

Study Title

Spartan Mosquito Efficacy Studies

Data Requirement

Efficacy

Author

Jeremy Hirsch

Report Date

April 20, 2017

Prepared By

Spartan Mosquito

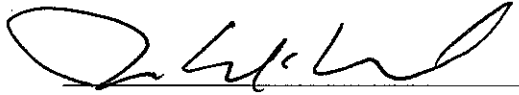
Statement of Data Confidentiality Claims

No claim of confidentiality on the basis of this study falling within the scope of FIFRA Section 10 (d)(1)(A)(B)(C) are made.

Company Name: Spartan Mosquito

Company Agent: Jeremy Hirsch

Signature:

A handwritten signature in black ink, appearing to read 'J. Hirsch', written over a horizontal line.

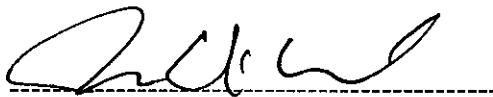
Date:

20 Apr 17

Good Laboratory Practice Compliance Statement

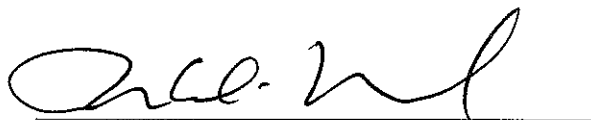
This study was not conducted under good laboratory practice but was conducted in the spirit of generating efficacy data under real life conditions and demonstrates product in use data.

Submitter:

A handwritten signature in black ink, appearing to read 'J. Hirsch', written over a dashed horizontal line.

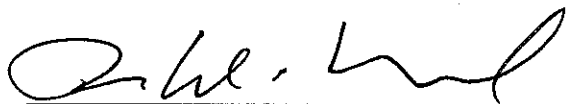
Jeremy Hirsch

Sponsor:

A handwritten signature in black ink, appearing to read 'J. Hirsch', written over a solid horizontal line.

Jeremy Hirsch

Study Director:

A handwritten signature in black ink, appearing to read 'J. Hirsch', written over a solid horizontal line.

Jeremy Hirsch

Summary

Two field trials were conducted to evaluate the efficacy of a single formulation against mosquitoes in an area in Mississippi.

The test substance was activated (two) and hung per directions at six feet above ground level in a well shaded area about one mile from any other mosquito control area. The study was conducted over the ninety-day test period using the sunrise and sunset time of day to insure testing at the maximum time of mosquito activity. The subject in both studies was the same individual who followed washing protocols, using unscented soap, washing thoroughly and drying completely with clean paper towel.

Mosquito exposure was for one minute.

Results

25b ATSB-SRD NUMBER 9

Test Solution Sodium Chloride Active Ingredient

Effects on Mississippi Mosquito Population over a ninety-day period

Conducted by Jeremy Hirsch President-Spartan Mosquito

Final Date Compiled November 15th 2016

Location of Test Site 458 Buck Creek Road, New Augusta, MS 31°16'39.04"N 89° 3'37.88"W

Project Number BCNACL030416

EFFICACY STUDY SUMMARY

25b Attractive Toxic Sugar Bait Slow Release Device

Project Number BCNACL020816

95% decrease in mosquito population for 90 days

3 Acres square at 31°16'39.04"N 89° 3'37.88"W

Site Selection for test is more than 1 mile from any other mosquito control measures

STUDY INITIATION DATE: 02AUG16

STUDY COMPLETION DATE: 15NOV16

DESCRIPTION: 2 Tubes per acre spaced at 180ft apart, in well-shaded corners, at 6ft above ground level. 6 Total Tubes deployed.

ACTIVE INGREDIENT: Sodium Chloride 11.48%, INERT INGREDIENTS Sucrose 88.34%, Yeast .18% (Net Dry Weight 1.414oz

DILLUTION: 354mLs warm water added to the fill line on the tube resulting in final concentrations of Sucrose 10%, Sodium Chloride 1.3%, Yeast .02%.

WATER: Warm tap water approved for consumption above 80 degrees Fahrenheit.

Temperatures of Count Data:

Date	Time	Temperature
August 4th	6:32AM	82
August 4th	7:35PM	77
August 11th	6:37AM	78
August 11th	7:26PM	79
August 18th	6:41AM	73
August 18th	7:19PM	84
August 25th	6:45AM	76
August 25th	7:11PM	81
September 1st	6:50AM	72
September 1st	7:03PM	90
September 8th	6:54AM	66
September 8th	6:54PM	85
September 15th	6:58AM	72
September 15th	6:45PM	87
September 22nd	7:02AM	74
September 22nd	6:35PM	85
September 29th	7:06AM	62
September 29th	6:27PM	72
October 6th	7:11AM	62
October 6th	6:18PM	82
October 13th	7:15AM	60
October 13th	6:10PM	79
October 20th	7:20AM	62
October 20th	6:02PM	82
October 27th	7:26AM	60
October 27th	5:55PM	80
November 3rd	7:31AM	57
November 3rd	5:49PM	79

TEST RESULTS:

Mosquito Count Data at 31°16'39.04"N 89° 3'37.88"W

1 Minute Bare Left Forearm Count

Date	Time	Temperature	Test Count
August 4th	6:32AM	82	13
August 4th	7:35PM	77	9
August 11th	6:37AM	78	7
August 11th	7:26PM	79	5
August 18th	6:41AM	73	1
August 18th	7:19PM	84	0
August 25th	6:45AM	76	0
August 25th	7:11PM	81	0
September 1st	6:50AM	72	0
September 1st	7:03PM	90	0
September 8th	6:54AM	66	1
September 8th	6:54PM	85	0
September 15th	6:58AM	72	0
September 15th	6:45PM	87	0
September 22nd	7:02AM	74	0
September 22nd	6:35PM	85	0
September 29th	7:06AM	62	0
September 29th	6:27PM	72	0
October 6th	7:11AM	62	0
October 6th	6:18PM	82	0
October 13th	7:15AM	60	0
October 13th	6:10PM	79	0
October 20th	7:20AM	62	0
October 20th	6:02PM	82	0
October 27th	7:26AM	60	1
October 27th	5:55PM	80	0
November 3rd	7:31AM	57	0
November 3rd	5:49PM	79	0

CONTROL RESULTS: Mosquito Count Data at 31°16'39.04"N 89° 3'37.88"W

1 Minute Bare Left Forearm Count

Date	Time	Temperature	Control Count
August 4th	6:47AM	82	7
August 4th	7:20PM	77	11
August 11th	6:52AM	78	6
August 11th	7:11PM	79	4
August 18th	6:56AM	73	5
August 18th	7:04PM	84	4
August 25th	7:00AM	76	0
August 25th	6:56PM	81	6
September 1st	7:05AM	72	2
September 1st	6:48PM	90	8
September 8th	7:09AM	66	0
September 8th	6:39PM	85	6
September 15th	7:13AM	72	7
September 15th	6:30PM	87	3
September 22nd	7:17AM	74	8
September 22nd	6:20PM	85	4
September 29th	7:21AM	62	6
September 29th	6:12PM	72	7
October 6th	7:26AM	62	4
October 6th	6:03PM	82	11
October 13th	7:30AM	60	5
October 13th	5:55PM	79	7
October 20th	7:35AM	62	8
October 20th	5:47PM	82	5
October 27th	7:41AM	60	6
October 27th	5:40PM	80	6
November 3rd	7:46AM	57	5
November 3rd	5:34PM	79	9

CONCLUSION: An NaCl ATSB-SRD of 1.3% yields at least a 95% reduction for 90 days

25b ATSB-SRD NUMBER 27

Test Solution Sodium Chloride Active Ingredient

Effects on Mississippi Mosquito Population over a ninety-day period

Conducted by Jeremy Hirsch President-Spartan Mosquito

Final Date Compiled October 15th 2016

Location of Test Site 217 Dover Trace, Hattiesburg MS 31°15'30.50"N 89°18'2.21"W

Project Number DTNACL030716

EFFICACY STUDY SUMMARY

25b Attractive Toxic Sugar Bait Slow Release Device

Project Number DTNACL030716

95% decrease in mosquito population for 90 days

5 Acres square at 31°15'30.50"N 89°18'2.21"W

Site Selection for test is less than 1 mile from other mosquito control measures

STUDY INITIATION DATE: 01JUL16

STUDY COMPLETION DATE: 15OCT16

DESCRIPTION: 2 Tubes per acre spaced at 180ft apart, in well-shaded areas, at 6ft above ground level. 10 Total Tubes deployed.

ACTIVE INGREDIENT: Sodium Chloride 11.48%, INERT INGREDIENTS Sucrose 88.34%, Yeast .18% (Net Dry Weight 1.414oz

DILLUTION: 354mLs warm water added to the fill line on the tube resulting in final concentrations of Sucrose 10%, Sodium Chloride 1.3%, Yeast .02%.

WATER: Warm tap water approved for consumption above 80 degrees Fahrenheit.

Temperatures of Count Data:

Date	Time	Temperature
July 3rd	6:14AM	75
July 3rd	7:48PM	87
July 10th	6:17AM	73
July 10th	7:47PM	75
July 17th	6:21AM	71
July 17th	7:44PM	82
July 24th	6:26AM	76
July 24th	7:41PM	77
July 31st	6:30AM	76
July 31st	7:36PM	80
August 7th	6:34AM	77
August 7th	7:30PM	87
August 14th	6:39AM	73
August 14th	7:23PM	82
August 21st	6:43AM	74
August 21st	7:16PM	76
August 28th	6:47AM	72
August 28th	7:07PM	85
September 4th	6:51AM	75
September 4th	6:59PM	80
September 11th	6:55AM	73
September 11th	6:50PM	75
September 18th	7:00AM	76
September 18th	6:41PM	84
September 25th	7:04AM	72
September 25th	6:32PM	75
October 2nd	7:08AM	62
October 2nd	6:23PM	77

TEST RESULTS:

Mosquito Count Data at 31°15'30.50"N 89°18'2.21"W

1 Minute Bare Left Forearm Count

Date	Time	Temperature	Test Count
July 3rd	6:14AM	75	6
July 3rd	7:48PM	87	7
July 10th	6:17AM	73	4
July 10th	7:47PM	75	2
July 17th	6:21AM	71	0
July 17th	7:44PM	82	0
July 24th	6:26AM	76	0
July 24th	7:41PM	77	0
July 31st	6:30AM	76	0
July 31st	7:36PM	80	0
August 7th	6:34AM	77	0
August 7th	7:30PM	87	0
August 14th	6:39AM	73	0
August 14th	7:23PM	82	0
August 21st	6:43AM	74	0
August 21st	7:16PM	76	0
August 28th	6:47AM	72	0
August 28th	7:07PM	85	0
September 4th	6:51AM	75	0
September 4th	6:59PM	80	0
September 11th	6:55AM	73	0
September 11th	6:50PM	75	0
September 18th	7:00AM	76	0
September 18th	6:41PM	84	0
September 25th	7:04AM	72	0
September 25th	6:32PM	75	0
October 2nd	7:08AM	62	0
October 2nd	6:23PM	77	0

CONTROL RESULTS: Mosquito Count Data at 31°15'53.11"N 89°18'12.49"W

1 Minute Bare Left Forearm Count

Date	Time	Temperature	Control Count
July 3rd	6:30AM	75	9
July 3rd	7:53PM	87	12
July 10th	6:32AM	73	7
July 10th	7:32PM	75	6
July 17th	6:36AM	71	5
July 17th	7:29PM	82	8
July 24th	6:41AM	76	6
July 24th	7:26PM	77	3
July 31st	6:45AM	76	11
July 31st	7:21PM	80	7
August 7th	6:49AM	77	12
August 7th	7:15PM	87	5
August 14th	6:54AM	73	7
August 14th	7:08PM	82	9
August 21st	6:58AM	74	4
August 21st	7:01PM	76	8
August 28th	6:32AM	72	5
August 28th	6:52PM	85	6
September 4th	7:06AM	75	5
September 4th	6:44PM	80	6
September 11th	7:10AM	73	8
September 11th	6:35PM	75	9
September 18th	7:15AM	76	5
September 18th	6:26PM	84	5
September 25th	7:19AM	72	4
September 25th	6:17PM	75	8
October 2nd	7:23AM	62	6
October 2nd	6:08PM	77	6

CONCLUSION: An NaCl ATSB-SRD of 1.3% yields at least a 95% reduction for 90 days

Informed Consent

I Jeremy Hirsch understand that the study has been designed to measure the efficacy of a product used for the control of mosquitoes. The protocol will subject me weekly over the length of the study to expose my arms to mosquitoes for a duration of one minute.

The main risks associated with the proposed study are the potential for allergic reaction and the exposure to biting mosquitoes. As President of the company, I will not be accepting compensation for my part in the study. The benefit of the study to society is the gaining of knowledge regarding the efficacy of the product.

The content, protocol and meaning of the information has been explained and is understood and I hereby voluntarily consent and agree to take part in this study.

20 Apr 17

Date

[Signature]

Signature

Add Certificates of Analysis

SPARTAN MOSQUITO

WWW.SPARTANMOSQUITO.COM

Project Number: DTNACL030716


Work Order: 7040216

Bonner Analytical received (1) Spartan Mosquito Eradicator (SME) on 03/31/2017 labeled ATSB-SRD#27. The sample was inoculated on 03/31/2017 with warm non-chlorinated, reverse osmosis water and filled to the top fill line. The SME was allowed to sit at room temperature for 3 days. On 04/03/17 aliquots at the top of the water level from the tube was removed and archived for salt content testing. Certificate of Analysis listed below.

Analyte/Method	ATSB-SRD#27
Chloride/325.3	7900 ppm
Sodium/200.7	5094 ppm
Salt/Calc'd	1.35-1.27%
Salt Range	+/- 10.8%
*Sucrose/In-house	10.0%
*Sucrose Range	+/- 5.2%
*Yeast/In-house	0.02%
*Yeast Range	+/- 15.7%

*Sucrose and Yeast concentration and range are based on evaluating the weighing device and technique with dry material, using an analytical balance. The percent concentration is calculated on 10 replicate weighing's and then based on the addition of 354 mLs of water.

Certified By:


Jeremy Hirsch

Date:

20 Apr 17

SPARTAN



MOSQUITO

WWW.SPARTANMOSQUITO.COM

Project Number: BCNACL030416

Work Order: 7040213

Bonner Analytical received (1) Spartan Mosquito Eradicator (SME) on 03/31/2017 labeled ATSB-SRD#9. The sample was inoculated on 03/31/2017 with warm non-chlorinated, reverse osmosis water and filled to the top fill line. The SME was allowed to site at room temperature for 3 days. On 04/03/17 aliquots at the top of the water level from the tube was removed and archived for salt content testing. Certificate of Analysis listed below.

Analyte/Method ATSB-SRD#9

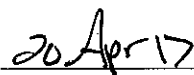
Chloride/325.3	6810 ppm
Sodium/200.7	4210 ppm
Salt/Calc'd	1.09-1.11 %
Salt Range	+/- 16.1%
*Sucrose/In-house	10.0%
*Sucrose Range	+/- 5.2%
*Yeast/In-house	0.02%
*Yeast Range	+/- 15.7%

*Sucrose and Yeast concentration and range are based on evaluating the weighing device and technique with dry material, using an analytical balance. The percent concentration is calculated on 10 replicate weighing's and then based on the addition of 354 mLs of water.

Certified By:


Jeremy Hirsch

Date:


20 Apr 17