

DURIVO-CORAGEN DRENCH TEST – COLLARDS – HORTICULTURE FARM – 2009

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Introduction

A small plot trial was conducted to evaluate the efficacy and residual control of Durivo and Coragen, applied as a transplant drench and a row drench, against caterpillar pests of cole crops. This test was also intended to evaluate efficacy against whiteflies, but this pest did not appear in sufficient numbers until the test was near completion.

Materials and Methods

Plot size:

One row (36 inches) by 12 plants (planted with 1.5 foot in-row spacing).

Experimental design:

Randomized complete block design with 4 replications.

Treatments:

Durivo at 10.3 and 13 oz/ac applied as a Transplant Drench
Durivo at 10.3 and 13 oz/ac applied as a Row Drench
Coragen at 3.5, 5 and 7 oz/ac applied as a Transplant Drench
Coragen at 5 oz/ac applied as a Row Drench
Admire Pro at 7 oz/ac applied as a Transplant Drench
Non-treated Check

Application methods:

Transplant drench – designated treatment applied in 4 oz of water poured onto the rootball and into transplant hole. Rates were calculated based on the standard 1 foot in-row spacing (14520 plants per acre).

Row drench – designated treatment applied in 3 liters of water per plot. Poured on a roughly 4 inch band the length of the plot. Rates were based on area (36 inches by 18 feet).

Application date:

Plots were transplanted and treated on 29 July, 2009.

Insect counts:

Five randomly selected plants were visually examined in each plot on each sample date. All caterpillars observed were identified and counted.

Damaged plant counts:

All plants in each plot were visually observed for feed damage by caterpillars. All plants with moderate to severe feeding damage (obvious holes through leaves) were counted.

Statistical analyses:

Data were analyzed with the PROC ANOVA procedure of PC-SAS. Where significant differences were detected ($P < 0.05$), means were separated with LSD ($P = 0.05$).

Results and Discussion

Admire Pro provided no effect on caterpillar populations or feeding damage. This treatment was included as a standard for whitefly, which was not occur in sufficient populations for evaluation.

All of the Durivo and Coragen treatments provided good control of caterpillars and reductions in damage through roughly 30 days after treatment. The row drench treatments provided shorter residual control than the transplant drench treatments. Row drench treatments began “playing out” at 30 to 35 days after treatment; transplant drench treatments began “playing out” at over 40 days after treatment. Rate of product affected residual control, with higher rates providing longer residual: however, differences did not appear within the transplant treatments until after 45 days after treatment.

Overall, it appears that application method had a greater effect on residual control than rate.

Durivo-Coragen Drench Test, Horticulture Farm, Tifton, Georgia, 2009.

Treatment	Drench method	Number of larvae (all species) per 5 plants							
		6 Aug	13 Aug	19 Aug	26 Aug	31 Aug	3 Sept	8 Sept	15 Sept
		8 DAT	15 DAT	21 DAT	28 DAT	33 DAT	36 DAT	41 DAT	48 DAT
Check		0.00 a	0.00 a	0.25 a	4.00 b	8.25 a	9.50 a	13.25 a	88.00 a
Admire Pro	Transplant	0.00 a	0.00 a	0.75 a	5.75 a	7.25 a	10.75 a	15.50 a	85.25 a
Durivo 10.3 oz	Transplant	0.00 a	0.00 a	0.25 a	0.25 c	0.00 c	0.25 bc	0.50 de	14.75 c
Durivo 13oz	Transplant	0.00 a	0.00 a	0.00 a	0.00 c	0.00 c	0.00 c	0.00 e	9.25 c
Durivo 10.3oz	Row	0.00 a	0.00 a	0.00 a	0.50 c	2.75 b	3.25 b	9.50 b	83.25 a
Durivo 13oz	Row	0.00 a	0.00 a	0.25 a	0.00 c	2.00 bc	2.75 bc	5.50 c	70.25 ab
Coragen 3.5oz	Transplant	0.00 a	0.00 a	0.00 a	0.00 c	0.00 c	0.25 bc	0.50 de	51.75 b
Coragen 5oz	Transplant	0.00 a	0.00 a	0.00 a	0.00 c	0.00 c	0.00 c	0.50 de	13.25 c
Coragen 7oz	Transplant	0.00 a	0.00 a	0.00 a	0.00 c	0.25 bc	0.00 c	0.00 e	9.50 c
Coragen 5oz	Row	0.00 a	0.00 a	0.25 a	0.25 c	1.25 bc	2.50 bc	4.00 cd	83.50 a

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Treatment	Drench method	Number of plants per plot with moderate or severe feeding damage				
		24 Aug	27 Aug	7 Sept	11 Sept	16 Sept
		26 DAT	29 DAT	38 DAT	42 DAT	47 DAT
Check		6.75 b	7.25 b	10.75 a	11.00 ab	11.00 ab
Admire Pro	Transplant	9.25 a	9.50 a	11.75 a	12.00 a	12.00 a
Durivo 10.3 oz	Transplant	0.25 c	0.75 cd	0.75 d	1.75 de	9.00 c
Durivo 13oz	Transplant	0.25 c	0.50 cd	0.25 d	1.00 e	7.25 d
Durivo 10.3oz	Row	1.00 c	1.75 c	8.25 b	10.50 ab	11.75 a
Durivo 13oz	Row	0.75 c	1.00 cd	7.25 bc	10.25 bc	12.00 a
Coragen 3.5oz	Transplant	0.75 c	0.00 d	1.50 d	3.00 d	9.75 bc
Coragen 5oz	Transplant	0.25 c	0.25 d	1.00 d	0.75 e	9.25 c
Coragen 7oz	Transplant	0.50 c	0.25 d	0.75 d	1.00 e	6.25 d
Coragen 5oz	Row	0.25 c	0.75 cd	5.75 c	8.75 c	11.50 a