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CORRIGENDUM

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SUSCEPTIBILITY OF *Oryctes rhinoceros* BEETLE TO TRUNK-INJECTED ACEPHATE AND TRUNK-IMPLANTED ACEPHATE CONTROLLED-RELEASE INSECTICIDE ON TALL PALMS VIA PETIOLE BIOASSAY

Meor Badli Shah Ahmad Rafie* & Samsudin Amit
R&D Crop Protection Section,
Plantation Research and Advisory Department,
SD Guthrie Research Sdn. Bhd.
(formerly known as Sime Darby Plantation Research Sdn Bhd),
KM 10, Jalan Banting-Kelanang,
P.O. Box 207,
42700 Banting,
Selangor Darul Ehsan, Malaysia
Corresponding author: meor.badli.shah@sdguthrie.com*

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ABSTRACT

The *Oryctes rhinoceros* beetle (ORB) poses a significant threat to the oil palm industry, especially to young palm trees. These ORBs feed on the cabbage and spear parts of the palms, causing substantial growth damage. Although ORB infestations are less common in fully-grown tall palms, they still occur, especially in fields adjacent to immature palms. The traditional method of using insecticide sprays has proven to be difficult and impractical due to the towering height of the palm trees. To address this challenge, a new approach was explored, which includes injecting acephate soluble powder insecticide (acephate SP) into the palm trunks and implanting acephate trunk-implant-controlled-release insecticide (acephate TIMCRI). The efficacy of this method was compared to the spraying application of cypermethrin and broadcasting application of carbofuran and carbosulfan granular insecticides using a petiole bioassay method. In the petiole bioassay, adult ORBs were forced to feed on frond petioles from treated and untreated palms, and subsequent mortality and borehole volume were assessed. The results demonstrated that all treatments, including acephate SP, acephate TIMCRI, cypermethrin, carbosulfan, and carbofuran, exhibited satisfactory corrected mean mortality above 75% on ORBs at 14 days after treatment (DAT). Only acephate TIMCRI controlled-release formulation at 22.5 g a.i. per palm was able to prolong the period of control up to 35 DAT. Considering the limited control options available for ORBs in tall palms, trunk injection treatment of acephate SP and trunk implantation of acephate TIMCRI could be valuable alternatives to pest management strategies for mitigating the threat of ORB infestations on tall and mature oil palm plantations.

1. RESULTS: Page 205, line 228
   Table 3. Mortality of the *Oryctes rhinoceros* Beetle……..Error in the alphabet letter labelling for mean separation in column 56 DAT.

Table 3. Mortality of the *Oryctes rhinoceros* Beetle

Treatment	Active Ingredient (a.i.)	Corrected Mean Mortality – Combined Male and Female *Oryctes rhinoceros Beetle* (ORB) (%) (Schneider-Orelli's formula) (After 7 Days of Force Feeding)					
(Insecticides & Formulation Type)	gram / palm	1 DAT	8 DAT	14 DAT	35 DAT	56 DAT	84 DAT
Acephate 75% w/w SP	15	37.78 ± 18.46 a[z]	37.78 ± 18.46 ab	88.89 ± 11.11 a	22.50 ± 9.19 b	55.00 ± 19.61 a	37.78 ± 18.46 a
Acephate 75% w/w SP	22.5	44.44 ± 0.00 a	37.78 ± 18.46 ab	88.89 ± 11.11 a	22.50 ± 9.19 b	15.00 ± 9.19 a	46.67 ± 15.87 a
Acephate 75% w/w SP	30	35.56 ± 8.89 a	26.67 ± 10.89 ab	88.89 ± 11.11 a	30.00 ± 7.50 b	47.50 ± 22.50 a	17.78 ± 10.89 a
Acephate TIMCRI 62.5 % w/w T	15	37.78 ± 18.46 a	40.00 ± 24.50 ab	88.89 ± 11.11 a	42.50 ± 16.11 b	55.00 ± 19.61 a	8.89 ± 8.89 a
Acephate TIMCRI 62.5 % w/w T	22.5	17.78 ± 10.89 a	80.00 ± 20.00 ab	77.78 ± 13.61 a	75.00 ± 15.31 a	42.50 ± 16.11 a	35.56 ± 8.88 a
Acephate TIMCRI 62.5 % w/w T	30	28.89 ± 19.75 a	26.67 ± 10.89 ab	88.89 ± 11.11 a	62.50 ± 15.31 b	15.00 ± 9.19 a	37.78 ± 18.46 a
Cypermethrin 5% w/w EC	0.15	28.89 ± 19.75 a	66.67 ± 13.61 ab	77.78 ± 13.61 a	47.50 ± 22.50 b	37.50 ± 0.00 a	26.67 ± 10.89 a
Carbosulfan 18.7% w/w SC	0.15	48.89 ± 22.39 a	26.67 ± 10.89 ab	77.78 ± 13.61 a	15.00 ± 9.19 b	50.00 ± 12.50 a	37.78 ± 18.46 a
Carbosulfan 18.7% w/w SC	0.30	8.89 ± 8.88 a	48.89 ± 22.39 ab	77.78 ± 13.61 a	27.50 ± 19.53 b	42.50 ± 16.11 a	8.89 ± 8.88 a
Carbosulfan 5% w/w G	0.06	35.56 ± 8.89 a	55.56 ± 11.11 ab	88.89 ± 11.11 a	47.50 ± 22.50 b	30.00 ± 7.50 a	26.67 ± 10.89 a
Carbosulfan 5% w/w G	0.24	17.78 ± 10.89 a	68.89 ± 20.31 ab	77.78 ± 13.61 a	62.50 ± 15.31 b	55.00 ± 19.61 a	28.89 ± 19.75 a
Carbofuran 3% w/w G	0.09	57.78 ± 19.05 a	37.78 ± 18.46 ab	77.78 ± 13.61 a	55.00 ± 19.61 b	30.00 ± 7.50 a	40.00 ± 24.50 a
Carbofuran 3% w/w G	0.36	20.00 ± 20.00 a	48.89 ± 22.39 ab	88.89 ± 11.11 a	30.00 ± 7.50 b	50.00 ± 12.50 a	28.89 ± 19.75 a
Untreated (Negative Conrol)	NA	0.00 ± 0.00 a	0.00 ± 0.00 b	0.00 ± 0.00 b	0.00 ± 0.00 c	0.00 ± 0.00 b	0.00 ± 0.00 b

Note:
*Cells highlighted in yellow indicated satisfactory corrected mean mortality above 75%
[z]Means within the same column followed by the same letter are not significantly different at P=0.05 based on Tukey HSD for each of the trials. All data were transformed into arcsine for statistical analysis and original data was used for presentation.