

**Disclaimer:**

This document is based on the results from an individual trial and may contain experimental use patterns that are currently off-label. **This document does not provide any interpretation and should not be taken as an endorsement of any unregistered use pattern.** Professional advice should be sought for specific recommendations to ensure access to the most up to date information and knowledge. **Any product referred to in this document must be used strictly as directed, and in accordance with all label or permit instructions. Always consult the label prior to use.**

## Herbicide Compatibility for Feathertop Rhodes Grass Control

Trial ID: LB1817

Location:

Bowenville

Trial Year: 2018

Investigator:

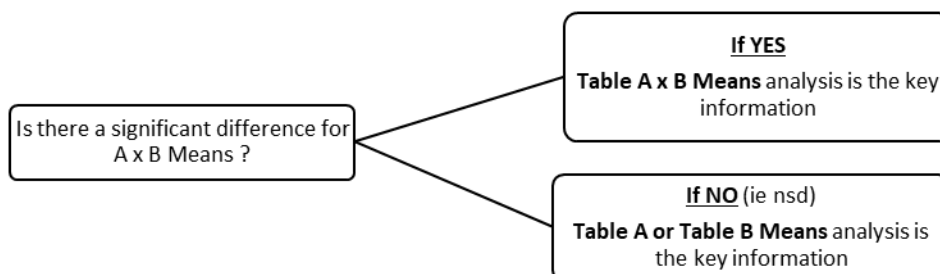
Linda Bailey

Objective:	To evaluate the compatibility of broadleaf herbicides in mixtures with glyphosate for fallow grass control	
Situation:	Fallow	
Application:	A (First Knock)	B (Second Knock)
Application Date:	12/11/2018	26/11/2018 (14 days after Application A)
Nozzles:	AIXR110015	
Volume:	100 L/ha	
Pressure:	300 kPa	
Weed:	Feathertop Rhodes Grass	
Weed Population:	34 plants/m <sup>2</sup>	
Weed Stage at Application:	Full tiller, prior to stem elongation	
Keywords:	Feathertop Rhodes grass, knockdown, double knock, fallow	

Trial designed and analysed as a Strip Plot

	In Simple Terms
Table of A Means:	Mean of 'First Knock' performance with <b>ALL</b> 'Second Knock' treatments
Table of B Means:	Mean of 'Second Knock' performance with <b>ALL</b> 'First Knock' treatments
Table of A x B Means:	'First Knock' performance with <b>EACH</b> 'Second Knock' treatment

How to Interpret?



## Herbicide Compatibility for Feathertop Rhodes Grass Control

Trial ID: LB1817

Location:

Bowenville

Trial Year: 2018

Key analyses are highlighted in grey in the analysis of variance tables below

Pest Scientific Name				<i>Chloris virgata</i>		
Pest Name				Feathertop Rhodes Grass		
Assessment Date				5/12/2018	3/01/2019	3/01/2019
Assessment Type				BURNDOWN	COUNT	PANICLES
Assessment Unit				%	/m <sup>2</sup>	/m <sup>2</sup>
Treatment-Evaluation Interval				23 DAA	52 DAA	52 DAA
ARM Action Codes				AS	AL	
Trt No.	Treatment	Product Rate	Appln. Code			
<b>TABLE OF A MEANS (First Knock)</b>						
1	Roundup CT Shogun Hasten	1000ml/ha 500ml/ha 1% v/v		82b	12.1t-	0.6t-
2	Roundup CT Verdict 520 Uptake	1000ml/ha 100ml/ha 0.5% v/v		65de	13.1t-	1.8t-
3	Roundup CT Shogun Sharpen Hasten	1000ml/ha 500ml/ha 17g/ha 1% v/v		67cde	7.6t-	2.9t-
4	Roundup CT Verdict 520 Sharpen Hasten	1000ml/ha 100ml/ha 17g/ha 1% v/v		58fg	21.8t-	2.6t-
5	Roundup CT Shogun Tordon 75-D Hasten	1000ml/ha 500ml/ha 1000ml/ha 1% v/v		56g	17.0t-	3.6t-
6	Roundup CT Verdict 520 Tordon 75-D Uptake	1000ml/ha 100ml/ha 1000ml/ha 0.5% v/v		70cd	8.5t-	2.5t-
7	Roundup CT Shogun Group HC V Hasten	1000ml/ha 500ml/ha 600ml/ha 1% v/v		63ef	5.8t-	0.8t-
8	Roundup CT Verdict 520 Group HC V Hasten	1000ml/ha 100ml/ha 600ml/ha 1% v/v		71c	9.5t-	1.1t-
9	Roundup CT Shogun Pixxaro Hasten	1000ml/ha 500ml/ha 400ml/ha 1% v/v		69cd	9.7t-	1.0t-
10	Roundup CT Verdict 520 Pixxaro Uptake	1000ml/ha 100ml/ha 400ml/ha 0.5% v/v		69cd	8.6t-	0.7t-
11	Roundup CT Shogun Group HC T Hasten	1000ml/ha 500ml/ha 500ml/ha 1% v/v		68cd	7.6t-	2.4t-

Means followed by same letter do not significantly differ (P=.05, LSD)

t=Mean descriptions are reported in transformed data units, and are not de-transformed.

Mean comparisons performed only when AOV Treatment P (F) is significant at mean comparison OSL.

## Herbicide Compatibility for Feathertop Rhodes Grass Control

Trial ID: LB1817

Location:

Bowenville

Trial Year: 2018

Pest Scientific Name Pest Name Assessment Date Assessment Type Assessment Unit Treatment-Evaluation Interval ARM Action Codes				<i>Chloris virgata</i> Feathertop Rhodes Grass		
				5/12/2018 BURNDOWN %	3/01/2019 COUNT /m <sup>2</sup>	3/01/2019 PANICLES /m <sup>2</sup>
				23 DAA	52 DAA AS	52 DAA AL
Trt No.	Treatment	Product Rate	Appln. Code			
12	Roundup CT Verdict 520 Group HC T Adigor	1000ml/ha 100ml/ha 500ml/ha 0.5% v/v		63ef	8.8t-	0.3t-
13	Roundup CT Shogun Basta Hasten	1000ml/ha 500ml/ha 2000ml/ha 1% v/v		90a	19.9t-	2.1t-
14	Roundup CT Verdict 520 Basta Uptake	1000ml/ha 100ml/ha 2000ml/ha 0.5% v/v		88a	16.8t-	1.6t-
<b>TABLE OF B MEANS (Second Knock)</b>						
1	First Knock only	-	A	45b	18.7t-	3.0t-
2	Gramoxone 250	2400ml/ha	B	94a	6.0t-	0.6t-
<b>TABLE OF A x B MEANS (First Knock x Second Knock)</b>						
1	Roundup CT Shogun Hasten	1000ml/ha 500ml/ha 1% v/v	A A A	67e	21.8t-	0.8t-
1b	Roundup CT Shogun Hasten Gramoxone 250	1000ml/ha 500ml/ha 1% v/v 2400ml/ha	A A A B	97a	5.2t-	0.4t-
2	Roundup CT Verdict 520 Uptake	1000ml/ha 100ml/ha 0.5% v/v	A A A	33gh	25.4t-	4.4t-
2b	Roundup CT Verdict 520 Uptake Gramoxone 250	1000ml/ha 100ml/ha 0.5% v/v 2400ml/ha	A A A B	97a	4.7t-	0.4t-
3	Roundup CT Shogun Sharpen Hasten	1000ml/ha 500ml/ha 17g/ha 1% v/v	A A A A	40fg	10.9t-	3.5t-
3b	Roundup CT Shogun Sharpen Hasten Gramoxone 250	1000ml/ha 500ml/ha 17g/ha 1% v/v 2400ml/ha	A A A A B	93ab	4.8t-	2.4t-
4	Roundup CT Verdict Sharpen Hasten	1000ml/ha 100ml/ha 17g/ha 1% v/v	A A A A	25i	34.9t-	5.6t-
4b	Roundup CT Verdict Sharpen Hasten Gramoxone 250	1000ml/ha 100ml/ha 17g/ha 1% v/v 2400ml/ha	A A A A B	92abc	11.8t-	1.0t-

## Herbicide Compatibility for Feathertop Rhodes Grass Control

Trial ID: LB1817

Location:

Bowenville

Trial Year: 2018

Pest Scientific Name Pest Name Assessment Date Assessment Type Assessment Unit Treatment-Evaluation Interval ARM Action Codes				<i>Chloris virgata</i> Feathertop Rhodes Grass		
				5/12/2018 BURNDOWN % 23 DAA	3/01/2019 COUNT /m <sup>2</sup> 52 DAA AS	3/01/2019 PANICLES /m <sup>2</sup> 52 DAA AL
Trt No.	Treatment	Product Rate	Appln. Code			
5	Roundup CT Shogun Tordon 75-D Hasten	1000ml/ha 500ml/ha 1000ml/ha 1% v/v	A A A A	25i	27.5t-	9.4t-
5b	Roundup CT Shogun Tordon 75-D Hasten Gramoxone 250	1000ml/ha 500ml/ha 1000ml/ha 1% v/v 2400ml/ha	A A A A B	87bcd	9.0t-	1.1t-
6	Roundup CT Verdict Tordon 75-D Uptake	1000ml/ha 100ml/ha 1000ml/ha 0.5% v/v	A A A A	43f	14.2t-	5.2t-
6b	Roundup CT Verdict Tordon 75-D Uptake Gramoxone 250	1000ml/ha 100ml/ha 1000ml/ha 0.5% v/v 2400ml/ha	A A A A B	97a	4.2t-	1.0t-
7	Roundup CT Shogun Group HC V Hasten	1000ml/ha 500ml/ha 600ml/ha 1% v/v	A A A A	33gh	8.6t-	1.2t-
7b	Roundup CT Shogun Group HC V Hasten Gramoxone 250	1000ml/ha 500ml/ha 600ml/ha 1% v/v 2400ml/ha	A A A A B	92abc	3.5t-	0.4t-
8	Roundup CT Verdict Group HC V Hasten	1000ml/ha 100ml/ha 600ml/ha 1% v/v	A A A A	45f	15.5t-	3.4t-
8b	Roundup CT Verdict Group HC V Hasten Gramoxone 250	1000ml/ha 100ml/ha 600ml/ha 1% v/v 2400ml/ha	A A A A B	97a	5.0t-	0.0t-
9	Roundup CT Shogun Pixxaro Hasten	1000ml/ha 500ml/ha 400ml/ha 1% v/v	A A A A	43f	17.2t-	3.0t-
9b	Roundup CT Shogun Pixxaro Hasten Gramoxone 250	1000ml/ha 500ml/ha 400ml/ha 1% v/v 2400ml/ha	A A A A B	95a	4.3t-	0.0t-

## Herbicide Compatibility for Feathertop Rhodes Grass Control

Trial ID: LB1817

Location:

Bowenville

Trial Year: 2018

Pest Scientific Name Pest Name Assessment Date Assessment Type Assessment Unit Treatment-Evaluation Interval ARM Action Codes				<i>Chloris virgata</i> Feathertop Rhodes Grass		
				5/12/2018 BURNDOWN % 23 DAA	3/01/2019 COUNT /m <sup>2</sup> 52 DAA AS	3/01/2019 PANICLES /m <sup>2</sup> 52 DAA AL
Trt No.	Treatment	Product Rate	Appln. Code			
10	Roundup CT Verdict Pixxaro Uptake	1000ml/ha 100ml/ha 400ml/ha 0.5% v/v	A A A A	40fg	16.2t-	1.3t-
10b	Roundup CT Verdict Pixxaro Uptake Gramoxone 250	1000ml/ha 100ml/ha 400ml/ha 0.5% v/v 2400ml/ha	A A A A B	98a	3.3t-	0.3t-
11	Roundup CT Shogun Group HC T Hasten	1000ml/ha 500ml/ha 500ml/ha 1% v/v	A A A A	43f	8.9t-	2.7t-
11b	Roundup CT Shogun Group HC T Hasten Gramoxone 250	1000ml/ha 500ml/ha 500ml/ha 1% v/v 2400ml/ha	A A A A B	93ab	6.4t-	2.2t-
12	Roundup CT Verdict Group HC T Adigor	1000ml/ha 100ml/ha 500ml/ha 0.5% v/v	A A A A	28hi	19.8t-	0.8t-
12b	Roundup CT Verdict Group HC T Adigor Gramoxone 250	1000ml/ha 100ml/ha 500ml/ha 0.5% v/v 2400ml/ha	A A A A B	97a	2.1t-	0.0t-
13	Roundup CT Shogun Basta Hasten	1000ml/ha 500ml/ha 2000ml/ha 1% v/v	A A A A	85cd	27.6t-	4.4t-
13b	Roundup CT Shogun Basta Hasten Gramoxone 250	1000ml/ha 500ml/ha 2000ml/ha 1% v/v 2400ml/ha	A A A A B	95a	13.4t-	0.8t-
14	Roundup CT Verdict Basta Uptake	1000ml/ha 100ml/ha 2000ml/ha 0.5% v/v	A A A A	83d	23.3t-	3.3t-
14b	Roundup CT Verdict Basta Uptake Gramoxone 250	1000ml/ha 100ml/ha 2000ml/ha 0.5% v/v 2400ml/ha	A A A A B	92abc	11.3t-	0.6t-

## Herbicide Compatibility for Feathertop Rhodes Grass Control

Trial ID: LB1817

Location:

Bowenville

Trial Year: 2018

COMPLETE STRIP-BLOCK AOV <i>Chloris virgata</i> - Feathertop Rhodes Grass 5/12/2018 BURNDOWN % 23 DAA						
Source	DF	Sum of Squares	Mean Square	F	Prob.(F)	LSD (.05)
Total	82	66722.321429				
R	2	12.500000	6.250000	0.383	0.6856	
A	13	7993.154762	614.858059	26.460	0.0001	6
RA	26	604.166667	23.237179			
B	1	50274.107143	50274.107143	481.256	0.0021	10
RB	2	208.928571	104.464286			
AB	13	7221.726190	555.517399	34.061	0.0001	7
RAB	25	407.738095	16.309524			

COMPLETE STRIP-BLOCK AOV <i>Chloris virgata</i> - Feathertop Rhodes Grass 3/01/2019 COUNT /m <sup>2</sup> 52 DAA AS						
Source	DF	Sum of Squares	Mean Square	F	Prob.(F)	LSD (.05)
Total	82	241.463113				
R	2	39.449590	19.724795	17.648	0.0001	
A	13	37.090520	2.853117	1.753	1.081	1.5
RA	26	42.304758	1.627106			
B	1	71.003105	71.003105	10.135	0.0861	2.5
RB	2	14.011436	7.005718			
AB	13	9.661255	0.743173	0.665	0.7768	1.8
RAB	25	27.942450	1.117698			

COMPLETE STRIP-BLOCK AOV <i>Chloris virgata</i> - Feathertop Rhodes Grass 3/01/2019 PANICLES /m <sup>2</sup> 52 DAA AL						
Source	DF	Sum of Squares	Mean Square	F	Prob.(F)	LSD (.05)
Total	82	12.696325				
R	2	0.315419	0.157709	2.166	0.1356	
A	13	2.185710	0.168132	1.143	0.3705	0.5
RA	26	3.824092	0.147080			
B	1	3.139135	3.139135	12.728	0.0704	0.5
RB	2	0.493249	0.246624			
AB	13	0.918614	0.070663	0.971	0.5038	0.5
RAB	25	1.820105	0.072804			

### Assessment Type

BURNDOWN = % Burndown/brown out

### ARM Action Codes

AS = Automatic square root transformation of X+0.5

AL = Automatic log transformation of X+1

DAA = Days after Application A

## Herbicide Compatibility for Feathertop Rhodes Grass Control

Trial ID: LB1817

Location:

Bowenville

Trial Year: 2018

### Conclusions:

The trial was established to evaluate the impact of broadleaf herbicides on the efficacy of Roundup CT + Verdict and Roundup CT + Shogun to control Feathertop Rhodes grass (FTR) and the ability of a second knock to overcome any antagonism. The FTR population was ~34 weeds/m<sup>2</sup> and at full tillering, just prior to stem elongation, when the first knock was applied. A second knock of Gramoxone 2400 mL/ha was applied 14 days later.

Burndown was assessed 23 days after the first knock application. The addition of Basta to either Roundup CT + Verdict or Roundup CT + Shogun significantly increased burndown compared to all other first knock treatments. In Roundup CT + Verdict mixtures, the only herbicide to reduce burndown was Sharpen. However in Roundup CT + Shogun mixtures, all herbicides other than Basta significantly reduced burndown ratings.

Application of the second knock significantly increased burndown for all mixtures and overcame any significant antagonism with the exception of the Tordon 75-D mixture with Roundup CT + Shogun.

Weed and panicle counts were conducted 52 days after the first knock application. There were no significant differences between the treatments for number of surviving FTR plants or the number of panicles/m<sup>2</sup>. However, the second knock application of Gramoxone clearly trended to reduced numbers of both weeds ( $p=0.09$ ) and panicles ( $p=0.07$ ) compared to a first knock alone. Although the addition of Basta significantly increased burndown ratings, there was no indication of improved levels of actual weed suppression or control.

In this situation, grass control antagonism - as measured by % burndown – occurred in Shogun with all mixing partners except Basta. In contrast Verdict burndown was only antagonised by Sharpen. A second knock of Gramoxone appeared effective in overcoming this antagonism. There was a clear trend to improved weed control and suppression of panicle numbers when Gramoxone was applied as a second knock.

Application Description		
	A	B
Application Date:	12/11/2018	26/11/2018
Application Start Time:	2:30 PM	10:30 AM
Application Stop Time:	6:15 PM	11:30 AM
Application Method:	SPRAY	
Application Timing:	LATE POST-EM	
Application Placement:	FOLIAR	
Air Temperature, Unit:	29 C	29 C
% Relative Humidity:	28	27
Wind Velocity, Unit:	5.8 km/h	11 km/h
Wind Direction:	E	SW
Dew Presence (Y/N):	No	
Soil Moisture:	DRY	
% Cloud Cover:	20	5
Next Moisture Occurred On:	17/11/2018	28/11/2018

Application Equipment		
	A	B
Application Equipment:	Polaris	
Equipment Type:	BOOM	
Operation Pressure, Unit:	300 kPa	
Nozzle Type:	AIXR	
Nozzle Size:	110015	
Nozzle Spacing, Unit:	50 cm	
Nozzles/Row:	8	
Boom Length, Unit:	4 m	
Boom Height, Unit:	60 cm	
Ground Speed, Unit:	7.2 km/h	
Spray Volume, Unit:	100 L/ha	