts for N, S, E, W arms of the assay at one meter from the transfluthrin device on the center platform).

Here are the results and raw data from the Bayer candle study. I also included some photos of the experimental setup.

Chart, box and whisker chart

Description automatically generated

For the experimental design, we used 48 hoop cages set up in 4 cardinal directions (N, S, E, W) from a center platform with the transfluthrin device centered on the platform 30in above the ground. Three vertical levels of hoop cages containing 25 *Aedes aegyptii* per cage were used for the 24 hour assay. Each arm of the assay had 4 hangars each spaced one meter apart. The three vertical levels were located at each hangar location. (see photos). The boxplot above shows the knockdown counts at each time point from start to 24 hours. The distances (1-4 meters) represent the average of all four cardinal directions radiating outward from the center platform, faceted by the time points. (ie..1m represents the knockdown counts for N, S, E, W arms of the assay at one meter from the transfluthrin device on the center platform).

Diagram

Description automatically generatedDiagram, engineering drawing

Description automatically generated

A picture containing tree

Description automatically generated

A close-up of a spider web

Description automatically generated with low confidence

A picture containing outdoor

Description automatically generated

The raw data in the excel sheet is formatted as follows, [cardinal direction] [arm number] [vertical position]. For example “N1T” would be the north arm at one meter from the device, the topmost of the three vertical hoop cages. The control cage had one hoop trap at each cardinal direction and one in the center platform, and showed zero knockdowns at any time point.

**Table

Description automatically generatedFree flyer results from the most recent (10/26/21) experiment**.

![Table

Description automatically generated]()Below is the free flying mosquitoes released summary table for the control and treatment enclosures from the first experiment.

Weather summary for first experiment (24h means)

Temperature = 77.38oF

Humidity = 92.04%

Wind Speed = 0.037 mph

Wind Direction = 170o (south)

Weather summary for second experiment (24h means)

Temperature = 76.50oF

Humidity = 89.51%

Wind Speed = 0.022 mph

Wind Direction = 70o (east)

Weather summary for third experiment (24h means)

Temperature = 76.45oF

Humidity = 52.4%

**Wind Speed = 0.30 (mph)**

Wind Direction = 70o(east)

Here is the wind profile for the third experiment, for the previous two we had little to no wind, for this experiment the wind was so strong at certain points I had to re-light the candle.

Chart

Description automatically generated

Wind profile for transfluthrin candle assay 10/26/2021 in enclosure one. The experiment was started at 14:30hrs (2:30PM).