

Potential Fit of Roundup Ready Sugarcane / New Herbicide Update

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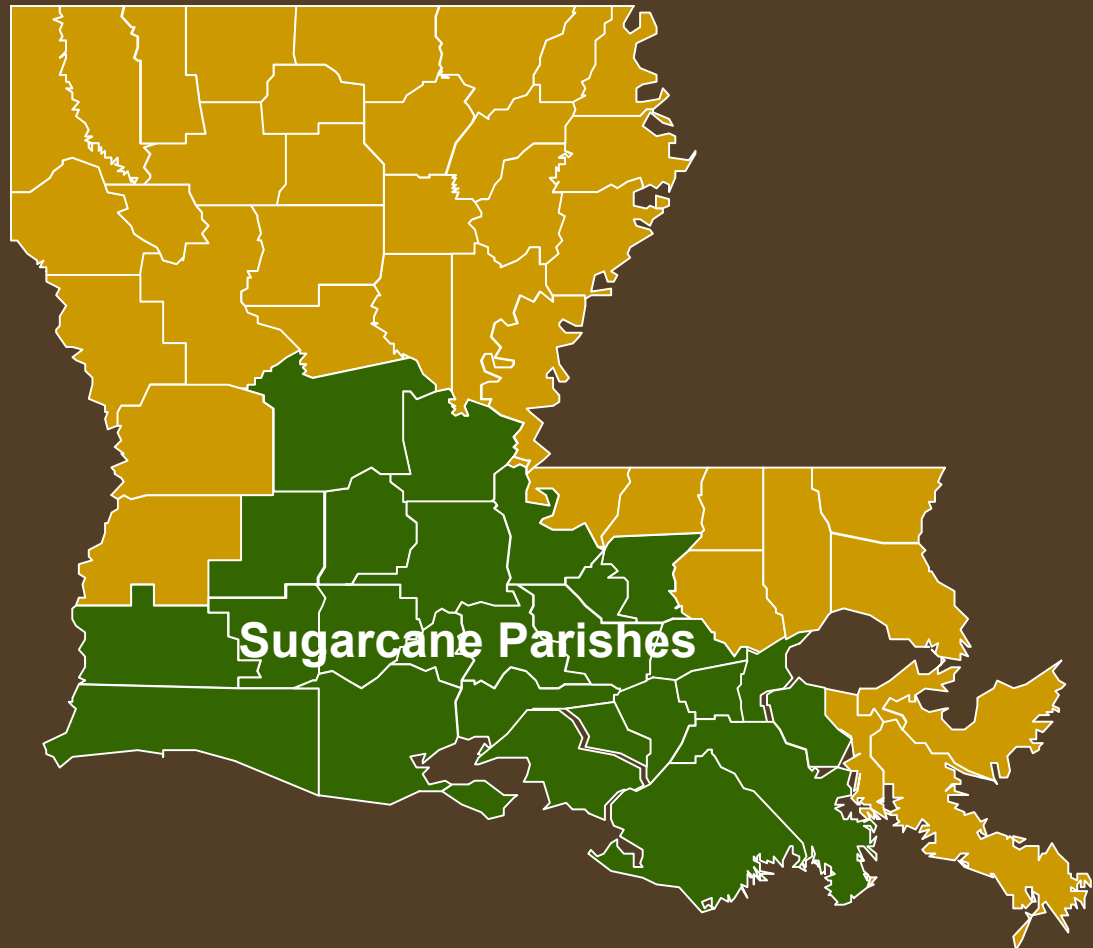
Roundup Ready Technology - Louisiana

The majority of cotton and soybean acreage in Louisiana is planted to Roundup Ready varieties.

Glyphosate use has promoted conservation tillage programs, resulted in more economical and effective weed control, and contributed to increased crop yields.

RR sugar beets are available.

RR sugarcane? Technology fee Issue? Other factors?



Weeds in Sugarcane

- Weeds are a major limiting factor to maximizing yields.
- Weed control programs are diverse, season long, and expensive.
- Weeds are controlled using cultural, mechanical, and chemical methods - herbicides form the basis for most weed control programs.



Most Troublesome Weeds in Louisiana Sugarcane

1. Johnsongrass
2. Bermudagrass
3. Itchgrass
4. Tie-vines (Morningglory)
5. Nutsedges
6. Browntop Panicum
7. Winter Weeds (grasses and broadleafs)



? Enlightenment ?

Roundup Ready Sugarcane

This is strictly my perception of how glyphosate *could* be used in sugarcane if RR sugarcane was available.

What qualifies me to make this assessment? Strictly being asked to do so.

Sit back and relax and enjoy the photos and the expounding

All comments in disagreement will be ignored ...

Glyphosate is the Foundation of Fallow Weed Control Programs

- Very important for control of perennial weeds
- Affects weed control in the subsequent years



Sugarcane Production Cycle – Sugarcane Planted in 2007

Jan. 2007	Fallow Period					Aug.	Sep.	Oct.	Nov.	Dec.
	Glyphosate programs for bermudagrass, johnsongrass, itchgrass, and nutsedge					PRE Planting		POST After Planting		

Jan. 2008	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
	POST Winter Weed Control	PRE Spring Weed Control	POST Asulox + Envoke	PRE Layby		POST After Layby – Directed or Overtop					Harvest

Control of Summer Weeds in Sugarcane With Glyphosate

- Bermudagrass – 70%
- Johnsongrass (seedling) – 90%
- Johnsongrass (rhizome) – 80%
- Itchgrass – 90%
- Browntop Panicum – 90%
- Annual Grasses – 90%
- Tie-Vines (morningglories) – 50%
- Nutsedges – 50%



Glyphosate Fit - At Planting



Glyphosate Fit - At Planting

- Standard Practice - PRE herbicides applied immediately after sugarcane is covered and rows are packed.
- Glyphosate could be used after crops and weeds emerge in lieu of PRE herbicides at planting.
- Decision based on grower preference, farm size, labor pool, and harvest schedule.
- **Fit? Not Likely - I would prefer using PRE herbicides and clean up escapes later with glyphosate.**



Glyphosate Fit – Fall Application

October Application

- Planted sugarcane
- Sugarcane harvested for seed
- Sugarcane harvested early for the mill
- Other herbicides could be applied with glyphosate e.g., Permit, Yukon, Envoke for nutsedge or atrazine for residual control of winter weeds.
- **Fit? Yes**



Winter Weeds



Winter Weed Control With Glyphosate

- Provides 90% control of annual bluegrass, Carolina foxtail, little barley, buttercups, chickweeds, dandelion, groundsel, purslane speedwell, shepherd's purse, smallflower bittercress, Virginia pepperweed.
- Provides 70% control of annual ryegrass, henbit, and swinecress.
- Poor control of geranium, curly dock, cutleaf eveningprimrose, clovers/medics/vetch.
- Addition of 2,4-D improves broadleaf control to 80 to 90%.

Winter Weed Control With Glyphosate

- Competition with Gramoxone and Weedmaster
- Winter weed control may be a wash when comparing glyphosate/Gramoxone
- RR cane would be more sensitive to paraquat
- Use of glyphosate would provide bermudagrass control
- **Fit? Yes, where bermudagrass is a problem or as a substitute for Gramoxone**



Glyphosate Fit - Spring Application

- Standard Practice - PRE herbicides applied on a band and rows off-banded.
- Glyphosate could be applied alone or with PRE herbicides for control of emerged grasses to include bermudagrass, johnsongrass, and winter grasses.
- Residual herbicides have a place as a spring application.
- **Fit? Yes, if bermudagrass is a problem**



Glyphosate Fit - Asulox/Envoke Alternative

- Growers may elect to eliminate March PRE application and cleanup weeds with glyphosate.
- Other herbicides could be applied with glyphosate depending on need.
- Apply when johnsongrass is 12- inch probably in April. Glyphosate rate needed would be 2 lb ai/A.
- **Fit? Excellent fit using 3 nozzle per row configuration for coverage.**



Glyphosate Fit - Layby

- Standard Practice - PRE herbicides applied broadcast-directed in May under the canopy after cultivation
- Goal is to prevent weed re-infestation until harvest.
- **Fit? Not Likely** - If so it would most likely be a “salvage treatment”.
- Weeds that have competed for this long have already reduced yield potential which can not be made up.



Glyphosate Fit – After Layby in Late Season

- Vines are the biggest problem late season and 2,4-D is applied overtop.
- Gramoxone in combination with other herbicides is used as a directed treatment for bermudagrass and vine control.
- **Fit? Not Likely – Glyphosate would be substituted for Gramoxone and directed under the canopy for coverage. Note: Glyphosate could be applied earlier than Gramoxone.**



Sugarcane Production Cycle – Sugarcane Planted in 2007

Jan. 2007	Fallow Period					Aug.	Sep.	Oct.	Nov.	Dec.
	Glyphosate programs for bermudagrass, johnsongrass, itchgrass, and nutsedge					PRE Planting		POST After Planting		
	4 qt/A of Roundup 4L formulation					???		2 qt/A		

Jan. 2008	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
	POST Winter Weed Control	PRE Spring Weed Control	POST Asulox + Envoke	PRE Layby		POST After Layby – Directed or Overtop					Harvest
	1 qt/A	2 qt/A <u>or</u>	2 qt/A				Grand total of: 10 qt/A or 2.5 gallons Roundup 4L				

Questions?

- Will RR sugarcane be of value to growers? Yes
- When compared with current technology what weeds could be controlled better with RR technology in sugarcane?
Bermudgrass and johnsongrass
- Will RR sugarcane eliminate the need for soil residual herbicides?
No, but less will be used.



Questions?

- How much glyphosate can be applied per growing season?
 - In corn *no more than 2 qt/A of 4L* formulation and in soybeans *no more than 3 qt/A*
- What will be used as a ripener in place of glyphosate?
- Technology fee structure?
- Weed resistance issues?
 - Could this be a short-lived technology?
 - Selection pressure on weeds will be intense.



New Herbicide

Authority MTZ

- Authority MTZ 45 DF – FMC
- 1:1.5 premix of sulfentrazone (the active ingredient in Spartan/Authority) and metribuzin (the active ingredient in Sencor)
- Rate structure:
 - 18 oz product rate/A = 0.20 lb ai sulfentrazone and 0.30 lb ai metribuzin – cost estimate of \$16.20/A (\$0.90/oz) for Authority MTZ vs. \$24/A for 8 oz of Spartan 4F (0.20 lb ai sulfentrazone)
 - to get 1.5 lbs product/A Sencor would need to add 0.82 lb ai metribuzin (1 lb Sencor DF)
- Would provide broad spectrum weed control.
- Excellent fit at layby for vines. Can injure sugarcane if herbicide contacts new leaves in the whorl.

New Herbicide

EPTC/Eptam

- Eptam 7E – Gowan Company
- Evaluated at 2, 3, 4, and 5 pt/A incorporated on pre-formed beds using a Lilliston rolling cultivator or a hipper/bedder
- Bermudagrass control greater when the Lilliston was used (91% for 2 pts/A for the Lilliston vs. 55% for the hipper/bedder)
- When the hipper/bedder was used, nutsedge was controlled 61% at 2 pts/A and 91% at 5 pts/A
- Cost of Eptam 7E is around \$4.00 per pint
- Gowan would support SLN label for application in fallowed sugarcane fields 90 days before planting; Label under EPA review for 45 day plant back in fallow
- Bermudagrass and nutsedge control increased when used in conjunction with glyphosate

New Herbicide

Yukon 67.5% DG

- **Yukon, a 67.5% DG – Gowan Company**
- **Premix of halosulfuron (the active ingredient in Permit) and dicamba (the active ingredient in Clarity/Vision)**
- **Provides control of both nutsedge and broadleaf weeds**
- **A 6 oz/A rate of Yukon is equivalent to a 1 oz/A rate of Permit and a 6.6 oz/A rate of Clarity/Vision**
- **Can be used with a glyphosate product in fallowed fields or in planted sugarcane after nutsedge emergence in the fall**



Some days all you can do is smile and wait for some kind soul to come pull your ass out of the bind you've gotten yourself into.

Questions?

