



1987

Chemical control of four o'clock (*Oxalis purpurea*) and narrow leaf oxalis (*Oxalis glabra*).

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Recommended Citation

Peirce, J R, and Rayner, B J. (1987), *Chemical control of four o'clock (*Oxalis purpurea*) and narrow leaf oxalis (*Oxalis glabra*)*.. Department of Primary Industries and Regional Development, Western Australia, Perth. Report.

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<u>Trial Title:</u>	Chemical control of Four O'clock (<u>Oxalis purpurea</u>) and narrow leaf oxalis (<u>Oxalis glabra</u>).	
<u>Trial Number:</u>	87N095	
<u>Location:</u>	Jennapullen, K. McPherson	
<u>Soil Type:</u>		
<u>Blanket Treatments:</u>		
<u>Ground Preparations:</u>		
<u>Experimental Design:</u>		
<u>Application Record:</u>		
<u>Sprayed:</u>	Pre-sowing 25/5/87	Post-emergence 30/6/87
<u>Time:</u>	Treatments 1-4 1.10-1.45 p.m.	Treatments 5-12 1.00-2.10 p.m.
<u>Spray Vehicle:</u>	Tractor	Tractor
<u>Nozzle Type:</u>	8001LP	8001LP
<u>Pressure (kPa):</u>	200	175
<u>Volume of Application (L/ha):</u>	87	67
<u>Speed of Spraying (km/hr):</u>	8	9
<u>Wind Speed (km/hr):</u>	5-12 (SW)	2-5 (SW)
<u>Temp. Dry Bulb (°C):</u>	23	18
<u>Wet Bulb (°C):</u>	15	14
<u>Relative Humidity:</u>	45	65
<u>Soil Surface:</u>	Dry	Dry
<u>At Depth:</u>	Damp	Damp
<u>Stage of Crop:</u>	Pre-sowing	
<u>Stage of Weeds:</u>		

Table 17. 87N095 Control of small leaved Oxalis (*Oxalis glabra*)

	Treatment*	Rate/ha	% Control	Plants/m ²	
6	Isoproturon	4 L (post)	0	219.7	A
13	Nil		0	217	A
5	Isoproturon	2 L (post)	6	203.2	A
11	Starane	2 L	11	193.7	A
2	Roundup + w. agent (pre)	1 L	37	137.	AB
7	Ally	5.0 g	41	127.5	AB
4	Isoproturon	4 L (pre)	42	126.2	AB
8	Ally	7.5 g	48	113.3	AB
12	Logran + Isoproturon	20 g + 1 L	50	109.0	AB
1	Roundup	1 L (pre)	53	101.	AB
3	Isoproturon	2 L (pre)	55	97	AB
10	Logran	40 g	69	62.7	B
9	Logran	20 g	72	60.5	B

* Treatments 1-4 applied pre-sowing, remainder post-emergence.

Data not transformed, ANOVA had very high cv (46%). Logran gave reasonable control. Post seeding treatments using Isoproturon gave very poor control compared to the high rate of Isoproturon applied pre-emergence.

Table 18. 87N095 Control of Oxalis purpurea (Four O'clock)

	Treatment	Rate/ha	% Control	Plants/m ²	
13	Nil		0	53.2	A
11	Starane	2 L	36	33.8	B
1	Roundup	1 L (pre)	38	32.8	B
2	Roundup + w.agent (pre)	1 L	59	21.8	BC
4	Isoproturon	4 L (pre)	61	21.0	BCD
5	Isoproturon	2 L (post)	66	18.2	CD
3	Isoproturon	2 L (pre)	66	18.0	CD
7	Ally	5.0 g	76	12.7	CDE
8	Ally	7.5 g	81	10.0	CDE
9	Logran	25 g	85	8.2	CDE
6	Isoproturon	4 L (post)	86	7.2	CDE
10	Logran	40 g	89	6	DE
12	Logran + Isoproturon		94	3	E

Data not transformed, ANOVA had very high cv (41%).

Logran either as a single application or a mixture with Isoproturon gave best control.

All treatments better than unsprayed.

Table 19. 87N095 Control of Clover

	Treatment	Rate/ha	% Control Rated 24/7	
6	Isoproturon	4 L (post)	100	A
7	Ally	5.0 g	100	A
8	Ally	7.5 g	100	A
10	Logran	40 g	100	A
9	Logran	25 g	97.8	A
5	Isoproturon	2 L (post)	96.7	A
11	Starane	2 L	95	A
4	Isoproturon	4 L (pre)	93.3	A
12	Logran + Isoproturon	20 g + 1 L	91.1	A
1	Roundup	1 L (pre)	86.1	AB
3	Isoproturon	2 L (pre)	84.4	AB
2	Roundup + wetting agent	1 L (pre)	72.2	B
13	Nil		0	C

Percentage data not transformed.

Roundup and Isoproturon 2 L (pre) not as good as remaining treatments for control of clover.

Isoproturon 4 L (post), Ally & Logran (40 g) gave 100% control.

Table 20. 87N095 Control of Erodium

	Treatment	Rate/ha	% Control Rated 24/7	
3	Isoproturon	2 L (pre)	100	A
6	Isoproturon	4 L (post)	100	A
7	Ally	5 g	100	A
8	Ally	7.5 g	100	A
11	Starane	2 L	100	A
5	Isoproturon	2 L (post)	99.4	A
12	Logran + Isoproturon	20 g + 1 L	99.4	A
4	Isoproturon	4 L (pre)	79.4	AB
1	Roundup	1 L (pre)	75.	AB
2	Roundup + w.agent (pre)	1 L	71.1	AB
10	Logran	40 g	51.1	BC
9	Logran	25 g	34.4	C
13	Nil			D

No transformation made on the % data.

Logran gave very poor control of Erodium.

Table 21. 87N095 Control of Grasses

	Treatment	Rate/ha	% Control	
6	Isoproturon	4 L (post)	96.3	A
5	Isoproturon	2 L (post)	81.7	AB
8	Ally	7.5 g	68.3	AB
12	Logran + Isoproturon	20 g + 1 L	66.7	AB
4	Isoproturon	4 L (pre)	63.3	AB
9	Logran	25 g	53.3	B
10	Logran	40 g	50	B
2	Roundup + w.agent (pre)	1 L	48.3	B
3	Isoproturon	2 L (pre)	46.7	B
7	Ally	5.0 g	43.3	B
1	Roundup	1 L (pre)	40	B
11	Starane	2 L	0	C
13	Nil		0	C

Rated August 17th.

Isoproturon 2 & 4 L/ha post emergent gave the best control of grasses.

Data not transformed.

Grasses present: Bromus hordaceus
B. rubens
Pentaschistis airoides

Table 22. 87N095 Control of Four O'clock in cereals - Crop yield

	Treatment	Rate/ha	Grain yield tonnes/ha	
5	Isoproturon	2 L (post)	1.388	A
6	Isoproturon	4 L (post)	1.312	AB
3	Isoproturon	2 L (pre)	1.179	ABC
4	Isoproturon	4 L (post)	1.158	ABC
12	Logran + Isoproturon	20 g + 1 L	1.057	ABCD
2	Roundup + wetting agent	1 L (pre)	1.050	ABCD
9	Logran	25 g	1.004	BCD
10	Logran	40 g	0.941	BCD
9	Ally	7.5 g	0.845	CDE
1	Roundup	1 L (pre)	0.814	CDE
7	Ally	5.0 g	0.695	DE
13	Nil treated		0.521	EF
11	Starane	2 L	0.345	F

Treatments using single doses of Isoproturon or mixture with Isoproturon gave the highest yields. Results indicate that most of the yield response was due to the grass control with Isoproturon.