

SUGARCANE WEED MANAGEMENT

Matthew R. Foster, Warner R. Simon, Jerry S. Mullen, and Zachary A. Taylor
Sugar Research Station

Evaluation of a New Formulation of Pendimethalin

On March 21, 2025, a preemergence trial was initiated in second stubble L 01-299 in St. Martinville, LA to evaluate weed control efficacy and crop safety of Pendalin H₂O (recently labeled for use in sugarcane) compared to Prowl H₂O and Satellite Hydrocap. All products were applied at 3.1 qt/A and a nontreated control was included for comparison. At 40 days after treatment (DAT), itchgrass (*Rottboellia cochinchinensis*) control was equivalent (84%) for all herbicide treatments. No crop injury was observed from any product.

Effect of Spring-Applied Herbicides on Sugarcane Yield Parameters

On April 9, 2025, a trial was conducted in St. Gabriel, LA to evaluate the response of first stubble L 01-299 and HoCP 14-885 to various herbicides. Treatments were applied over-the-top and included: (1) Command at 3.3 pt/A, (2) Metribuzin at 2 lb/A, (3) Dual II Magnum at 1.5 pt/A, (4) Prowl H₂O at 3 qt/A, (5) Command at 3.3 pt/A plus Metribuzin at 2 lb/A, and (6) Command at 3.3 pt/A plus Diuron at 3 qt/A. The trial was harvested on October 14, 2025. The addition of Metribuzin or Diuron to Command significantly reduced L 01-299 yield (tons/A) and sugar yield (Table 1), however, no yield reduction was observed for HoCP 14-885 (Table 2).

Efficacy of Impact (Topramezone) on Itchgrass

In April 2025, two trials were conducted in fallow sugarcane fields in Batchelor and Plaquemine, LA to evaluate postemergence control of 2-6" tall itchgrass with Impact (not labeled for use in sugarcane). Impact was applied at 2 oz/A and a nontreated control was included for comparison. At both locations, itchgrass control was 16% 14 DAT and decreased to 0% 29 DAT.

Response of Wild Luffa to Various Herbicides and Impact on Sugarcane Yield

Wild luffa (*Luffa quinquefida*) is currently a problematic weed of sugarcane in Assumption, St. James, and St. John the Baptist Parishes. In May 2025, a trial was conducted in a field of L 15-306 plantcane in Edgard, LA to evaluate herbicide efficacy on wild luffa. Postemergence treatments were applied over-the-top and included: Trycera at 45 oz/A, Clarity at 1 pt/A, 2,4-D at 1 qt/A, Brash at 1 qt/A, and Atrazine at 2 qt/A plus Callisto at 3 oz/A. All herbicide treatments provided greater than 85% control 6 DAT. Preemergence treatments were applied as a directed spray under the crop canopy and included: Atrazine at 2 qt/A plus Callisto at 3 oz/A, Spartan at 10 oz/A, Direx at 3 qt/A, and Valor at 6 oz/A. All herbicide treatments, except for Spartan, provided greater than 90% control 22 DAT. In September 2025, trials to determine the impact of wild luffa on sugarcane yield (tons/A) were conducted in Edgard and Convent, LA. Averaged across locations, wild luffa reduced L 15-306 yield by 76%.

Efficacy of Various Herbicides on Torpedograss

Torpedograss (*Panicum repens*) is currently a problematic weed of sugarcane in St. John the Baptist Parish. In July 2025, a trial was conducted in a field of third stubble L 01-299 in LaPlace, LA to evaluate herbicide efficacy on torpedograss. Herbicide treatments were applied postemergence-directed and included: Asulam at 4 qt/A, Asulam at 2 qt/A plus Envoke at 0.3 oz/A, Asulam at 4 qt/A plus Trycera at 45 oz/A, Liberty Ultra at 1 qt/A (not labeled in sugarcane), Reviton at 3 oz/A (not labeled in sugarcane), HAI-333 at 1 qt/A (not labeled in sugarcane), and Quinclorac at 2 and 4 qt/A (not labeled in sugarcane). At 49 DAT, torpedograss control was highest for Asulam plus Trycera (93%) followed by Asulam, Asulam plus Envoke, Liberty Ultra, and HAI-333 (88-89%). Lowest control was observed for Reviton and Quinclorac (30-36%). All herbicide treatments significantly reduced torpedograss dry weight when compared to the nontreated control.

Sugarcane Response to Various Formulations of Metribuzin

In August 2025, a trial was conducted in St. Gabriel, LA to evaluate crop response to different formulations of Metribuzin (3 liquids and 1 dry). Treatments were applied over-the-top of L 01-299 (18" tall) that was harvested for seed. Metribuzin formulations included: Metricor 4F at 64 oz/A, Me-Try-Buzin 4L at 64 oz/A, Dimetric Liquid (3-lb ai/gal) at 85.33 oz/A and Dimetric EXT (75DF) at 2.67 lb/A. Each formulation was applied alone and in combination with WeedMaster at 24 oz/A and Prowl H₂O at 2.6 qt/A. A nontreated control was included for comparison. At 14 DAT, crop injury was equivalent for all treatments (24-25%). Injury decreased for all treatments 31 DAT (9-10%). Severe brown stripe was observed in all treated plots.

Efficacy of Various Herbicides on Volunteer Corn in Plantcane

In August 2025, a trial was established in St. Gabriel, LA to evaluate preemergence and postemergence control of volunteer corn in plantcane. Immediately after planting L 01-299, corn was planted to simulate a volunteer corn situation. Command at 3.3 pt/A was applied to some plots immediately after corn planting. Postemergence treatments were applied 23 days after planting to 10" tall corn and included: Gramoxone at 40 oz/A, Gramoxone at 40 oz/A plus Metribuzin at 0.5 lb/A, Gramoxone at 40 oz/A plus Atrazine at 16 oz/A, Gramoxone at 40 oz/A plus Diuron at 16 oz/A, Reviton at 3 oz/A (not labeled in sugarcane), Asulam at 64 oz/A, Asulam at 64 oz/A plus Envoke at 0.3 oz/A, Asulam at 96 oz/A, and Envoke at 0.3 oz/A. A nontreated control was included for comparison. At 65 DAT, control was 81% for Command. At 42 DAT (postemergence treatments), control was highest (100%) for Gramoxone plus Metribuzin, Gramoxone plus Atrazine, Gramoxone plus Diuron, Asulam plus Envoke, and Envoke. Gramoxone alone provided 89% control followed by Asulam at 96 oz/A (84%), and Asulam at 64 oz/A (74%). Lowest control was observed for Reviton (29%).

Effect of Herbicide Application Timing on Sugarcane Yield Parameters

A trial to evaluate the effect of fall vs. spring applied herbicides in billet-planted L 01-299 and HoCP 14-885 was initiated in St. Gabriel, LA in September 2024. Herbicide treatments included: (1) Command at 3.3 pt/A, (2) Metribuzin at 2 lb/A, (3) Dual II Magnum at 1.5 pt/A, and (4) Prowl H₂O at 3 qt/A. Treatments were applied over-the-top on November 6, 2024, and

April 9, 2025. At both application timings, significant injury (whitening/bleaching and height reduction) from Command was only observed on L 01-299 (data not shown). The trial was harvested on October 16, 2025, and no significant differences in sugarcane yield, theoretical recoverable sugar, and sugar yield were observed (Tables 3 and 4).

Table 1. Mean sugarcane yield, theoretical recoverable sugar (TRS), and sugar yield of first stubble L 01-299 treated over-the-top with several herbicides in St. Gabriel, LA in 2025¹.

Treatment ²	Rate/A	Cane Yield (tons/A)	TRS (lb/ton)	Sugar Yield (lb/A)
Command	3.3 pt	40.2 a ³	186.8	7,501.0 a
Metribuzin	2.0 lb	42.1 a	179.8	7,562.3 a
Dual II Magnum	1.5 pt	42.5 a	185.6	7,880.4 a
Prowl H ₂ O	3.0 qt	41.2 a	192.4	7,904.3 a
Command + Metribuzin	3.3 pt + 2.0 lb	33.8 b	178.9	6,107.0 b
Command + Diuron	3.3 pt + 3.0 qt	29.8 b	174.2	5,187.8 b
NS				

¹ Harvested on October 14, 2025 (non-ripened).

² Applied on April 9, 2025.

³ Means within a column followed by the same lowercase letter are not significantly different at P=0.05.

Table 2. Mean sugarcane yield, theoretical recoverable sugar (TRS), and sugar yield of first stubble HoCP 14-885 treated over-the-top with several herbicides in St. Gabriel, LA in 2025¹.

Treatment ²	Rate/A	Cane Yield (tons/A)	TRS (lb/ton)	Sugar Yield (lb/A)
Command	3.3 pt	36.9	208.9	7,685.7
Metribuzin	2.0 lb	39.8	193.4	7,735.5
Dual II Magnum	1.5 pt	36.8	202.5	7,458.1
Prowl H ₂ O	3.0 qt	41.8	206.0	8,560.8
Command + Metribuzin	3.3 pt + 2.0 lb	40.7	203.0	8,225.7
Command + Diuron	3.3 pt + 3.0 qt	40.9	199.7	8,113.7
		NS	NS	NS

¹ Harvested on October 14, 2025 (non-ripened).

² Applied on April 9, 2025.

Table 3. Mean sugarcane yield, theoretical recoverable sugar (TRS), and sugar yield of L 01-299 plantcane treated over-the-top with several herbicides at two application timings in St. Gabriel, LA in 2024/2025¹.

Treatment	Rate/A	Application Timing	Cane Yield (tons/A)	TRS (lb/ton)	Sugar Yield (lb/A)
Command	3.3 pt	Fall ²	40.3	224.0	9,004.8
Metribuzin	2.0 lb	Fall	40.7	222.5	9,049.9
Dual II Magnum	1.5 pt	Fall	43.5	227.1	9,876.5
Prowl H ₂ O	3.0 qt	Fall	43.6	213.0	9,263.7
Command	3.3 pt	Spring ³	41.5	219.8	9,092.6
Metribuzin	2.0 lb	Spring	44.1	212.8	9,363.8
Dual II Magnum	1.5 pt	Spring	44.3	210.9	9,342.6
Prowl H ₂ O	3.0 qt	Spring	40.4	222.7	9,005.4
			NS	NS	NS

¹ Harvested on October 16, 2025 (non-ripened).

² Applied on November 6, 2024.

³ Applied on April 9, 2025.

Table 4. Mean sugarcane yield, theoretical recoverable sugar (TRS), and sugar yield of HoCP 14-885 plantcane treated over-the-top with several herbicides at two application timings in St. Gabriel, LA in 2024/2025¹.

Treatment	Rate/A	Application Timing	Cane Yield (tons/A)	TRS (lb/ton)	Sugar Yield (lb/A)
Command	3.3 pt	Fall ²	48.5	248.8	12,036.5
Metribuzin	2.0 lb	Fall	44.0	255.3	11,254.1
Dual II Magnum	1.5 pt	Fall	44.7	255.2	11,464.6
Prowl H ₂ O	3.0 qt	Fall	43.9	253.4	11,128.1
Command	3.3 pt	Spring ³	47.0	241.2	11,356.9
Metribuzin	2.0 lb	Spring	44.9	239.8	11,030.6
Dual II Magnum	1.5 pt	Spring	45.9	247.6	11,309.9
Prowl H ₂ O	3.0 qt	Spring	48.4	249.4	12,082.8
			NS	NS	NS

¹ Harvested on October 16, 2025 (non-ripened).

² Applied on November 6, 2024.

³ Applied on April 9, 2025.