SUGARCANE WEED MANAGEMENT

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Postemergence Management of Italian Ryegrass with Armezon® and Armezon® Combinations

On January 30, 2017, a postemergence experiment was initiated at the Sugar Research Station in St. Gabriel, Louisiana to investigate the ability of Armezon® (topramezone) to control Italian ryegrass (*Lolium multiflorum*). Ryegrass was 4-8 inches tall at the time of application and crop oil was added at 1% v/v to all herbicide treatments. Treatments were arranged in a randomized complete block design with three replications, and plot size was 6 ft X 30 ft. Armezon® (1 oz/a) alone or in combination with Brash® (1 qt/a), TriCor® (1.5 lb/a) + Brash® (1 qt/a), or Alion® (3.75 oz/a) + Brash® (1 qt/a) did not provide acceptable control of ryegrass at 14 or 36 days after treatment (DAT) (Table 1). Gramoxone® (3 pt/a) + Tricor® (1.5 lb/a) + Brash® (1 qt/a) provided 75% control of ryegrass 36 days after application.

Postemergence Management of Italian Ryegrass with Gramoxone®

On February 20, 2017, an experiment was initiated at the Sugar Research Station in St. Gabriel, Louisiana to investigate the influence of herbicide rate and spray volume on controlling 8-12 inch Italian ryegrass. Treatments were arranged in a randomized complete block design with three replications, and plot size was 6 ft X 30 ft. Gramoxone® was applied at rates of 3, 4, and 6 pt/a (Table 2). Brash® (1 qt/a) was mixed with all Gramoxone® treatments to control broadleaf weeds within the plots. For all treatments, a non-ionic surfactant was added at 0.25% v/v. Gramoxone® treatments were applied at 15 or 20 gallons of spray solution acre. 35 DAT, ryegrass control was poor and ranged from 22 to 52%, regardless of Gramoxone® rate or spray volume.

Spring Postemergence Control of Bermudagrass with Armezon® in Sugarcane

On March 22, 2017, a postemergence experiment was initiated in a first stubble field of L 01-283 in St. Martinville, Louisiana to evaluate the ability of Armezon® (topramezone) to control bermudagrass (*Cynodon dactylon*). Bermudagrass runners were 4-8 inches long at the time of application, and methylated seed oil (MSO) was added at 1% v/v to all herbicide treatments. Treatments were arranged in a randomized complete block design with four replications, and plot size was 6 ft X 40 ft. Maximum bermudagrass suppression was achieved with Armezon®, 28 DAT (Table 3). When Armezon® was applied alone or in combination with Atrazine®, bermudagrass suppression ranged from 64-71%, 28 DAT. Bermudagrass suppression was reduced 57 DAT, and ranged from 40-60% for the Armezon® treatments when applied alone or in combination with Atrazine®. The Armezon® + Garlon® treatment provided 95 and 83% bermudagrass suppression at 28 and 57 DAT, respectively.

Spring Postemergence Control of Crabgrass with Armezon® in Sugarcane
On April 24, 2017, a postemergence experiment was initiated in a fallow field at the Sugar Research Station in St. Gabriel, Louisiana to investigate the ability of Armezon® to control crabgrass (*Digitaria sanguinalis*). Crabgrass was 2-4 inches tall at the time of application, and MSO was added at 1% v/v to all herbicide treatments. Treatments were arranged in a randomized complete block design with four replications, and plot size was 6 ft X 40 ft. 30 DAT, Armezon® provided 40, 50, and 76 % crabgrass control when applied at 1, 1.5, and 2 oz/a, respectively (Table 4). The addition of Atrazine® (2 qt/a) to Armezon® treatments increased crabgrass control to 64, 79, and 89% for the 1, 1.5, and 2 oz/a Armezon® treatments, respectively.

Repeated Applications of Armezon® on Plantcane L 01-299
On March 20, 2017, an Armezon® tolerance experiment was initiated in a plantcane field of L 01-299 at the Sugar Research Station in St. Gabriel, Louisiana. The same herbicide treatments were repeatedly applied to the same plots on March 20, 2017, April 7, 2017, and April 24, 2017. Treatments were arranged in a randomized complete block design with four replications, and plot size was 6 ft X 50 ft. No weeds were present in this study, and TriCor was applied at 2 lb/a prior to the beginning of the study as well as at layby to ensure weed competition was not a factor. Crop injury was monitored approximately 14 days after each application. A 10-stalk bundle of sugarcane was hand harvested on October 18, 2017, from each plot and was processed in the station's sucrose lab. The remaining sugarcane was harvested with a combine and loaded into a weigh-wagon. Sugarcane injury was noted for most Armezon® treatments, and injury severity typically increased with repeated applications (Table 5.) Injury induced by Armezon® was noted as yellowing of sugarcane leaf tissue and stunting of sugarcane. Brown strip was also flared by repeated applications of Armezon® and persisted for several weeks after herbicide application. Cane yield and sugar yield were appreciably decreased for all treatments, except for the 1 oz/a Armezon® treatment, when compared to the non-treated check (Table 5).

Tank-mixing Armezon with Asulam to Control Rhizome Johnsongrass in Sugarcane
A postemergence herbicide trial to control rhizome johnsongrass (*Sorghum halepense*) was initiated at the Sugar Research Station in St. Gabriel, Louisiana to evaluate the effect of tank-mixing Armezon® with Asulam®. Treatments were applied on March 23, 2017, to 12-24 inch rhizome johnsongrass. Treatments were arranged in a randomized complete block design with four replications, and plot size was 6 ft X 40 ft. The mixing of Armezon® with Asulox® did not reduce nor improve rhizome johnsongrass control 56 DAT as compared to the Asulox treatment alone (70%) (Table 6). When Armezon® was applied alone at 1 oz/a, negligible rhizome johnsongrass control was observed.

Postemergence Control of Bermudagrass in Fall Plantcane with Armezon®

On August 21, 2017, a postemergence bermudagrass experiment was initiated in a plantcane field in Port Allen, Louisiana to evaluate the ability of Armezon® to control bermudagrass in fall. Treatments were arranged in a randomized complete block design with four replications, and plot size was 12 ft X 20 ft. Bermudagrass was not controlled during the fallow period, and at-planting for the Prowl H2O® + TriCor® treatments. Fall treatments, including Armezon®, were applied on November 6, 2017 and bermudagrass control was evaluated 14, 28, and 107 DAT (Table 7). Armezon® at 2 oz/a provided 68% suppression of bermudagrass, 28 DAT; however, bermudagrass suppression was similar to the lower rates of Armezon® at 107 DAT (45%).

Postemergence Control of Bermudagrass in Sugarcane Harvested for Seed-Cane with Single and Sequential Armezon® Application(s)

A postemergence bermudagrass experiment was initiated in a field that was harvested for seed-cane in mid-August of 2017 in Labadieville, Louisiana to evaluate the ability of Armezon® to control bermudagrass in fall. Treatments were arranged in a split-plot design with four replications, and plot size was 6 ft X 40 ft. Bermudagrass covered approximately 95% of the sugarcane drill and wheel furrow. All plots were treated on September 23, 2017 and sugarcane injury and bermudagrass suppression was evaluated 18, 27, and 40 DAT. Minor sugarcane injury was noted 18 DAT for the Armezon®, and Armezon® + Trycera® treatments (Table 8). Maximum bermudagrass suppression was observed 18 DAT for all treatments, but bermudagrass suppression was reduced at 27 and 40 DAT. A sequential application of the herbicide treatments were applied to ½ of the originally treated plot on November 13, 2017. On February 22, 2018 bermudagrass suppression was recorded and the sequential application of Armezon® (1 oz/a + Trycera® (2 qt/a) provided 84% bermudagrass suppression (Table 9). Sequential application of Armezon® at 1 and at 2 oz/a provided 43 and 45% bermudagrass suppression, respectively.

Preemergence Control Itchgrass At-Planting with Lumax EZ and Lumax EZ Combinations

On September 24, 2017, a preemergence experiment was initiated in Raceland, Louisiana to investigate the ability of Lumax EZ® to control itchgrass (*Rottboellia cochinchinensis*). Treatments were arranged in a randomized complete block design with four replications, and plot size was 6 ft X 40 ft. The number of emerged itchgrass plants were counted in each plot 28 and 53 DAT. Lumax EZ® (3.75 qt/a) alone poorly controlled itchgrass, and was similar to the non-treated check (Table 10). The addition of Prowl at 3 qt/a, Command at 3 pt/a, or TriCor at 3 lb/a to Lumax EZ, provided improved itchgrass control as compared to Lumax EZ alone and the non-treated control.

Table 1. Mean percentage POST control of 4 to 8 inch Italian ryegrass in St. Gabriel, LA in 2017.

Treatment[1]	Rate/a	% ryegrass control	
		14 DAT[2]	36 DAT
Armezon®	1 oz	5 b[3]	0 b
Armezon® + Brash®	1 oz + 1 qt	5 b	0 b
Armezon® + TriCor® + Brash®	1 oz + 1.5 lb +1 qt	5 b	0 b
Armezon® + Alion® + Brash®	1 oz + 3.75 oz +1 qt	5 b	0 b
Gramoxone® + TriCor® + Brash®	3 pt + 1.5 lb + 1 qt	85 a	75 a
Check		0 c	0 b

[1] Treatments applied 1/30/17. Agri-Dex® crop oil concentrate 1%v/v added to all treatments.
[2] DAT = Days After Treatment.
[3] Means within a column followed by the same lowercase letter are not significantly different at P=0.05.

Table 2. Mean percentage POST control of 8 to 12 inch Italian ryegrass in St. Gabriel, LA in 2017.

Gramoxone® (rate/a)[1]	Spray volume (gallons/a)	% ryegrass control
		35 DAT[2]
3 pt	15	22 c[3]
4 pt	15	45 abc
6 pt	15	52 a
3 pt	20	25 bc
4 pt	20	37 abc
6 pt	20	48 ab
Check		0 d

[1]Treatments applied 2/20/17. Brash® (1 qt/a) and Induce® non-ionic surfactant 0.25%v/v added to all treatments.
[2] DAT = Days After Treatment.
[3] Means within a column followed by the same lowercase letter are not significantly different at P=0.05.

Table 3. Mean percentage POST control of bermudagrass in St. Martinville, LA in 2017.

Treatment[1]	Rate/a	% bermudgrass suppression			
		15 DAT[2]	28 DAT	49 DAT	57 DAT
Armezon®	1 oz	53 b[3]	66 cd	44 b	40 b
Armezon®	1.5 oz	49 b	64 d	61 b	60 b
Armezon®	2 oz	55 b	71 b	49 b	49 b
Armezon® + Atrazine®	1.5 oz + 1 pt	51 b	64 d	51 b	45 b
Armezon® + Atrazine®	1 oz + 2 qt	45 b	65 d	56 b	51 b
Armezon® + Atrazine®	1.5 oz + 2 qt	50 b	66 cd	51 b	49 b
Armezon® + Atrazine®	2 oz + 2 qt	54 b	69 bc	53 b	46 b
Asulox®	4 qt	13 c	16 f	56 b	55 b
Acuron®	3 qt	13 c	21 e	51 b	43 b
Envoke® + Asulox®	0.3 oz + 2 qt	10 c	16 f	46 b	41 b
Armezon® + Garlon®	1.5 oz + 1.5 qt	86 a	95 a	83 a	83 a
Check		0 c	0 g	0 c	0 c

[1] Treatments applied 3/22/17. MSO added 1.0%v/v added to all treatments.
[2] DAT = Days After Treatment.
[3] Means within a column followed by the same lowercase letter are not significantly different at P=0.05.

Table 4. Mean percentage POST control of crabgrass in St. Gabriel, LA in 2017.

Treatment[1]	Rate/a	% crabgrass control		
		14 DAT[2]	22 DAT	30 DAT
Armezon®	1 oz	48 cd[3]	48 c	40 d
Armezon®	1.5 oz	63 bc	58 bc	50 cd
Armezon®	2 oz	59 bcd	68 abc	76 ab
Armezon® + Atrazine®	1.5 oz + 1 pt	70 bc	53 c	50 cd
Armezon® + Atrazine®	1 oz + 2 qt	81 ab	69 abc	64 bc
Armezon® + Atrazine®	1.5 oz + 2 qt	94 a	84 a	79 ab
Armezon® + Atrazine®	2 oz + 2 qt	95 a	90 a	89 ab
Asulox®	4 qt	38 d	79 ab	96 a
Acuron®	3 qt	18 e	5 d	0 e
Envoke® + Asulox®	0.3 oz + 2 qt	50 cd	76 ab	84 ab
Armezon® + Garlon®	1.5 oz + 1.5 qt	63 bc	75 ab	80 ab
Check		0 f	0 d	0 e

[1] Treatments applied 4/24/17. MSO added 1.0%v/v added to all treatments.
[2] DAT = Days After Treatment.
[3] Means within a column followed by the same lowercase letter are not significantly different at P=0.05.

Table 5. Effect of multiple applications of Armezon on L 01-299 plantcane in St. Gabriel, LA in 2017.

Treament[1]	Rate/a	% sugarcane injury			Cane[4] Yield (tons/a)	TRS (lb/ton)	Sugar Yield (lb/a)
		15 DAT[2] A application	12 DAT B application	14 DAT C application			
Check		0 e[3]	0 f	0 f	51.0 a	188	9745 a
Armezon®	1 oz	3.3 d	0 f	5.0 ef	43.5 ab	187	8189 ab
Armezon®	1.5 oz	3.3 d	5.0 e	5.0 ef	38.2 bc	194	7436 b
Armezon®	2 oz	4.5 cd	5.8 e	11.3 de	38.5 bc	172	6630 b
Armezon®	3 oz	7.0 b	12.5 c	23.8 b	29.7 c	179	5337 b
Armezon®	4 oz	9.0 a	17.5 a	35.0 a	32.9 c	191	6359 b
Armezon® + Atrazine®	1.5 oz + 2 qt	6.5 bc	6.5 de	15.0 cd	37.0 bc	163	6078 b
Armezon® + Atrazine®	2 oz + 2 qt	5.3 bcd	8.3 d	18.8 c	35.3 bc	167	5983 b
Armezon® + Atrazine®	3 oz + 2 qt	6.5 bc	15.0 b	35.0 a	34.5 bc	175	6074 b
Armezon®*	1.5 oz	3.8 d	5.0 e	7.5 e	37.0 bc	175	6865 b

[1] Three (3) sequential treatments applied A=3/20/17, B=4/7/17, and C=4/24/17. MSO added at 1.0%v/v to all treatments except *. For * treatment Agri-Dex crop oil concentrate added at 1.0%v/v.

[2] DAT = 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 18, 2017.

Table 6. Mean percentage POST control of 12-24 inch rhizome johnsongrass in St. Gabriel, LA in 2017.

Treatment[1]	Rate/a	% johnsongrass control			
		15 DAT[2]	27 DAT	41 DAT	56 DAT
Asulox®	4 qt	29 bc[3]	75 b	71 bc	70 a
Asulox® + Envoke®	3 qt + 0.3 oz	39 a	84 a	80 ab	74 a
Asulox® + Envoke®	2 qt + 0.3 oz	36 ab	80 ab	84 a	74 a
Asulox® + Armezon®	2 qt + 1 oz	30 bc	74 b	71 bc	69 a
Asulox® + Armezon®	2 qt + 2 oz	36 ab	75 b	63 c	63 a
Armezon®*	1 oz	23 c	24 c	13 d	10 b
Check		0 d	0 d	0 e	0 b

[1] Treatments applied 4/24/17. Induce non-ionic surfactant added at 0.25%v/v to all treatments except *. For * treatment MSO added at 1.0%v/v.
[2] DAT = Days After Treatment.
[3] Means within a column followed by the same lowercase letter are not significantly different at P=0.05.

Table 7. Mean percentage POST control of bermudagrass in plantcane in Port Allen, LA in 2017.

At-Planting treatment[1]	Rate/a	Fall treatment[2]	Rate/a	% bermudagrass suppression		
				14 DAT[3]	28 DAT	107 DAT
Command® + TriCor®	3.3 pt + 1 lb	TriCor®	1.5 lb	46 ab[4]	50 b	84 a
Command® + Direx®	3.3 pt + 2.5 qt	TriCor®	1.5 lb	51 a	55 b	87 a
Prowl H2O® + TriCor®	3 qt + 3 lb	Armezon®	1 oz	21 c	48 b	50 b
Prowl H2O® + TriCor®	3 qt + 3 lb	Armezon®	1.5 oz	29 bc	54 b	43 b
Prowl H2O® + TriCor®	3 qt + 3 lb	Armezon®	2 oz	28 bc	68 a	45 b
Check				0 d	0 c	0 c

[1] At-planting treatments applied 8/21/17.
[2] Fall treatments applied 11/6/17. Agri-Dex crop oil concentrate added at 1.0%v/v to all treatments.
[3] DAT = Days After Treatment.
[4] Means within a column followed by the same lowercase letter are not significantly different at P=0.05.

Table 8. Mean percentage POST control of bermudagrass in Labadieville, LA in 2017.

Treatment[1]	Rate/a	% Sugarcane injury	% bermudagrass control 18 DAT[2]	27 DAT	40 DAT
Armezon®	1 oz	5	60 c[3]	26 d	20 c
Armezon®	2 oz	5	73 b	31 d	25 c
Armezon® + Trycera®	1 oz + 1 qt	5	93 a	66 b	55 b
Armezon® + Trycera®	1 oz + 2 qt	5	93 a	78 a	79 a
Command® + Direx®*	3.3 qt + 2.5 qt	19	59 c	59 c	60 b

[1] Treatments applied 9/23/17. MSO added at 1.0%v/v + 32 % UAN added at 2.5%v/v to all treatments, except *. NIS added to * treatment at 0.25%v/v.
[2] DAT = Days After Treatment.
[3] Means within a column followed by the same lowercase letter are not significantly different at P=0.05.

Table 9. Mean percentage POST control of bermudagrass in Labadieville, LA in 2017.

Treatment[1]	Rate/a	Sequential treatment[2]	Rate/a	% bermudagrass control 2/22/2018
Armezon®	1 oz			8 d[3]
Armezon®	1 oz	Armezon®	1 oz	43 bc
Armezon®	2 oz			14 cd
Armezon®	2 oz	Armezon®	2 oz	45 bc
Armezon® + Trycera®	1 oz + 1 qt			6 d
Armezon® + Trycera®	1 oz + 1 qt	Armezon® + Trycera®	1 oz + 1 qt	55 b
Armezon® + Trycera®	1 oz + 2 qt			23 bcd
Armezon® + Trycera®	1 oz + 2 qt	Armezon® + Trycera®	1 oz + 2 qt	84 a
Command® + Direx®*	3.3 qt + 2.5 qt			23 bcd

[1] Treatments applied 9/23/17. MSO added at 1.0%v/v + 32 % UAN added at 2.5%v/v to all treatments, except *. NIS added to * treatment at 0.25%v/v.
[2] Sequential treatments applied 11/3/17. MSO added at 1.0%v/v + 32 % UAN added at 2.5%v/v to all treatments.
[3] Means within a column followed by the same lowercase letter are not significantly different at P=0.05.

Table 10. Mean percentage PRE control of itchgrass in plantcane in Raceland, LA in 2017.

		# of itchgrass plants/plot	
Treatment[1]	Rate/a	28 DAT[2]	53 DAT
Prowl®	3 qt	1.4 c[3]	2.7 cd
Command®	3 pt	0.3 c	1.7 d
Velossa®	1.6 pt	9.5 b	8.1 cd
TriCor®	3 lb	2.1 c	2.6 cd
Lumax EZ®	3.25 qt	23.6 ab	26.9 ab
Lumax EX® + Prowl®	3.25 qt + 3 qt	2.7 c	5.4 cd
Lumax EX® + Command®	3.25 qt + 3 pt	1.6 c	2.8 cd
Lumax EX® + Velossa®	3.25 qt + 1.6 pt	12.9 b	11.2 bc
Lumax EX® + TriCor®	3.25 qt + 3 lb	2.8 c	6.0 cd
Check		37.5 a	42.0 a

[1] Treatments applied 9/234/17.
[2] DAT = Days After Treatment.
[3] Means within a column followed by the same lowercase letter are not significantly different at P=0.05.

COVER CROPS IN SUGARCANE

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Effect of Broadcast Seeding of Cover Crops Following the Planting of Sugarcane

On September 20, 2016, L01-299 sugarcane was planted into a fallow sugarcane field at the Sugar Research Station in St. Gabriel, Louisiana. A study was initiated to evaluate the effect of cover crops on newly planted sugarcane. Two treatments were evaluated in this study: cover crop broadcast over newly planted sugarcane and check (no cover crop). For the cover crop treatment, daikon radish, Austrian winter pea, and crimson clover were broadcast over the planted sugarcane field at 5, 36, and 5 lb/a, respectively, on September 20, 2016. Treatments were arranged in a completely randomized design with five replications, and plot size was 6 ft (1 cane row) and 50 ft. in length. The entire field was sprayed with March 20, 2017 with a combination of TriCor (2 lb/a) and Brash (1 qt/a) to terminate the cover crop growth and manage winter weeds. For the remainder of the year, the sugarcane crop was managed using standard cultural practices. At harvest, a 10-stalk sample was cut from each plot and processed using Spectra Cane NIR to determine pounds of theoretical recoverable sugar (TRS) per ton of sugarcane. After sampling, the plots were harvested with a sugarcane combine and weighed to determine sugarcane yield (tons of sugarcane/a) on November 1, 2017. The product of TRS and sugarcane yield was calculated to determine sugar yield per acre. Sugarcane TRS was not effected by presence of the cover crop, but sugarcane yield and sugar yield were significantly reduced (Table 1). The check treatment averaged 46.4 tons of sugarcane and 9544 pounds of sugar per acre as compared to 32.3 tons of sugarcane and 6556 pounds of sugar per acre for the cover crop treatment.

Effect of Planting Date on Cover Crop Emergence and Late-Season Ground Cover

On August 2, 2017 and August 15, 2017, cover crop studies were planted into raised fallow sugarcane beds at the Sugar Research Station in St. Gabriel, Louisiana to investigate the effect of planting date on emergence and late-season ground cover. Cover crops evaluated were Persian clover (10 lb/a), Florida broadleaf mustard (10 lb/a), cherry belle radish (10 lb/a), hairy vetch (20 lb/a), Austrian winter pea (30 lb/a), and soybean (30 lb/a). Cover crop treatments were arranged in a randomized complete block design with three replications, and plot size was 3 ft X 5 ft. All cover crop treatments germinated within 5 days of planting, except the hairy vetch (approximately 10 days). Percent ground cover was evaluated on January 5, 2018 and varied greatly among the cover crop treatments. Regardless of planting date, the Persian clover and hairy vetch treatments averaged 72 and 92% ground cover, respectively (Table 2). Percent ground cover was poor for the cherry belle radish, Austrian winter pea, and soybean treatments, regardless of planting date.

Effect of Preemergence Herbicides on Cover Crops

On August 18, 2017, cover crops were planted into raised fallow sugarcane beds at the Sugar Research Station in St. Gabriel, Louisiana to investigate the effect of commonly used sugarcane preemergence

herbicides on cover crops. Cover crops evaluated were Persian clover (10 lb/a), Florida broadleaf mustard (10 lb/a), cherry belle radish (10 lb/a), hairy vetch (20 lb/a), Austrian winter pea (30 lb/a), and soybean (30 lb/a) and were broadcast planted into a fallow sugarcane bed. Plot size for each cover crop was 6 ft (1 sugarcane row) X 60 ft and herbicide treatments were applied to a 6 ft X 10 ft sub-plot area. Herbicide applications were applied with a pressurized CO_2 backpack sprayer calibrated to deliver 15 gal/a using TT 11002 flat fan nozzles (TeeJet, 1801 Business Park Drive, Springfield, IL 62703) set at 28 PSI. Herbicide treatments included Prowl (2.4 qt/a), Command (3.3 pt/a), Velossa (1.6 pt/a), TriCor (2 lb/a), and a non-treated check. Percent reduction in cover crop biomass as compared to the non-treated check was evaluated on October 3, 2017. All herbicide treatments reduced Persian clover biomass (95-100%) (Table 3). Prowl, Command, and Velossa herbicide treatments had little effect on the Austrian winter pea biomass, and may be a suitable tool to manage problematic grass weeds.

Effect Cover Crop Termination Date on Sugarcane

On September 13, 2017, a mixture of cover crop seeds was planted into a newly planted sugarcane field in Jeanerette, Louisiana to evaluate the effect of cover crop termination date on sugarcane. The mixture was composed Austrian winter pea, soybean, hairy vetch, Florida broadleaf mustard, and cherry belle radish at was planted at 18, 7.5, 3.1, 1, and 0.5 lb/a, respectively, into the wheel furrow and on to hips of the row. The cooperator cultivated the plots with a hipper and applied 3 qt of Prowl 3.3EC herbicide per acre to control weeds. This action resulted in the elimination of Florida broadleaf mustard and cherry belle radish. Above-ground and below-ground biomass samples were collected January 25, 2018. Termination treatment include three application dates January 25, 2018, February 16, 2018, and March 8, 2018. To terminate the cover crops, plots were treated with TriCor (2 lb/a) plus Brash (1 qt/a) at designated termination date. The termination treatments were arranged in a randomized complete block design with four replications, and plot size was 18 ft X 50 ft. Stalk counts will be determined in July and harvest is planned in November.

Table 1. Effect of cover crops on TRS, sugarcane yield, and sugar yield on plantcane L 01-299 at the Sugar Research Station in St. Gabriel in 2017.

Treatment	TRS (lb/ton cane)	Sugarcane Yield (tons/a)	Sugar Yield (lb/a)
Cover Crop[1]	204 a[2]	32.3 b	6556 b
Check	205 a	46.4 a	9544 a

[1] Cover crop treatment broadcast planted on 9/20/16 with Daikon radish, Austrian winter pea, and crimson clover at 5, 36, and 5 pounds per acre, respectively. Sugarcane was sampled and harvested 11/1/2017.
[2] Means within a column followed by the same lowercase letter are not significantly different at P=0.05.

Table 2. Percent ground cover for two planting dates and 6 cover crops planted in fallow sugarcane beds at the Sugar Research Station in St. Gabriel in 2017.

	% ground cover on 1/5/2018	
	Planting Date	
Cover Crop[1]	August 2, 2017	August 15, 2017
Persian clover	92 a[2]	100 a
Florida broadleaf mustard	16 b	52 c
Cherry belle radish	5 b	7 d
Hairy vetch	72 a	75 b
Austrian winter pea	0 b	1 d
Soybean	8 b	12 d

[1] Planting date 1 = August 2, 2017; planting date 2 = August 15, 2017.
[2] Means within a column followed by the same lowercase letter are not significantly different at P=0.05.

Table 3. Percent reduction in biomass for six cover crops and four herbicides planted in fallow sugarcane beds at the Sugar Research Station in St. Gabriel in 2017.

	% reduction in biomass compared to the non-treated check					
Herbicide[1] (Rate/a)	Persian clover	Florida broadleaf mustard	Cherry belle radish	Hairy vetch	Austrian winter pea	Soybean
Prowl @ 2.4 qt	95	25	45	40	10	50
Command @ 3.3 pt	95	100	99	40	10	0
Velossa @ 1.6 pt	100	100	100	40	0	10
TriCor @ 2 lb/a	100	100	100	90	60	95

[1] Herbicide treatment applied August 18, 2017 following planting of cover crops.