Supplementary Material

S1: LC50 of Cypermethrin against Oxycrenus laetus in the laboratory at different time intervals.



S2: LC50 of Bakain against Oxycrenus laetus in the laboratory at different time intervals



|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| S3: LC50 of Neem against *Oxycrenus laetus* in the laboratory at different time intervals. | | | | |
| **Time (hours)** | **LC50 (ppm)** | **Slope ± SE** | **Fiducial Limit (95%)** |
| 12 | 3495999 | 2.306 ± 0.964 | 2238.6 - 5459742107 |
| 24 | 78695.2 | 2.096 ± 0..541 | 4620.1 - 1340436 |
| 48 | 8027.32 | 1.886 ± 0.372 | 1913.12 – 33681.98 |
| 96 | 644.39 | 1.721 ± 0.267 | 327.21 – 1269.02 |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | S4: | | | | | | | | LC50 of Tumma against *Oxycrenus laetus* in the laboratory at different time intervals | | | | | | | | **Time (hours)** | **LC50 (ppm)** | **Slope ± SE** | **Fiducial Limit (95%)** |  |  |  | | 12 | 12778.06 | 0.961 ± 0.263 | 2270.6 - 71908.5 |  |  |  | | 24 | 5060.28 | 1.178 ± 0.227 | 1584.9 - 16156.0 |  |  |  | | 48 | 2186.2 | 1.373 ± 0.228 | 857.13 - 5576.13 |  |  |  | | 96 | 1099.76 | 1.895 ± 0.336 | 401.35 - 3013.50 |  |  |  | |  |  |

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| S5:LC50 of Eucalyptus against *Oxycrenus laetus* in the laboratory at different time intervals | | | | |
| **Time (hours)** | **LC50 (ppm)** | **Slope ± SE** | **Fiducial Limit (95%)** |
| 12 | 561 | 0.080 ± 6.331 | 2270.6 - 71908.5 |
| 24 | 49354.08 | 2.165 ± 0.709 | 479.01- 5085119 |
| 48 | 3320.46 | 2.037 ± 0.482 | 342.36- 32204.57 |
| 96 | 540.86 | 2.243 ± 0.490 | 116.97-3013.50 |

S6a: **Analysis of variance of percent mortality of dusky cotton bug *(Oxycarenus laetus),* after 12 hours to different concentrations of Neem:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Source** | **DF** | **SS** | MS | **F** | **P** |
| 0.0010\*\* |
| Treatment | 9 | 786.67 | 87.4074 | 5.24 |
| Error | 20 | 333.33 | 16.6667 |  |  |
| Total | 29 | 1120.00 |  |  |  |

NS= (P>0.05) Non-significant, \*=Significant at (P <0.05) and \*\* Highly significant P<0.01.

**Table S6b: Comparison of means regarding Percent Mortality by different concentrations of Neem after 12 hours against *Oxycarenus laetus:***

|  |  |  |
| --- | --- | --- |
| **Treatment**  **Concentration (ppm)** | **Mean** | **Homogeneous**  **Groups** |
| T1 | 13.333 | A |
| T2 | 6.6667 | AB |
| T3 | 0.0000 | B |
| T4 | 0.0000 | B |
| T5 | 13.333 | A |
| T6 | 3.3333 | AB |
| T7 | 3.3333 | AB |
| T8 | 0.0000 | B |
| T9 | 0.0000 | B |
| Control | 0.0000 | B |

There are 2 groups (A and B) in which the means are not significantly different from one another.

**S7a. Analysis of variance of percent mortality of dusky cotton bug *(Oxycarenus laetus),* after 24 hours to different concentrations of Neem:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Source** | **DF**  **-** | SS | MS | F | P |
| Treatment | 9 | 2613.33 | 290.370 | 8.71 | 0.0000\*\* |
| Error | 20 | 666.67 | 33.333 |  |  |
| Total | 29 | 3280.00 |  |  |  |

NS= (P>0.05) Non-significant, \*= Significant at (P<0.05) and \*\*=Highly significant P<0.01.

**S7b. Comparison of means regarding Percent Mortality by different concentrations of neem after 24 hours against *Oxycarenus laetus:***

|  |  |  |
| --- | --- | --- |
| **Treatment**  **Concentration**  **(ppm)** | **Mean** | **Homogeneous**  **Groups** |
| T1 | 26.667 | A |
| T2 | 20.000 | AB |
| T3 | 10.000 | ABC |
| T4 | 13.333 | ABC |
| T5 | 26.667 | A |
| T6 | 10.000 | ABC |
| T7 | 10.000 | ABC |
| **T8** | 0.0000 | C |
| T9 | 10.000 | ABC |
| Control | 0.0000 | C |

**S8a Analysis of variance of percent mortality of dusky cotton bug *(Oxycarenus laetus),* after 48 hours to different concentrations of neem:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Source** | **DF** | **SS** | **MS** | **F** | P |
| 0.0000\*\* |
| Treatment | 9 | 4803.33 | 533.704 | 12.3 |
| Error | 20 | 866.67 | 43.333 |  |  |
| Total | 29 | 5670.00 |  |  |  |

NS= (P>0.05) Non significant, \*= Significant at (P< 0.05) and \*\*= Highly significant P<0 .01.

**S8b. Comparison of means regarding Percent Mortality by different concentrations of neem after 48 hours against *Oxycarenus laetus:***

|  |  |  |
| --- | --- | --- |
| **Treatment**  **Concentration** | **Mean** | **Homogeneous**  **Groups** |
| **(ppm)** |  |  |
| T1 | 40.000 | A |
| T2 | 33.333 | AB |
| T3 | 30.000 | AB |
| T4 | 26.667 | ABC |
| T5 | 30.000 | AB |
| T6 | 16.667 | BCDE |
| T7 | 20.000 | BCD |
| T8 | 10.000 | CDE |
| T9 | 3.3333 | DE |
| Control | 0.0000 | E |

There are 5 groups (A, B, etc.) in which the means are not significantly different from one another.

**S9a. Analysis of variance of percent mortality of dusky cotton bug *(Oxycarenus laetus),* after 96 hours to different concentrations of neem:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Source** | **DF** | **SS** | MS | **F** | P |
| Treatment | 9 | 11746.7 | 1305.19 | 19.6 | 0.0000\*\* |
| Error | 20 | 1333.3 | 66.67 |  |  |
| Total | 29 | 13080.0 |  |  |  |

NS= (P>0.05) Non-significant, \*= Significant at (P< 0.05) and \*\*= Highly significant P<0.01.

**S9b. Comparison of means regarding Percent Mortality by different concentrations of neem after 96 hours against *Oxycarenus laetus:***

|  |  |  |
| --- | --- | --- |
| **Treatment**  **Concentration (ppm)** | **Mean** | **Homogeneous Groups** |
| T1 | 60.000 | A |
| T2 | 53.333 | AB |
| T3 | 53.333 | AB |
| T4 | 50.000 | AB |
| T5 | 60.000 | A |
| T6 | 30.000 | BC |
| ABC |
| T7 | 36.667 |
| T8 | 23.333 | CD |
| T9 | 13.333 | CD |
| Control | 0.0000 | D |

There are 4 groups (A, B, etc.) in which the means are not significantly different from one another.