



## Alternative Second Knock Herbicides

**Trial ID:** RB1806      **Location:** Blue Nobby      **Trial Year:** 2018

### Assessment Type

BURNDOWN = % Burndown/brown out

### ARM Action Codes

AA = Automatic arcsine square root % transformation

T1 = Arcsine square root percent ([4])

T2 = Arcsine square root percent ([6])

DAB = Days after Application B

### **Objectives:**

To evaluate the efficacy of second knock applications on broadleaf weeds

### **Conclusions:**

Second knock treatments were applied 11 days after a commercial application of glyphosate plus 2,4-D ester. Common sowthistle was the target weed but low levels of common vetch were also present. Common sowthistle plants appeared moisture stressed when the trial was established.

At 8 days after application, there was little difference in % burndown of common sowthistle between second knock applications with high levels of burndown (90-95%) from all treatments. Levels of burndown of vetch were lower (50-82%), with Gramoxone appearing more effective than Sharpen.

High levels of sowthistle control (97%) were achieved from the first knock application alone at 50 days after application. The majority of second knock applications significantly improved control with Sharpen + Hasten generally more effective and consistent than Gramoxone. There was no apparent rate response to Sharpen and no clear benefit from Gramoxone/Sharpen mixtures compared to Sharpen alone.

All surviving sowthistle plants were showing signs of regrowth when the final plant counts were made at 39 days after the double knocks had been applied.

High levels of control of common vetch were achieved from all treatments with no clear benefit from any second knock application.

Sharpen at all rates provided equivalent or superior control to commercial rates of Gramoxone when applied as a second knock against common sowthistle in this situation.

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Location: Blue Nobby

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Application Description		
	A	B
Application Date:	5/07/2018	16/07/2018
Application Method:	SPRAY	
Application Timing:	LATE POST-EM	
Application Placement:	FOLIAR	
Applied By:	Grower	Richard B
Air Temperature, Unit:		16 C
% Relative Humidity:		48
Wind Velocity, Unit:		10 km/h
Wind Direction:		NW
Dew Presence (Y/N):		No
Soil Moisture:		DRY
% Cloud Cover:		10

Pest Stage at Each Application				
	A		B	
Pest 1:	Common Sowthistle			
Stage Majority, Percent:	20+	91%	20+	91%
Stage Minimum, Percent:	0-10cm	9%	0-10cm	9%
Diameter, Unit:	20	cm	20	cm
Height, Unit:	20	cm	20	cm
Density, Unit:	6.8	m <sup>2</sup>	6.8	m <sup>2</sup>
Pest 2:	Common Vetch			
Stage Majority, Percent:	65	100%	65	100%
Diameter, Unit:	20	cm	20	cm
Height, Unit:	20	cm	20	cm
Density, Unit:	0.8	m <sup>2</sup>	0.8	m <sup>2</sup>

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