

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.**

Alternative 2nd Knocks for Broadleaf Weeds

Trial ID: LB1905 Location: Warra Trial Year: 2019
Investigator: Linda Bailey

Objective:	To evaluate 2 nd knock options for broadleaf weed control	
Situation:	Fallow	
Application Code:	A	B
Application Date:	29/04/2019	9/05/2019
Application Timing:	Late post emergent	10 days after Application A
Nozzles:	AIXR110015	
Volume:	100 L/ha	
Pressure:	350 kPa	
Weed:	Common Sowthistle	African Turnip Weed
Weed Stage:	40% of population flower buds visible	70% of population 4 leaf
Weed Range:	4 leaf to end of flowering	4 leaf to flower buds visible
Weed Population:	9 plants/m ²	3 plants/m ²
Keywords:	Common sowthistle, African turnip weed, knockdown, double knock, fallow	

The 1st knock treatment was Roundup CT 1 L/ha + Zulu XT 700 mL/ha + Hasten 1%. It was applied to all plots.

Alternative 2nd Knocks for Broadleaf Weeds

Trial ID: LB1905

Location:

Warra

Trial Year:

2019

Pest Scientific Name			<i>Sonchus oleraceus</i>	<i>Sisymbrium thellungii</i>	<i>Sonchus oleraceus</i>	
Pest Name			Common Sowthistle	African Turnip Weed	Common Sowthistle	
Description					Surviving	Regrowing
Assessment Date			17/05/2019	17/05/2019	4/06/2019	4/06/2019
Assessment Type			BURNDOWN	BURNDOWN	COUNT	COUNT
Assessment Unit			%	%	/m ²	/m ²
Treatment-Evaluation Interval			8 DAB	8 DAB	26 DAB	26 DAB
ARM Action Code:					AA	AA
Trt No.	Treatment	Product Rate				
1	1 st Knock Only	-	43.3f	93.3-	1.44a	0.93a
2	Gramoxone	1600ml/ha	66.7e	96.7-	0.06bc	0.02b
3	Gramoxone Hasten	1600ml/ha 1% v/v	73.3de	95.0-	0.21b	0.06b
4	Gramoxone	2400ml/ha	83.3bc	96.7-	0.01c	0.00b
5	Sharpen	9g/ha	43.3f	91.7-	1.53a	1.22a
6	Sharpen Hasten	9g/ha 0.5% v/v	83.3bc	93.3-	0.03bc	0.01b
7	Sharpen Hasten	9g/ha 1% v/v	76.7cd	95.0-	0.06bc	0.00b
8	Sharpen Hasten	26g/ha 1% v/v	86.7ab	96.7-	0.05bc	0.01b
9	Gramoxone Sharpen Hasten	800ml/ha 9g/ha 1% v/v	86.7ab	96.7-	0.06bc	0.00b
10	Gramoxone Sharpen	1600ml/ha 9g/ha	83.3bc	96.7-	0.01c	0.01b
11	Gramoxone Sharpen Hasten	1600ml/ha 9g/ha 1% v/v	91.7ab	100.0-	0.00c	0.00b
12	Gramoxone Sharpen Hasten Liase	1600ml/ha 9g/ha 1% v/v 2% v/v	93.3a	96.7-	0.02bc	0.00b
13	Basta	3750ml/ha	76.7cd	93.3-	0.01c	0.01b
14	Basta	5000ml/ha	73.3de	95.0-	0.01c	0.00b
LSD P=			8.73	nsd	2.034t	2.036t
Treatment Prob.(F)=			0.0001	0.1872	0.0001	0.0001

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.

DAB = Days after Application B

Alternative 2nd Knocks for Broadleaf Weeds

Trial ID: **LB1905** Location: **Warra** Trial Year: **2019**

Pest Scientific Name			<i>Sisymbrium thellungii</i>	
Pest Name			African Turnip Weed	
Description			Surviving	Regrowing
Assessment Date			4/06/2019	4/06/2019
Assessment Type			COUNT	COUNT
Assessment Unit			/m ²	/m ²
Treatment-Evaluation Interval			26 DAB	26 DAB
Trt No.	Treatment	Product Rate		
1	1 st Knock Only	-	0.02-	0.00-
2	Gramoxone	1600ml/ha	0.03-	0.00-
3	Gramoxone Hasten	1600ml/ha 1% v/v	0.00-	0.00-
4	Gramoxone	2400ml/ha	0.00-	0.00-
5	Sharpen	9g/ha	0.00-	0.00-
6	Sharpen Hasten	9g/ha 0.5% v/v	0.00-	0.00-
7	Sharpen Hasten	9g/ha 1% v/v	0.00-	0.00-
8	Sharpen Hasten	26g/ha 1% v/v	0.00-	0.00-
9	Gramoxone Sharpen Hasten	800ml/ha 9g/ha 1% v/v	0.02-	0.02-
10	Gramoxone Sharpen	1600ml/ha 9g/ha	0.00-	0.00-
11	Gramoxone Sharpen Hasten	1600ml/ha 9g/ha 1% v/v	0.02-	0.00-
12	Gramoxone Sharpen Hasten Liase	1600ml/ha 9g/ha 1% v/v 2% v/v	0.00-	0.00-
13	Basta	3750ml/ha	0.00-	0.00-
14	Basta	5000ml/ha	0.00-	0.00-
LSD P=			nsd	nsd
Treatment Prob.(F)=			0.6764	0.4786

Assessment Type
 BURNDOWN = % Burndown/brown out
ARM Action Codes
 AA = Automatic arcsine square root % transformation
 DAB = Days after Application B

Alternative 2nd Knocks for Broadleaf Weeds

Trial ID: LB1905 Location: Warra Trial Year: 2019

Conclusions:

A 1st knock of Roundup CT 1 L/ha + Zulu XT 700 mL/ha + Hasten 1% was applied to a common sowthistle population of ~9 weeds/m² with ~40% of weeds at an early inflorescence stage (~30 cm diameter). 2nd knock treatments were applied 10 days later.

Gramoxone + Sharpen + Hasten + Liase provided the most burndown (~93%) at 8 days after application. The addition of Hasten to Sharpen significantly improved the % burndown. Sharpen without crop oil was not significantly different to the 1st knock alone.

Surviving weed counts were conducted 26 days after the 2nd knock application to allow commercial planting. The 1st knock alone provided almost complete control of African turnip weed and >80% control of the common sowthistle population. However the majority of surviving sowthistle were actively regrowing. Sharpen without crop oil provided no benefit in weed control compared to the 1st knock alone with most surviving sowthistle also regrowing.

In contrast, all other 2nd knocks resulted in >98% control of common sowthistle. Although there was no significant difference between these treatments there was a trend to Gramoxone 2400 mL/ha, Gramoxone 1600 mL/ha plus Sharpen 9 g/ha or Basta to provide the most effective overall control. No useful data was generated on African turnip weed due to the effectiveness of the 1st knock.

In this trial, Basta (3750 or 5000 mL/ha) was the most promising alternative to a Gramoxone based 2nd knock with Sharpen alone plus Hasten also effective.

Application Description		
	A	B
Application Date:	29/04/2019	9/05/2019
Application Start Time:	3:05 PM	1:15 PM
Application Stop Time:	3:30 PM	3:10 PM
Application Method:	SPRAY	
Application Timing:	LATE POST-EM	
Application Placement:	FOLIAR	
Air Temperature, Unit:	28 C	26 C
% Relative Humidity:	38	37
Wind Velocity, Unit:	4 km/h	5.4 km/h
Wind Direction:	NE	NW
Dew Presence (Y/N):	No	
Soil Moisture:	DRY	
% Cloud Cover:	20	0
Next Moisture Occurred On:	1/05/2019	3/06/2019

Pest Stage at Application		
Pest 1:	Common Sowthistle	
Stage Majority, %:	51	40%
Stage Minimum, %:	14	30%
Stage Maximum, %:	69	20%
Diameter, Unit:	50 cm	
Height, Unit:	70 cm	
Density, Unit:	9 m ²	
Pest 2:	African Turnip Weed	
Stage Majority, %:	14	70%
Stage Minimum, %:	14	70%
Stage Maximum, %:	51	10%
Diameter, Unit:	35 cm	
Height, Unit:	20 cm	
Density, Unit:	3 m ²	

Alternative 2nd Knocks for Broadleaf Weeds

Trial ID: LB1905

Location:

Warra

Trial Year:

2019

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:	70 cm	
Ground Speed, Unit:	7.2 km/h	
Spray Volume, Unit:	100 L/ha	