

## CORN IN-FURROW INSECTICIDE EVALUATION: INSECT NUMBERS AND YIELD

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**ABSTRACT:** Four treatments including untreated seed, Lorsban 15G at planting, Counter 20G at planting, and a foliar treatment as-needed were evaluated for seedling corn pest management in small plots during the summer of 2001 at the North Mississippi Research and Extension Center, Verona, MS. Cutworm and seed corn maggot were not present in pest numbers, and chinch bug populations developed slowly and erratically throughout the test area. No foliar applications were made. No significant differences in chinch bug numbers occurred between treatments. Yield was not affected by treatment.

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**MATERIALS AND METHODS:** Corn, variety Pioneer 3223, was planted at the rate of 28,000 seed per acre on April 2, 2001. Prior to planting the land was paratilled (December 8, 2000) and rolled with a bed roller (December 12, 2000). The planting method was no-till. A preemergence application of Gramaxone (paraquat) + atrazine + surfactant at 0.47 + 2.0 lb ai/ac + 0.4 pt/ac was made on April 2, 2001. On May 14, 2001, Evik (ametryn) + surfactant at 1.13 lb ai/ac was applied post direct broadcast to complete the weed control applications. Treatments included an untreated check, Lorsban 15 G (chlorpyrifos) at 1.3 lb ai/ac, Counter 20G (turfufos) at 1.5 lb ai/ac, and a foliar treatment if needed. Plots were harvested September 12, 2001 with a plot combine.

Sampling included excavating 10 seed per plot to find evidence of corn seed maggot. After emergence, 10 plants were chosen at random on each sampling date and examined for cutworms and chinch bugs.

**RESULTS AND DISCUSSION:** Corn came to a stand averaging 10.9 plants per 10 row-ft. Chinch bugs were found in the plots beginning on April 26, and increased over time. Immatures appeared on May 18, and were significantly lower in numbers on that date in plots treated with Counter 20G than in plots with no treatment or with the Lorsban 15G treatment. Counts were erratic as the insects moved within the plots and the only other date when significant differences appeared was July 6. On that date the Lorsban 15G treatment had significantly more chinch bug nymphs than the other treatments. It appears as though the efficacy of that compound lapsed by May 18 when numbers of nymphs in the Lorsban 15G treated plots did not differ from that of the untreated check plots. The foliar treatment was not made because threshold (20% of plants with 5 bugs or more) was not reached. Following May 30, numbers decreased in all plots and sampling was terminated. Chinch bug sampling results are presented in Table 1. There were no significant differences in yield ( $p=0.05$ ) (Table 2).

**Table 1.** Chinch bugs per 10 plants.

Treatment / rate	April 17 Adults	April 26 Adults	May 7 Adults	May 18 Adults	May 18 Nymphs	May 30 Adults	May 30 Nymphs	July 06 Adults	July 06 Nymphs
Untreated	0.0	0.2	1.8	1.0	11.5 a	8.2	30.0	6.8	6.8 bc
Foliar as needed	0.0	0.0	1.8	1.0	17.2 a	3.0	13.8	0.5	6.2 b
Counter 20 G 1.5 lb ai/ac	0.0	0.5	0.5	.8	1.8 b	4.8	4.8	1.0	1.5 c
Lorsban 15G 1.3 lb ai/ac	0.0	0.2	2.2	.2	9.5 a	5.0	9.5	1.8	25.5 a
LSD		NS	NS	NS	<b>8.55</b> <sup>1</sup>	NS	NS	NS	<b>13.6</b>
Treatment p>F		0.54	0.43	0.76	<0.01	0.91	0.44	0.07	0.03

Means within a column not sharing a common letter differ significantly (LSD; p=0.05)

<sup>1</sup>Data in columns with LSD in bold print were transformed with the Log transformation prior to analysis.

**Table 2.** Yield in bu/ac.

Treatment / rate	Moisture percent	Yield bu/ac
Untreated	13.95	133.6
Foliar as needed	13.98	127.33
Counter 20 G 1.5 lb ai/ac	13.98	136.95
Lorsban 15G 1.3 lb ai/ac	13.9	138.02
LSD	0.218	7.085
Treatment p>F	0.9051	0.0816