



# Sugarcane Weed Management

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# Active EPA Herbicide Label Reviews and Proposed Actions

- ~~Diuron~~
- Metribuzin
- Atrazine
- Dicamba

Docket Number EPA-HQ-OPP-2015-0077  
www.regulations.gov



## Diuron

### Proposed Interim Registration Review Decision Case Number 0046

March 2022

EPA is considering ways to reduce runoff from the use of atrazine in field corn, sorghum, sweet corn, and sugarcane. As part of this effort, EPA is considering options that could be included on a [pick-list](#) (see table below), similar to the pick-list used on the most recent Enlist labels, for atrazine's major use sites. A [pick-list](#) is a set of agronomic practices that a grower can select from, in order to reduce runoff, rather than the Agency mandating specific practices all growers must adopt. EPA is requesting feedback on grower ability to adopt potential pick list practices.

Potential Runoff Reduction Practices	Description of Practice
No pre-emergence applications	Use only post-emergence atrazine applications
Vegetative filter strips – different sizes in A & B soils versus C & D soils	Establish vegetated border near waterways
Cover crop	Plant cover crop between crops in the year before atrazine is used
Contour buffer strips	Establish strips of perennial grasses alternating between wider cultivated strips along contours of sloped land
Terrace farming	Semi-permanent earthen vegetated embankments built across slope of field
Field border	Strip of permanent vegetation on edge of field

August 12, 2019

To Whom It May Concern:

Herbicides are essential to prevent weed competition and losses in sugarcane production. Sugarcane is most susceptible to weed competition during the first 8 to 10 weeks after cane emergence. Tricor Herbicide (UPL NA INC.'s metribuzin brand) is an important part of the recommended management program to protect sugarcane acres. Currently, metribuzin is under registration review with the US Environmental Protection Agency (EPA). After receiving draft human dietary risk assessments, the EPA stated that the drinking water assessments fall above acceptable levels and that the highest estimated drinking water concentration (EDWCs) come from sugarcane. The basic registrant, Bayer Crop Science has proposed a maximum use rate of 1 lb per acre per year for all crops. Currently, the maximum commercial labeled rates for Tricor DF (EPA Registration No. 70506-103) on sugarcane are as follows:

State	Maximum Use Rate (lb per acre)	Application Type
Florida	2 – 2/3	Ground
Louisiana, Texas	4	Broadcast

We understand that growers in your state often use more than 1 lb per acre for best efficacy results. Please consider voicing your support of existing labeled use rates by writing a letter describing current use patterns on sugarcane and the importance of metribuzin in the herbicide management program.



# Winter Weed Complex

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# EmergEd Winter Weeds

- Manage emergEd weeds by late February
  - Paraquat for winter grasses
    - Metribuzin, Diuron, Atrazine or for annual bluegrass
  - 2,4-D, dicamba, or the combination for broadleaf weeds
  - Mesotrione + atrazine for broadleaf weeds and annual bluegrass
    - Replant restrictions **10 months for soybean**



# Fringed Red Maids

Urbatsch, L.E. and A. Meszaros. 2013. *Calandrinia ciliata* (Portulacaceae) new to Louisiana. Phytoneuron 2013-28: 1–3. Published 2 May 2013. ISSN 2153 733X

## *CALANDRINIA CILIATA* (PORTULACACEAE) NEW TO LOUISIANA

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### ABSTRACT

Sampling in agricultural plots set up on the Pest Management Enterprises, LLC Research Farm for the purpose of investigating pest management methods yielded an abundance of *Calandrinia ciliata*, a species new to Louisiana. It is native to the Pacific region of the USA but considered to be non-native in Louisiana. Subsequent to this initial gathering, a second sample from a nearby farm was also brought to the LSU Herbarium for determination, suggesting that the taxon is more generally present in this area of the state. The species is native to North America but not to Louisiana.

**KEY WORDS:** *Calandrinia ciliata*, Portulacaceae, Louisiana flora, agricultural weeds, North American flora



Figures 1–7. *Calandrinia ciliata* in Louisiana. 1. Developing seedling of *C. ciliata*. 2. Several plants of *C.*

# Paraquat



- Paraquat Training

- ❖ Any person who intends to use paraquat must be a certified applicator and is required to take the training. “Use” includes pre-application activities involving mixing and loading the pesticide; applying the pesticide; and other pesticide-related activities, including, but not limited to, transporting or storing opened pesticide containers, cleaning equipment, and disposing of excess pesticides, spray mix, equipment wash waters, pesticide containers, and other paraquat-containing materials.

- Gramoxone 3.0

- Closed-system packaging

- ❖ designed to prevent transfer or removal of the pesticide except directly into proper application equipment.



# Paraquat Research

- Blackberry Farms, Vacherie, LA
- Application Date A: 3-12-2020 3-4 leaf cane
- Application Date B: 4-13-2020 7-8 leaf cane
- RCB 4 Reps (18'X30' Plot Size)
- Gramoxone 2SL @ 3 pt/A
- 0.25% v/v NIS added to treatments
- 2<sup>nd</sup> Stubble 299, NO WEEDS PRESENT
- Harvested 10-26-2020

Treatment	Timing	Tons/a	TRS	SPA
Check	-	48.2 a	227	10980 a
Gramoxone	March	44.4 abc	225	9991 abc
Gramoxone	April	39.9 bcd	222	8848 bc

March 30, 2020

# Asulox and Envoke Partial Failure on Paraquat Resistant Ryegrass



## 2020 Paraquat Resistant Ryegrass Field Research

- Bunkie, LA
- Application Date 2-17-2020
- 1.5 inch Italian Ryegrass
- RCB 4 Reps (6'X40'Plot Size)
- 0.25% v/v NIS added to all treatments

Treatment	Rate/a	% Ryegrass Control	
		18 DAT	35 DAT
Gramoxone	3 pt	5 c	4 c
Gramoxone	0.75 gal*	23 bc	17 c
Gramoxone	1.5 gal*	41 b	29 bc
Gramoxone	3 gal*	73 a	49 ab
Gramoxone	6 gal*	89 a	79 a
Asulox	4 qt	26 bc	75 a

\* Above the maximum labeled rate of Gramoxone

Treatment	Rate/a	% Ryegrass Control	
		18 DAT	35 DAT
Resolve Q**	2.5 oz	69 a	70 b
Caprino**	6 oz	40 c	55 c
Gramoxone	3 pt	5 d	9 d
Asulox + Envoke	2 qt + 0.5 oz	54 b	88 a

\*\* Not Registered for use in sugarcane



# 2022 Ryegrass Competition Study

- Plantcane 299
- St. Gabriel
- RCB, 4 Reps
- St. Gabriel Paraquat Resistant Biotype
- Strelis II@ 1.5 pt/A on No Ryegrass treatment

Treatment	Stalks/A	Tons/A	TRS	Sugar/A
No Ryegrass	37,162 a	37.9 a	216 a	8,182 a
Ryegrass	26,272 b	27.2 b	208 a	5,691 b



# PRE Control of Ryegrass

- Run 1 Applied 10-11-2022; Run 2 Applied 10-27-2022
- RCB 4 reps, 6'X20' plots
- 0.3" Rain 10-30-2022; Days prior to activation 20 days for Run 1 and 4 days for Run 2

Treatment	Rate	% Ryegrass Control 92 DAA Run 1	% Ryegrass Control 76 DAA Run 2
Check	-	0 b	0 b
Zidua*	5 oz	98 a	100 a
Zidua*	8 oz	99 a	100 a
Moccasin II	1.5 pt	97 a	99 a
Alion	3.75 oz	98 a	99 a

\*Experimental compound. Not label for use in cane.





# 2022 Research Demonstration Work

Applied 4-26-2022  
1<sup>st</sup> stubble 299

Treatment	Rate oz/A	% Cane Injury 6 DAT
Stam 4M*	48	3
Stam 4M*	96	8
Reviton*	2	12

-Cane treated with Stam and Reviton  
recovered by 21 DAT



Stam 4M @ 96 oz/A



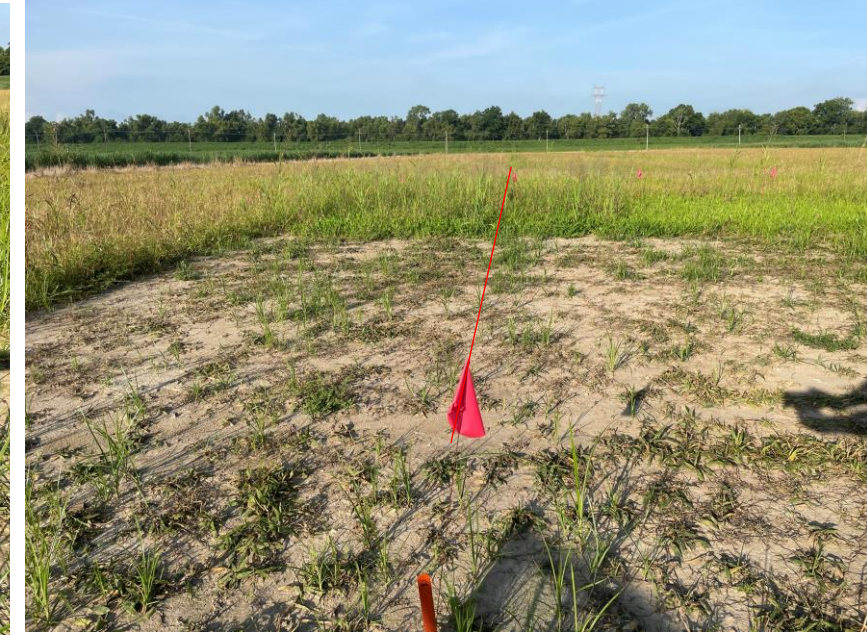
Reviton@ 2 oz/A



Check



PM3 @ 60 oz



PM3 @ 60 oz + Halomax @ 1.3 oz



PM3 @ 60 oz + Envoke @ 0.2 oz



PM3 @ 60 oz + Classic @ 2 oz



PM3 @ 60 oz + Spartan @ 12 oz



7 Weeks After Treatment

# Bermudagrass

Sugar Research Station

Applied 5-5-2023

RCB 4, Reps

Treatment	Rate	% Bermudagrass Injury 13 DAA (5-18-22)
Check	-	0 d
Armezon + Atrazine	1.5 oz + 1 qt	24 b
Armezon + Atrazine + Zidua	1.5 oz + 1 qt + 5 oz	33 b
Armezon + Atrazine + Zidua	1.5 oz + 1 qt + 6 oz	24 b
Armezon + Atrazine + Zidua	1.5 oz + 1 qt + 8 oz	25 b
Liberty	29 oz	10 c
Liberty + Armezon	29 oz + 1 oz	35 b
Liberty + Armezon + Trycera	29 oz + 1 oz + 64 oz	78 a

COC added to all treatments at 1% v/v



Liberty + Armezon + Trycera

5-31-22



Impact of commonly utilized PRE herbicides used in sugarcane production on cover crops.

Herbicide	Rate/A	Rape	Red Clover	Daikon Radish	Hairy Vetch	Austrian Winter Pea	Sunn Hemp
		----- % Cover Crop Injury-----					
Strellius II (S-metolachlor)	1.22 qt	0 <sup>a</sup>	78	0	50	0	0
TriCor (metribuzin)	2 lb	100	100	100	100	58	100
Prowl (pendimethalin)	3 qt	53	83	33	12	0	0
Command (clomazone)	3.3 pt	25	99	38	98	0	0

<sup>a</sup>Injury based on a scale of 0 to 100% with 0 = no injury and 100% = all plants dead.

# Liberty

HoCP 14-885

Planted 8-17-21

Treated 9-11-21

Pictures 9-27-21







**EPA Reg. No. 5905-580**  
**Section 18 File Symbol: 22LA02**

**For Control of Divine Nightshade (*Solanum nigrescens*) in Sugarcane**  
**Section 18 Specific Emergency Exemption**

**FOR DISTRIBUTION AND USE ONLY IN LOUISIANA UNDER**  
**SECTION 18 SPECIFIC EMERGENCY EXEMPTION**

**This specific emergency exemption is effective October 3, 2022**  
**and expires on May 31, 2023**

- This labeling must be in the possession of the user at the time of application.
- It is in violation of federal law to use this product in a manner inconsistent with its labeling. Read the label affixed to the container for TRYCERA before applying.
- Carefully follow all precautionary statements and applicable use directions.
- Any adverse effects resulting from the use of TRYCERA under this emergency exemption must be immediately reported to the Louisiana Department of Agriculture and Forestry.

### **DIRECTIONS FOR USE**

#### **Mixing Instructions**

When TRYCERA® is mixed with water it forms an emulsion (not a solution) and separation may occur unless the spray mixture is agitated continuously.

Add about one-half the required amount of clean water to the spray tank. Start agitation and add the specified amount of TRYCERA. Provide moderate agitation while completing the addition of water and during application.

# Newly Registered Sugarcane Herbicides for 2023

S-metolachlor  
Products

**MOCCASIN II Herbicide**



**Dual II Magnum<sup>®</sup>**  
syngenta.

**Medal II EC**  
HERBICIDE syngenta.

S-metolachlor +  
Metribuzin

GROUP 5 | 15 HERBICIDES  
**Boundary 6.5 EC**  
Herbicide  
syngenta.

Metribuzin +  
Flumioxazin

**Panther<sup>®</sup> MTZ**  
Nufarm

Metribuzin

**RANCOR<sup>™</sup>**  
75 DF  
Atticus

Trinexapac-ethyl  
(Generic Moddus)

**MAZATA<sup>™</sup>**  
Atticus

# Questions?

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