

Table 3. Evaluation of stem borer insecticides. Ganado, TX. 2006

Trt. #	Description	Rate [lb (AI)/acre]	Timing	 ^a WHs/4 rows	Yield (lb/acre)
1	Untreated	—	—	26 a	6927
2	X	low rate	LB/H ^b	6 de	7393
3	X	high rate	LB/H	2 g	7774
4	Orthene 90S	0.5	1  2" P ^c	21 ab	6947
5	Orthene 90S	0.5	1-2" P + LB/H	15 bc	7229
6	Y (Seed treatment)	—	—	29 a	6803
7	Mustang Max	0.018	1  2" P	5 ef	7354
8	Mustang Max	0.025	1  2" P	13 bc	7172
9	Mustang Max	0.018 + 0.018	1  2" P+LB/H	2 fg	7670
10	Mustang Max	0.025 + 0.025	1  2" P+LB/H	1 g	7482
11	Karate Z	0.03	1  2" P	11 cd	7215
12	Karate Z	0.03 + 0.03	1  2" P+LB/H	1 g	7616
					NS

^a WHs = whiteheads.

^b LB/H = late boot/early heading.

^c 1-2"P = 1 - 2 inch panicle.

Means in a column followed by the same or no letter are not significantly different (NS) at the 5% level (ANOVA and LSD).

► Impact Of Herbicide Drift On Rice

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Four studies were conducted at the LSU AgCenter Rice Research Station near Crowley, Louisiana in 2005 and 2006 to evaluate the effects of simulated herbicide drift on 'Cocodrie' rice. The experimental design for each study was an augmented two-factor factorial with a nontreated added for comparison. Factor A consisted of herbicide rate. The herbicides were applied at drift rates of 12.5 and 6.3% of the labeled usage rate of glyphosate as 22 oz/A of Roundup WeatherMax (2.8 and 1.4 oz/A, respectively), glufosinate as 24 oz/A of Ignite (3 and 1.5 oz/A, respectively), imazamox as 5 oz/A of Beyond (0.63 and 0.31 oz/A, respectively), and imazethapyr as 4 oz/A of Newpath (0.5 and 0.25 oz/A, respectively). Each application was made with the carrier volume varying proportionally to herbicide dosage based on a carrier volume rate of 25 GPA. The 12.5% herbicide rate was applied with a carrier volume of 3.1 GPA and the 6.3% herbicide rate was applied with a carrier volume of 1.6 GPA. Each application was made with a CO₂ pressurized sprayer calibrated to deliver a constant carrier volume and speed was adjusted to vary application rate. Each herbicide was evaluated in a separate study. Factor B consisted of application timings at different growth stages: 1-tiller (TR) only in 2006, panicle differentiation (PD), boot (BT), and physiological maturity (PM). Rice plant height at 21 days after treatment (DAT) and rough rice yield for the primary crop in both years and ratoon crop in 2005 was obtained. Primary and ratoon crop yield in 2005 were combined as total rice yield. All data are presented as percent of the nontreated.

At 21 DAT, rice plant height was 70 to 89% of the nontreated regardless of Roundup application rate at PD and BT in 2005 and 2006. Rice treated with Roundup at 2.8 oz/A applied at PD and BT had a primary crop yield of 32 to 39% of the nontreated in 2005. A similar yield reduction was observed with the 1.4 oz/A applied at BT. However, the reduced rate applied at PD in 2005 resulted in a primary crop yield of 62% of the nontreated. In 2006, rice treated with Roundup at 2.8 oz/A at TR, PD, and BT had primary crop yields of 66, 65, and 54% of the nontreated, respectively. The reduced rate applied to rice at PD and BT in 2006 resulted in a primary crop yield of 75 to 81% of the nontreated. In 2005, rice treated with Roundup applied at

BT had an increased ratoon rice yield. Roundup applied at BT resulted in excess tiller production which did not produce a panicle in the primary crop; however, a panicle was produced in the ratoon crop on these tillers resulting in a yield increase. However, total rice yield in 2005 was approximately 55% of the nontreated regardless of Roundup rate at the PD and BT timings. No response was observed when rice was treated at PM.

At 21 DAT, rice plant height was not affected with Ignite at 3 oz/A and 1.5 oz/A applied at PD, BT, or PM. Rice treated with Ignite with 1.5 and 3 oz/A had a primary crop yield of 75 to 80% of the nontreated and an increased ratoon crop yield in 2005. However, in 2005, rice treated with Ignite at BT resulted in a total crop yield of 83 to 88% of the nontreated, regardless of rate. Little or no response was observed with Ignite applied to rice at PD or PM compared with the nontreated in 2005. In 2006, rice treated with Ignite at 1.5 and 3 oz/A at PD and BT had a primary crop yield of 82 to 92% of the nontreated.

At 21 DAT, little to no difference was observed for rice plant height when rice was treated with Beyond in 2005 and 2006. Rice treated at BT with Beyond at 0.63 and 0.31 oz/A had a primary crop yield of 16 and 30% of the nontreated, respectively, and an increased ratoon crop yield in 2005. This was similar to the results observed with rice treated with Roundup in 2005. However, Beyond applied at BT resulted in a total crop yield of 48 to 54% of the nontreated, regardless of rate. Rice treated with Beyond at 0.63 oz/A at PD had a total crop yield of 92% of the nontreated in 2005 and 75 and 56% of the nontreated when applied at PD and BT, respectively, in 2006. Little or no response on yield was observed when Beyond was applied to rice at PM in either year. At 21 DAT, rice plant height was 80 to 92% of the nontreated when Newpath was applied at 0.25 and 0.5 oz/A at PD and BT in 2005; however, in 2006 no difference in rice plant height was observed regardless of rate or timing. Rice treated with Newpath at PD had a primary crop yield of 84 and 93% of the nontreated and a ratoon crop yield of 64 and 89% of the nontreated, regardless of rate in 2005. Rice treated at BT with both rates of Newpath had a yield response similar to those observed with Beyond in 2005. In 2006, rice treated with Newpath at 0.5 oz/A applied at PD and BT had a primary crop yield of 48 to 61% of the nontreated. Newpath applied at 0.25 oz/A to rice at TR and PD resulted in a primary crop yield of 80 to 86% of the nontreated. No difference was observed for rice treated at PM with Newpath at both rates in both years.

Drift of any herbicide evaluated in these studies can be detrimental to rice. The primary rice crop yield was reduced by all herbicides when a drift event occurred to the main crop in the PD or BT stage. A drift event to rice at PM was not as detrimental when compared with drift at the PD or BT stage.

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