

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

Article

Accepted Version

Abagale, S. A., Braimah, H., Osafo-Acquaah, S., Powers, S. J., van Emden, H. F., Birkett, M. A., Pickett, J. A., Sanda, U. L. and Vuts, J. (2021) Field validation of senesced banana leaf extracts for trapping banana weevils on smallholder banana/plantain farms. *Journal of Applied Entomology*, 145 (1-2). pp. 26-35. ISSN 0931-2048 doi: <https://doi.org/10.1111/jen.12838> Available at <https://centaur.reading.ac.uk/93985/>

It is advisable to refer to the publisher's version if you intend to cite from the work. See [Guidance on citing](#).

To link to this article DOI: <http://dx.doi.org/10.1111/jen.12838>

Publisher: Wiley-Blackwell

All outputs in CentAUR are protected by Intellectual Property Rights law, including copyright law. Copyright and IPR is retained by the creators or other copyright holders. Terms and conditions for use of this material are defined in the [End User Agreement](#).

www.reading.ac.uk/centaur

CentAUR

Central Archive at the University of Reading

Reading's research outputs online

Table 4 Mean (\pm 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 (\pm 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 \pm SE
1	36	-	22	4	2	16 \pm 8.0
2	9	-	7	1	1	4.5 \pm 2.1
3	13	-	8	1	0	5.5 \pm 3.1
4	8	2	7	0	0	3.4 \pm 1.7
5	33	2	21	0	1	11.4 \pm 6.7
6	12	3	8	0	0	4.6 \pm 2.4
7	2	3	10	0	0	3.0 \pm 1.8
8	2	1	10	0	0	2.6 \pm 1.9
9	13	3	7	1	0	4.8 \pm 2.4
10	5	1	3	3	1	2.6 \pm 0.7
11	9	3	3	0	0	3.0 \pm 1.6
12	9	2	3	0	0	2.8 \pm 1.7
Total	151	20	109	10	5	59.0\pm29.8
Mean \pm SE	12.58 \pm 4.9	2.22 \pm 0.4	9.08 \pm 2.8	0.83 \pm 0.6	0.42 \pm 0.3	5.4\pm1.2

(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