# *Field validation of senesced banana leaf extracts for trapping banana weevils on smallholder banana/plantain farms*

Article

Accepted Version

## www.reading.ac.uk/centaur

**Table 4** Mean (± SE) number of adult banana weevils, *Cosmopolites sordidus*, captured at five field locations in Ashanti region, Ghana, using aggregation pheromone, senesced banana leaf palm alcohol extract, pseudostem, and combinations thereof, in type TAL and Voltic traps. Also shown are the mean (± SE) per field and treatment over weeks, the weekly means over treatments, the mean total catch per field and the mean of weekly means per field.

(i) FIELD ONE (TAL trap)

| Week | Aggregation pheromone plus banana leaf extract | Banana leaf extract | Aggregation pheromone | Pseudostem plus banana leaf extract | Pseudostem | Mean±SE |
|---|---|---|---|---|---|---|
| 1 | 36 | - | 22 | 4 | 2 | 16±8.0 |
| 2 | 9 | - | 7 | 1 | 1 | 4.5±2.1 |
| 3 | 13 | - | 8 | 1 | 0 | 5.5±3.1 |
| 4 | 8 | 2 | 7 | 0 | 0 | 3.4±1.7 |
| 5 | 33 | 2 | 21 | 0 | 1 | 11.4±6.7 |
| 6 | 12 | 3 | 8 | 0 | 0 | 4.6±2.4 |
| 7 | 2 | 3 | 10 | 0 | 0 | 3.0±1.8 |
| 8 | 2 | 1 | 10 | 0 | 0 | 2.6±1.9 |
| 9 | 13 | 3 | 7 | 1 | 0 | 4.8±2.4 |
| 10 | 5 | 1 | 3 | 3 | 1 | 2.6±0.7 |
| 11 | 9 | 3 | 3 | 0 | 0 | 3.0±1.6 |
| 12 | 9 | 2 | 3 | 0 | 0 | 2.8±1.7 |
| **Total** | **151** | **20** | **109** | **10** | **5** | **59.0±29.8** |
| **Mean ± SE** | **12.58 ± 4.9** | **2.22 ± 0.4** | **9.08 ± 2.8** | **0.83 ± 0.6** | **0.42 ± 0.3** | **5.4±1.2** |

(ii) FIELD TWO (Voltic trap)

| Week | Aggregation pheromone plus banana leaf extract | Banana leaf extract | Aggregation pheromone | Pseudostem plus banana leaf extract | Pseudostem | Mean±SE |
|---|---|---|---|---|---|---|
| 1 | 18 | 2 | 7 | 0 | 0 | 5.4±3.4 |
| 2 | 5 | 1 | 2 | 0 | 1 | 1.8±0.9 |
| 3 | 5 | 1 | 3 | 5 | 1 | 3.0±0.9 |
| 4 | 3 | 1 | 2 | 1 | 1 | 1.6±0.4 |
| 5 | 12 | 1 | 4 | 6 | 2 | 5.0±1.9 |
| 6 | 7 | 2 | 4 | 1 | 0 | 2.8±1.2 |
| 7 | 37 | 11 | 10 | 4 | 2 | 12.8±6.3 |
| **Total** | **87** | **19** | **32** | **17** | **7** | **32.4±14.2** |
| **Mean± SE** | **12.43 ± 5.4** | **2.71 ± 1.6** | **4.57 ± 1.3** | **2.43 ± 1.1** | **1.00 ± 0.4** | **4.6 ± 1.5** |

(iii) FIELD THREE (TAL trap)

| Week | Aggregation pheromone plus banana leaf extract | Banana leaf extract | Aggregation pheromone | Pseudostem plus banana leaf extract | Pseudostem | Mean±SE |
|---|---|---|---|---|---|---|
| 1 | 27 | - | 21 | 0 | 0 | 12.0±7.1 |
| 2 | 19 | - | 6 | 4 | 1 | 7.5±4.0 |
| 3 | 9 | - | 7 | 4 | 0 | 5.0±2.0 |
| 4 | 11 | 6 | 4 | 0 | 0 | 4.2±2.1 |
| 5 | 12 | 4 | 7 | 2 | 0 | 5.0±2.1 |
| 6 | 24 | 4 | 16 | 0 | 0 | 8.8±4.8 |
| 7 | 4 | 1 | 1 | 1 | 0 | 1.4±0.7 |
| 8 | 16 | 4 | 5 | 11 | 5 | 8.2±2.3 |
| 9 | 10 | 1 | 2 | 2 | 0 | 3.0±1.8 |
| 10 | 11 | 2 | 3 | 0 | 1 | 3.4±2.0 |
| 11 | 24 | 5 | 9 | 3 | 1 | 8.4±4.1 |
| 12 | 13 | 3 | 5 | 2 | 1 | 4.8±2.2 |
| Total | 180 | 30 | 86 | 29 | 9 | 66.8±31.1 |
| Mean ± SE | 15.00 ± 3.2 | 3.33 ± 0.8 | 7.17 ± 2.6 | 2.42 ± 1.4 | 0.75 ± 0.6 | 6.0±0.9 |

(iv) FIELD FOUR (Voltic trap)

| Week | Aggregation pheromone plus banana leaf extract | Banana leaf extract | Aggregation pheromone | Pseudostem plus banana leaf extract | Pseudostem | Mean±SE |
|---|---|---|---|---|---|---|
| 1 | 53 | - | 42 | 2 | 2 | 24.8±13.3 |
| 2 | 48 | - | 26 | 3 | 1 | 19.5±11.1 |
| 3 | 19 | - | 11 | 1 | 1 | 8.0±4.4 |
| 4 | 26 | 5 | 3 | 1 | 0 | 7.0±4.8 |
| 5 | 9 | 1 | 2 | 2 | 0 | 2.8±1.6 |
| 6 | 74 | 12 | 23 | 1 | 0 | 22.0±13.7 |
| 7 | 17 | 2 | 8 | 0 | 1 | 5.6±3.2 |
| 8 | 36 | 4 | 17 | 0 | 0 | 11.4±6.9 |
| 9 | 24 | 3 | 10 | 1 | 0 | 7.6±4.5 |
| 10 | 17 | 2 | 4 | 1 | 0 | 4.8±3.1 |
| 11 | 65 | 13 | 34 | 2 | 0 | 22.8±12.2 |
| 12 | 45 | 9 | 17 | 1 | 2 | 14.8±8.1 |
| **Total** | **433** | **51** | **197** | **15** | **7** | **140.6±80.7** |
| **Mean ± SE** | **36.08 ± 9.3** | **5.67 ± 2.0** | **16.42 ± 5.7** | **1.25 ± 0.4** | **0.58 ± 0.4** | **12.6 ±2.3** |

(v) FIELD FIVE (Voltic trap)

| Week | Aggregation pheromone plus banana leaf extract | Banana leaf extract | Aggregation pheromone | Pseudostem plus banana leaf extract | Pseudostem | Mean±SE |
|---|---|---|---|---|---|---|
| 1 | 9 | 1 | 2 | 3 | 0 | 3.0±1.6 |
| 2 | 0 | 0 | 1 | 0 | 0 | 0.2±0.2 |
| 3 | 4 | 1 | 2 | 1 | 0 | 1.6±0.7 |
| 4 | 7 | 1 | 5 | 0 | 0 | 2.6±1.4 |
| 5 | 4 | 0 | 1 | 0 | 1 | 1.2±0.7 |
| **Total** | **24** | **3** | **11** | **4** | **1** | **8.6±4.2** |
| **Mean ± SE** | **4.80 ± 1.5** | **0.60 ± 0.3** | **2.20 ± 0.7** | **0.80 ± 0.6** | **0.20 ± 0.2** | **1.7±0.5** |