COMPARISON OF EXPERIMENTAL ALTACOR INSECTICIDE VERSES INTREPID FOR PECAN NUT CASEBEARER CONTROL

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SUMMARY:

The experimental insecticide Altacor (chlorantraniliprole) applied at two rates (2 and 3 oz/acre) compared to the standard grower treatment of Intrepid 2F (methoxyfenozide) insecticide applied at 8 oz/acre proved to provide equal control of the Pecan Nut Casebearer in pecans and all treatments were significantly different from no control in replicated trial.

OBJECTIVE:

To evaluate the experimental chemistry and product Altacor as an insecticide in comparison to Intrepid 2F insecticide for control of Pecan Nut Casebearer in a commercial pecan orchard.

MATERIALS and METHODS:

On May 9, 2008, twelve trees out of a 257 tree, 17 acre pecan orchard that was 18 years old were selected for this demonstration due to their evidence of adequate nutlets forming resulting in an "on year" crop. The trees in the orchard were monitored for pecan nut casebearer using pecan nut pheromone lures and Trece Pherocon VI glue traps placed throughout the orchard as well as daily evaluation of nutlets for pecan nut casebearer eggs and bud and nut entries.

The experimental insecticide Altacor (chlorantraniliprole) applied at two rates (2 and 3 oz/acre) was compared with standard grower treatment of Intrepid 2F (methoxyfenozide) insecticide applied at 8 oz/acre and an untreated check. Each treatment was replicated three times applying the treatment on three trees, one tree per replication, randomly select from the 12 trees. Insecticides were applied by a tractor driven three-point hitch mounted Air Row Mist Blower calibrated to deliver 9.5 gallons/acre at 45 pounds/square inch pressure. Applications were made on two sides of the trees. Temperature at application was 84 degrees with a south wind at 8 mph. Humidity was 87 percent. Tree height was 15 – 20 feet tall.

Pecan nut casebearer infestations were monitored with pheromone traps and also by visual egg and infestation counts from April 3, 2008 until the recommended spray threshold was met. The pecan trees were evaluated on May 22, 2008 or 13 days after treatment noting percent bud entry and percent nut entry by observing at least 50 nutlets per tree.

RESULTS and DISCUSSIONS:

The pecan nut casebearer infestation was significant within the pecan orchard as noted by the pecan nut casebearer moth trap catches and egg and larvae feeding counts taken prior to the spray date (See Table 1). The threshold level to spray for the pecan nut casebearer was reached on May 6, 2008 and the treatments were applied as soon as possible on May 9, 2008.

The Pecan Nut Casebearer Forecast System website **http://pncforecast.tamu.edu/** was used with local trap catch data from this site and local temperatures to provide information about pecan nut casebearer activity. Generated prediction dates when first generation eggs

were expected to be found in the orchard and the date when PNC larvae first begin to feed on pecan nutlets are listed in Table 2. Data from the website recommended to begin scouting on May 5th at 25 percent oviposition date and entries were found on the day after, May 6, 2008. It also showed first significant nut entry to be on May 13, 2008 but local orchard scouting proved that to be earlier in this orchard, on May 6, 2008.

Comparison of PNC entry in the bud and in the nutlet monitored 13 DAT showed a significant difference in bud and nut entries for all treatments as compared to the untreated check but no difference between the treatments (See Table 3). Graphs 1 and 2 further depict the results.

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DISCLAIMER CLAUSE:

Trade names of commercial products used in this report are included only for better understanding and clarity. Reference to commercial products or trade names is made with the understanding that no discrimination is intended and no endorsement by the Texas A&M University System is implied. Readers should realize that results from one experiment do not represent conclusive evidence that the same response would occur where conditions vary.

Table 1. Pecan Nut Casebearer Moth Trap Catches and Egg and Larvae Feeding Counts. Ronnie Otto, Cooperator, Victoria County, TX 2008.

Date	**Casebearer Moth Catches** [1/]		**# Eggs or Larvae Feeding/100 clusters**					
	Daily Total	**Cumulative Total**	# white	# pink	# hatched	# bud feeding	# nut entries	**Total %** infestation
Apr 22 (Tue)	-	-	-	-	-	-	-	-
Apr 23 (Wed)	0	0	-	-	-	-	-	-
Apr 24 (Thur)	4	4	-	-	-	-	-	-
Apr 25 (Fri)	4	8	-	-	-	-	-	-
Apr 26 (Sat)	3	11	-	-	-	-	-	-
Apr 27 (Sun)	17	28	-	-	-	-	-	-
Apr 28 (Mon)	0	28	-	-	-	-	-	-
Apr 29 (Tue)	0	28	-	-	-	-	-	-
Apr 30 (Wed)	19	47	0	0	0	0	0	0
May 1 (Thur)	6	53	-	-	-	-	-	-
May 2 (Fri)	6	59	0	0	0	0	0	0
May 3 (Sat)	12	71	-	-	-	-	-	-
May 4 (Sun)	19	90	-	-	-	-	-	-
May 5 (Mon)	8	98	-	-	-	-	-	-
May 6 (Tue)	8	106	1	3	1	3	2	10 [2/]

[1/] Results of moth catches on 6 pheromone traps in the orchard.
[2/] Met the recommended control threshold level of greater than 2 % infestation; recommended to spray as soon as possible.

Table 2. Pecan Nut Casebearer prediction dates from the Pecan Nut Forecast System website l http://pncforecast.tamu.edu/ based on local trap catches and temperature. Ronnie Otto, Cooperator, Victoria County, TX 2008.

Forecasted Event Dates [1/]	
Percent Oviposition	**Date**
10%	2-May
25%	5-May
50%	8-May
75%	10-May
90%	13-May
Predicted First Nut Entry	13-May

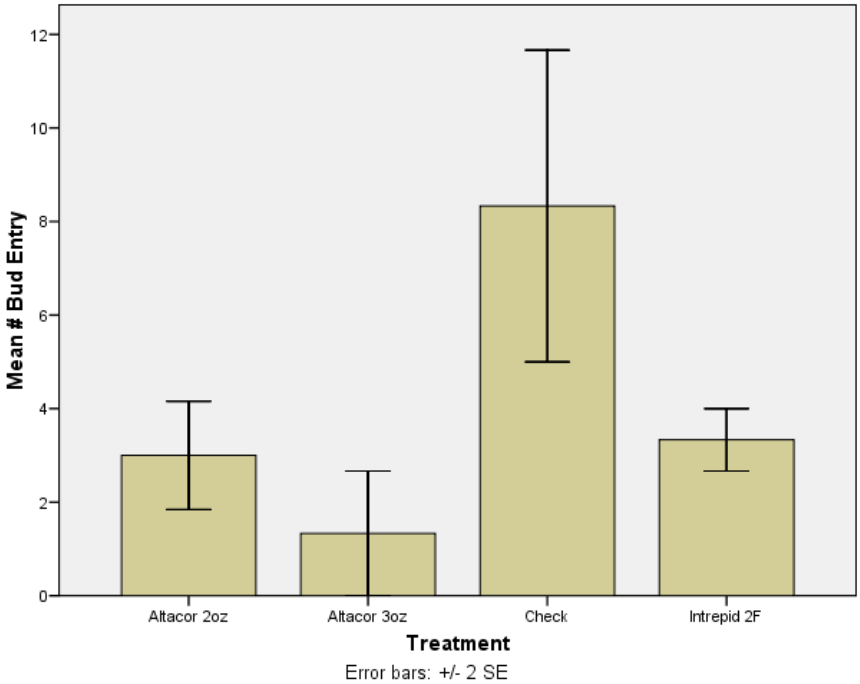
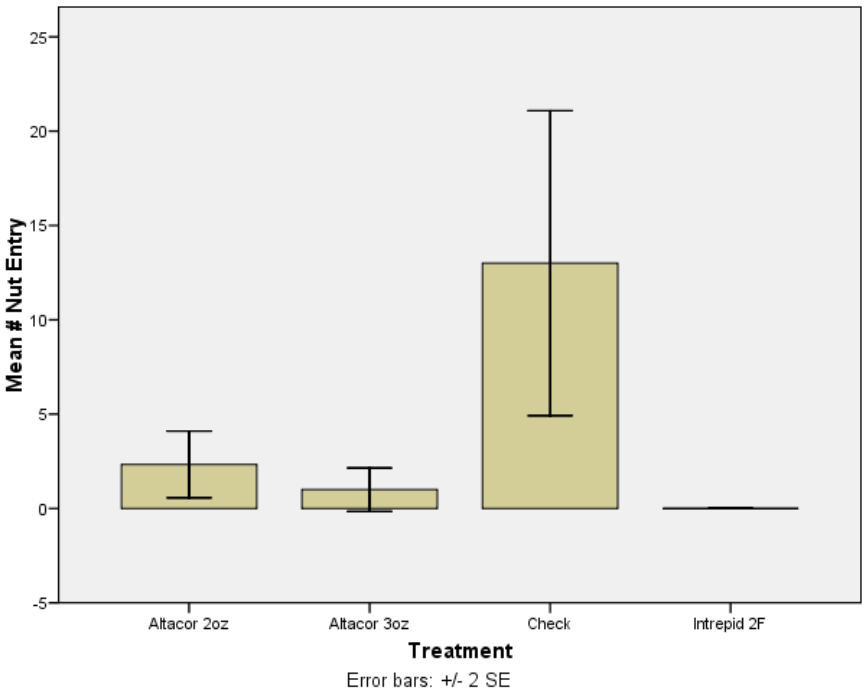
[1/] Based on first PNC moth catch of April 4, 2008 and local temperatures.

Table 3. Comparison of Experimental Altacor Insecticide Verses Intrepid 2F for Pecan Nut Casebearer Control. Ronnie Otto, Cooperator, Victoria County, TX 2008.

Treatment	Application Rate Oz/acre	Evaluation 13 DAT [1/]	
		% Bud Entry	% Nut Entry
Altacor	2	6 a	4 a
Altacor	3	3 a	2 a
Intrepid 2F	8	6 a	0 a
Check	-	18 b	27 b

[1/] Means followed by same letter do not significantly differ (P=.05, Tukey's HSD).

Graph 1. Comparison of experimental Altacor insecticide verses Intrepid 2F for Pecan Nut Casebearer control and resulting bud entry. Ronnie Otto, Cooperator, Victoria County, TX 2008.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