

## EFFICACY OF PECAN ORCHARD FLOOR TREATMENT FOR THE SUPPRESSION OF THE RED IMPORTED FIRE ANT

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Few insecticide products are registered for suppression of red imported fire ants, *Solenopsis invicta* Buren, in pecan orchards. Chlorpyrifos-containing products, Lorsban® 4E, 50wp and Lorsban® 15G, are currently registered at a rate of 1 pound active ingredient per acre in bearing pecan orchards. This demonstration was conducted to provide documentation of the effectiveness of using Lorsban 50WP and 4E for fire ant suppression.

### Materials and Methods

This demonstration was conducted in the 33 acre Komensky Orchard containing primarily the pecan variety 'Choctaw'. No mechanical harvesting machinery was used in this operation. Thus, the crop was allowed to remain on the orchard floor for up to a week prior to harvest. Tree spacing is 35 feet. On 29 September 1990, plots were established and three treatments were applied: 1) 3 lb. Lorsban® 50WP/30 gal./acre; 2) 3 lbs. Lorsban® 50WP + 1 pint Lorsban® 4E/30 gals./acre; 3) Untreated Check plot.

On 17 and 30 October, red imported fire ant activity was monitored using ten 1 in. x 1 in. olive oil-soaked index cards placed on the ground along the transect lines through treatment plots for approximately 1 hour. The number of ants associated with each card was estimated.

By October 30, 1990, we had been informed that a portion of this orchard had been treated with Logic® (fenoxycarb) in 1989. Since Logic has been reported to have effects lasting for up to two years, oil-soaked cards were placed in transect lines in an area of the orchard that had been treated with Logic® in 1989 and Lorsban in 1990, and one which had never been treated. Results were analyzed using the Student's t test (P # 0.05).

### Results and Discussion

Red imported fire ant activity, as indicated by the average (mean) number of ants attracted to oil-soaked cards, in Lorsban® treated plots was significantly reduced 18 days following application:

Untreated Check :  $74.0 \pm 27.4$  S.D.

3lbs. Lorsban WP:  $0.3 \pm 9.5$

3 lbs. Lorsban WP + 1 pint Lorsban 4E: 0.0

Results from the 30 October (31 days after Lorsban application) fire ant monitoring efforts document suppression of ant numbers in the area of the orchard treated with Logic in 1989. Added suppression of ant foraging was noted in Lorsban-treated plots:

		<b>N</b>	<b>t</b>	<b>P#</b>	<b>d.f.</b>
Untreated control:	$45.00 \pm 15.81$	10	-2.13	0.02	18
Logic (1989):	$25.4 \pm 24.4$	10			
Logic (1989):	$25.4 \pm 24.4$	10	-3.00	0.00	18
Lorsban (19901) + Logic (1989):	$2.0 \pm 3.16$	10			