SUGARCANE RIPENERS

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Response of HoCP 14-885 to Glyphosate Ripener

A study was conducted in 2021 at the Sugar Research Station in St. Gabriel, LA to evaluate the response of HoCP 14-885 to glyphosate ripener. The experimental design was a randomized complete block design with 3 replications, and the plot size was two rows wide (12 ft.) X 40 ft. in length. Roundup PowerMax3 at 5 oz./A was applied with a tractor mounted boom to plantcane on August 18, 2021. An untreated check was included for comparison. A hand-cut, 10-stalk sample from each plot was harvested at 7, 21, 28, and 35 days after treatment (DAT) and samples were processed using Spectra Cane NIR to determine theoretical recoverable sugar (TRS, lb per ton of cane). TRS was at least 23% higher than the untreated check for all observations (Table 1).

Table 1. HoCP 14-885 response to glyphosate ripener in St. Gabriel, LA in 2021

Treatment[1]	Rate/A	TRS Baseline (lb/ton)	TRS 7 DAT (lb/ton)	TRS 21 DAT (lb/ton)	TRS 28 DAT (lb/ton))	TRS 35 DAT (lb/ton)
RU PowerMax3	5 oz.	134	191	237	272	293
Untreated check		134	149	169	222	226
% Increase above check		-	28	29	23	30

[1] Roundup PowerMax3 applied August 18, 2021.

Ripening Efficacy of GR-3206

A study was conducted in 2021 at the Sugar Research Station in St. Gabriel, LA to evaluate the efficacy of the numbered compound GR-3206 as a sugarcane ripener. The experimental design was a randomized complete block design with 4 replications, and the plot size was two rows wide (12 ft.) X 40 ft. in length. On August 16, 2021, treatments were applied using a tractor mounted boom to plantcane L 01-299. Treatments included GF-3206 at 1.36, 2.73, 4.10, and 5.46 oz/A and Roundup PowerMax3 at 5 oz/A. An untreated check was included for comparison. A hand-cut, 10-stalk sample from each plot was harvested at 29, 44, and 59 days after treatment (DAT) and was processed using Spectra Cane NIR to determine theoretical recoverable sugar (TRS, lb per ton of cane). Plots were harvested following the 59-day sampling on October 26, 2021 with a sugarcane chopper harvester and were loaded into a wagon equipped with load cells, and the weight of each plot was recorded. TRS levels for the GF-3206 treatments were similar to the untreated check for all sampling dates; however, the Roundup PowerMax3 treatment significantly increased TRS above the check and GF-3206 for all observations (Table 2). Cane yield was significantly reduced for the Roundup PowerMax3 treatments as compared to both the check and GF-3206 treatments and no differences in sugar yield was noted among the treatments (Table 3). Shoot reemergence counts were made 19 days after harvest and the Roundup PowerMax3 treatment had significantly more shoots per acre than the untreated check or GF-3206 treatments.

Table 2. Theoretical recoverable sugar (TRS) response of plantcane L 01-299 to the numbered compound GR-3206 in St. Gabriel, LA in 2021

Treatment[1]	Rate/A	TRS 29 DAT[2] (lb/ton)	TRS 44 DAT (lb/ton)	TRS 59 DAT (lb/ton)
GF-3206	1.36 oz	158 b[3]	168 b	198 b
GF-3206	2.73 oz	151 bc	168 b	201 b
GF-3206	4.10 oz	145 bc	172 b	203 b
GF-3206	5.46 oz	151 bc	162 b	200 b
Roundup PowerMax3	5.0 oz	185 a	222 a	244 a
Untreated Check		133 c	173 b	188 b

[1] Treatments applied August 16, 2021.
[2] Days after treatment.
[3] Means within a column followed by the same lowercase letter are not significantly different at P=0.05.

Table 3. Cane yield, sugar yield and shoot reemergence of plantcane L 01-299 to the numbered compound GR-3206 in St. Gabriel, LA in 2021

Treatment[1]	Rate/A	Cane Yield[2] 59 DAT[3] (ton/A)	Sugar Yield 59 DAT (lb/A)	Shoots 19 DAH[5] (no/A)
GF-3206	1.36 oz	40.6 a[4]	7,981 a	51,981 b
GF-3206	2.73 oz	41.2 a	8,298 a	52,707 b
GF-3206	4.10 oz	43.7 a	8,854 a	46,421 b
GF-3206	5.46 oz	42.2 a	8,429 a	54,695 b
Roundup PowerMax3®	5.0 oz	35.9 b	8,720 a	73,224 a
Untreated Check		41.7 a	7,837 a	52,543 b

[1] Treatments applied August 16, 2021.
[2] Harvested October 26, 2021.
[3] Days after treatment.
[4] Means within a column followed by the same lowercase letter are not significantly different at P=0.05.
[5] Days after harvest.

GlucoPro in Combination with Glyphosate

A study was conducted in 2021 at the Sugar Research Station in St. Gabriel, LA to evaluate the GlucoPro in combination with Glyphosate. The experimental design was a randomized complete block design with 3 replications, and the plot size was two rows wide (12 ft.) X 30 ft. in length. Treatments were applied using a tractor mounted boom to plantcane L 01-299 on August 27, 2021. Treatments included Roundup PowerMax3 at 5 oz + GlucoPro at 10 oz/A, Roundup PowerMax3 at 5 oz + GlucoPro at 20oz/A, and Roundup PowerMax3 at 5 oz/A, as well as an untreated check. A hand-cut, 10-stalk sample from each plot at 35 and 50 DAT and was processed using Spectra Cane NIR to determine theoretical recoverable sugar (TRS, lb per

ton of cane). Plots were harvested following the 50-day sampling on October 13, 2021 with a sugarcane chopper harvester and were loaded into a wagon equipped with load cells, and the weight of each plot was recorded. TRS was similar for the Roundup PowerMax3 + GlucoPro treatments as compared to the Roundup PowerMax3 treatment alone for both sampling dates (Table 4). TRS was significantly greater for all treatments compared to the untreated control for both sampling dates. Cane yield for all treatments were similar; however, the Roundup PowerMax3 + GlucoPro (20 oz/A) treatment yielded significantly more sugar per acre than the untreated control.

Table 4. Effect of GlucoPro in combination with Glyphosate on sugarcane yield parameters for plantcane L 01-299 in St. Gabriel, LA in 2021

Treatment[1]	Rate/A	TRS (lb/ton) 35 DAT[2]	TRS (lb/ton) 50 DAT	Cane Yield[4] (ton/A)	Sugar Yield (lb/A)
PowerMax3 + GlucoPro	5 oz + 10 oz	200 a[3]	232 a	41.1 a	9,497 ab
PowerMax3 + GlucoPro	5 oz + 20 oz	219 a	248 a	40.2 a	9,996 a
RU PowerMax3	5 oz	209 a	235 a	41.3 a	9,631 ab
Untreated Check		177 b	205 b	41.9 a	8,591 b

[1] Treatments applied August 27, 2021.
[2] Days after treatment.
[3] Means within a column followed by the same lowercase letter are not significantly different at P=0.05.
[4] Harvested October 13, 2021.

Efficacy of Nu3cane

A study was conducted in 2021 at the Sugar Research Station in St. Gabriel, LA to evaluate the efficacy of Nu3cane ripener. The experimental design was a randomized complete block design with 3 replications, and the plot size was two rows wide (12 ft.) X 25 ft. in length. Treatments were applied using a tractor mounted boom to first ratoon L 12-201 on September 24, 2021. Treatments included Nu3cane at 13.75 oz/A, Nu3cane at 6.85 oz/A + Roundup PowerMax3 at 2.5 oz/A, as well as an untreated check. A hand-cut, 10-stalk sample from each plot at 28, 55, and 83 DAT and was processed using Spectra Cane NIR to determine theoretical recoverable sugar (TRS, lb per ton of cane). Plots were harvested following the 83-day sampling on December 16, 2021 with a sugarcane chopper harvester and were loaded into a wagon equipped with load cells, and the weight of each plot was recorded. TRS, cane yield and sugar yield were similar for all treatments regardless of observation.

Table 5. Effect of Nu3cane on sugarcane yield parameters for first ratoon L 12-201 in St. Gabriel, LA in 2021

Treatment[1]	Rate/A	TRS 28 DAT[2] (lb/ton)	TRS 55 DAT (lb/ton)	TRS 83 DAT (lb/ton)	Cane Yield[3] (ton/A)	Sugar Yield (lb/A)
Nu3cane	13.75 oz.	225 a	258 a	262 a	26.9 a	7,037 a
Nu3cane + RU PowerMax3	6.85 oz + 2.5 oz	241 a	267 a	266 a	27.2 a	7,241 a
Untreated Check		234 a	254 a	265 a	31.7 a	8,416 a

[1] Treatments applied September 24, 2021.
[2] Days after treatment.
[3] Harvested October 13, 2021.