

PRECISION

DELIVERY SYSTEM

Featuring Doxem® Precise Dry Flowable Cockroach Bait

Doxem® Precise - Research Summary TAMU Efficacy

Doxem® Precise Dry Flowable Cockroach Bait
Efficacy of 3 rates of Doxem Precise on 3 public health cockroaches

OBJECTIVE

CSI entomologists wanted to determine the amount of bait needed to control each of 3 species of cockroaches of public health importance. This information was used to determine application rates for Doxem Precise.

CHOICE TEST - LABORATORY STUDY OF COCKROACH BAIT

Doxem Precise Dry Flowable bait was accessible to cockroaches at the same time as a preferred laboratory bait.

METHODS FOR COMPLETING THE TEST

This was a choice test conducted in plastic arenas measuring 29 X 15 cm with the interior coated to prevent cockroaches from escaping.

Three cockroach species were evaluated.

- German cockroaches (*Blattella germanica*)
- American cockroaches (*Periplaneta americana*)
- Oriental cockroaches (*Blatta orientalis*)

Ten adult, mixed sex cockroaches were placed into each arena. Each arena also contained a preferred cockroach harborage, lab diet to ensure bait palatability of the test bait, a water source. Cockroaches were allowed to acclimate to the arena for 72 hours before the test bait was introduced. All baits were evenly spread in Petri dishes and placed in the arenas. Seven replications of each treatment were completed. A total of over 1,000 individual cockroaches were used, with 350 individuals utilized for each species tested.

Three rates of Doxem Precise were tested:

- 0.05 g
- 0.075 g
- 0.15 g

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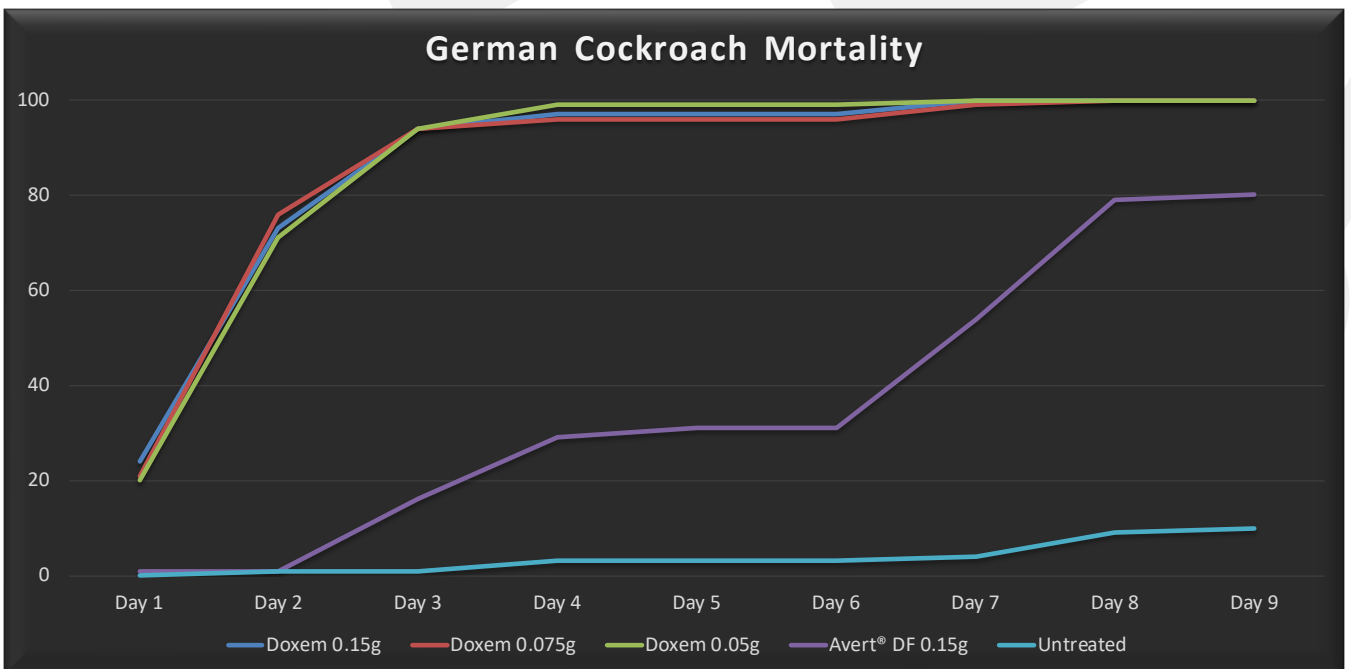
A single rate of 0.15 g of Avert Dry Flowable bait was tested; this rate was selected based on label directions for Avert Dry Flowable Bait.

After bait introduction, mortality was assessed daily for up to 14 d.

EFFICACY RESULTS

German Cockroach % Mortality									
TREATMENT	DAY 1	DAY 2	DAY 3	DAY 4	DAY 5	DAY 6	DAY 7	DAY 8	DAY 9
Doxem® 0.15g	24 a	73 a	94 a	97 a	97 a	97 a	100 a	100 a	100 a
Doxem® 0.075g	21 a	76 a	94 a	96 a	96 a	96 a	99 a	100 a	100 a
Doxem® 0.05g	20 a	71 a	94 a	99 a	99 a	99 a	100 a	100 a	100 a
Avert® DF	1 b	1 b	16 b	29 b	31 b	31 b	54 b	79 b	80 b
Untreated Control	0 b	1 b	1 c	3 c	3 c	3 c	4 c	9 c	10 c

*means followed by a different letter indicate statistical significance $p < 0.05$



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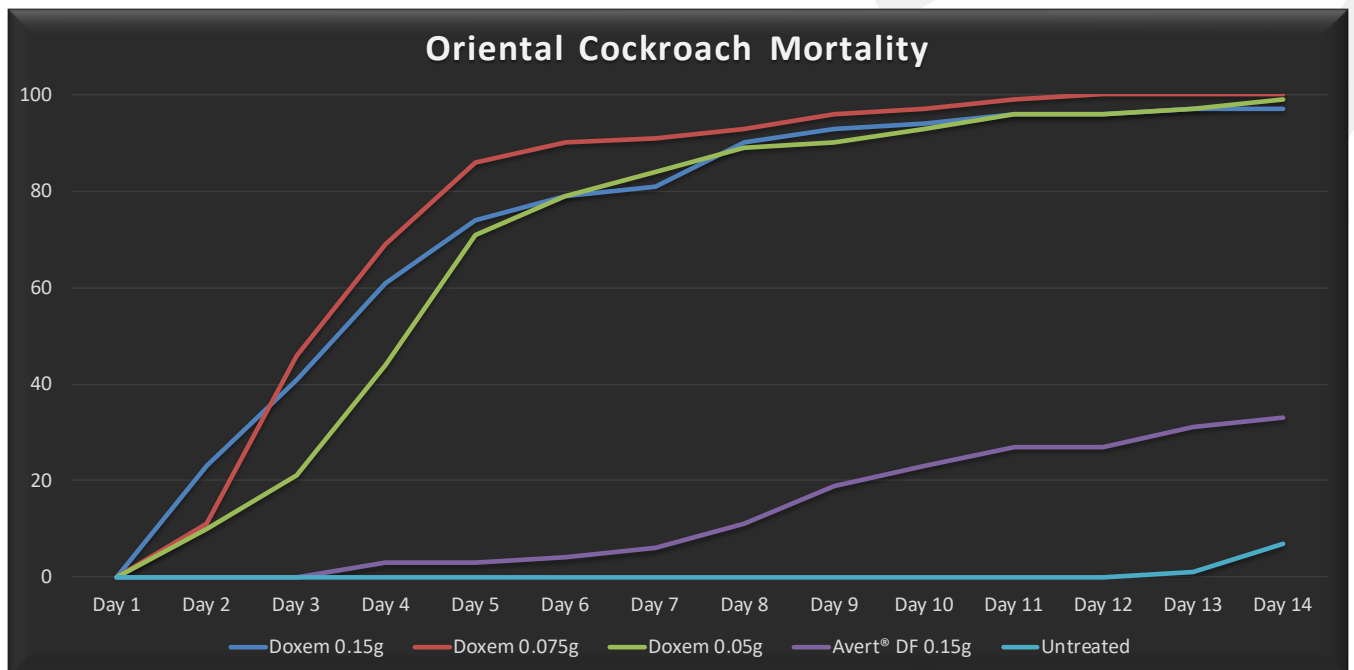
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Oriental Cockroach % Mortality

TREATMENT	DAY 1	DAY 2	DAY 3	DAY 4	DAY 5	DAY 6	DAY 7
Doxem [®] 0.15g	0	23 a	41 a	61 a	74 a	79 a	81 a
Doxem [®] 0.075g	0	11 ab	46 a	69 a	86 a	90 a	91 a
Doxem [®] 0.05g	0	10 ab	21 ab	44 a	71 a	79 a	84 a
Avert [®] DF	0	0 b	0 b	3 b	3 b	4 b	6 b
Untreated Control	0	0 b	0 b	0 b	0 b	0 b	0 b

TREATMENT	DAY 8	DAY 9	DAY 10	DAY 11	DAY 12	DAY 13	DAY 14
Doxem [®] 0.15g	90 a	93 a	94 a	96 a	96 a	97 a	97 a
Doxem [®] 0.075g	93 a	96 a	97 a	99 a	100 a	100 a	100 a
Doxem [®] 0.05g	89 a	90 a	93 a	96 a	96 a	97 a	99 a
Avert [®] DF	11 b	19 b	23 b	27 b	27 b	31 b	33 b
Untreated Control	0 b	0 c	0 c	0 c	0 c	1 c	7 c

*means followed by a different letter indicate statistical significance $p < 0.05$



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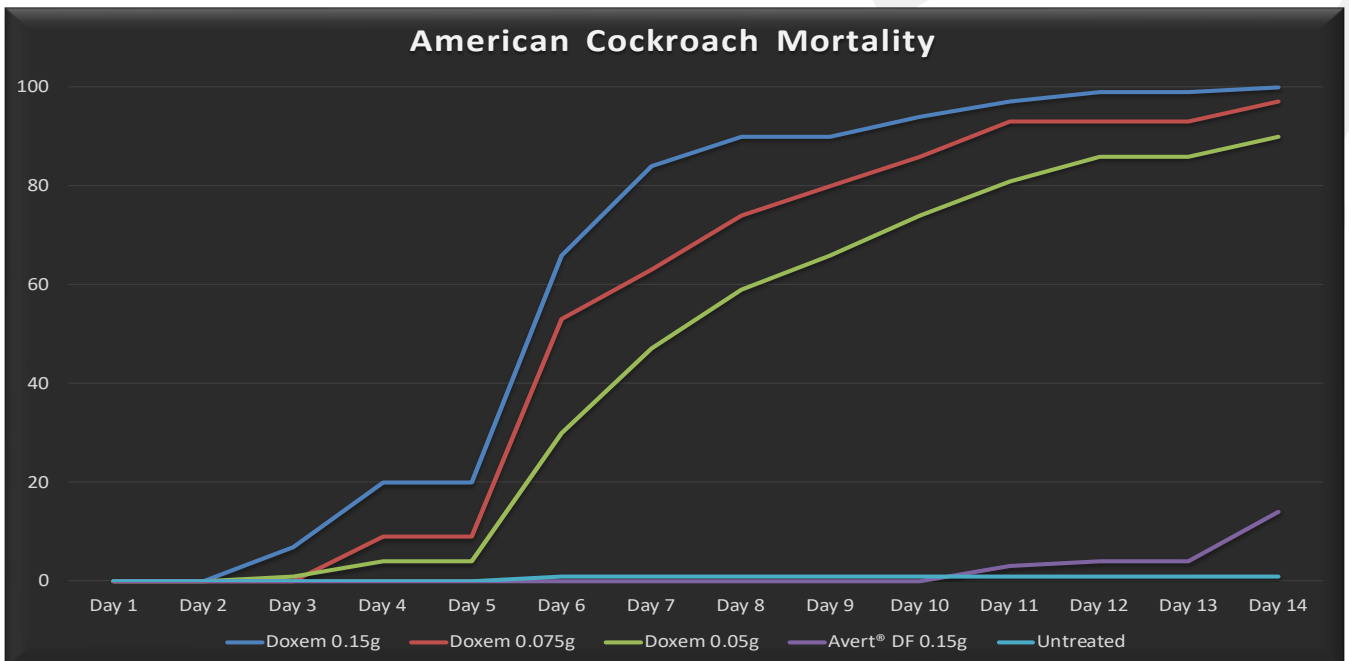
American Cockroach % Mortality

TREATMENT	DAY 1	DAY 2	DAY 3	DAY 4	DAY 5	DAY 6	DAY 7
Doxem® 0.15g	0	0	7 a	20 a	20 a	66 a	84 a
Doxem® 0.075g	0	0	0 b	9 ab	9 ab	53 ab	63 ab
Doxem® 0.05g	0	0	1 ab	4 b	4 b	30 b	47 b
Avert® DF	0	0	0 b	0 b	0 b	0 c	0 c
Untreated Control	0	0	0 b	0 b	0 b	1 c	1 c

TREATMENT	DAY 8	DAY 9	DAY 10	DAY 11	DAY 12	DAY 13	DAY 14
Doxem® 0.15g	90 a	90 a	94 a	97 a	99 a	99 a	100 a
Doxem® 0.075g	74 ab	80 ab	86 a	93 a	93 a	93 a	97 a
Doxem® 0.05g	59 b	66 b	74 a	81 a	86 a	86 a	90 a
Avert® DF	0 c	0 c	0 b	3 b	4 b	4 b	14 b
Untreated Control	1 c	1 c	1 b	1 b	1 b	1 b	1 b

*means followed by a different letter indicate statistical significance $p < 0.05$

American Cockroach Mortality



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CONCLUSIONS

1. Doxem Precise is highly effective against all three species of cockroaches used in this test.
2. Significant control of all species was reported. Greater than 90% mortality was achieved for all three species at all three rates of application for Doxem Precise.
3. Avert[®] Dry Flowable failed to reach greater than 80% control of any species

For More Information:

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