



Department of
Primary Industries and
Regional Development

Research Library

Experimental Summaries - Plant Research


Research Publications

1979

Experimental summary 1979

J R. PEIRCE

Follow this and additional works at: <https://researchlibrary.agric.wa.gov.au/rqmsplant>

 Part of the [Agronomy and Crop Sciences Commons](#), [Fresh Water Studies Commons](#), [Soil Science Commons](#), and the [Weed Science Commons](#)

Recommended Citation

PEIRCE, J R. (1979), *Experimental summary 1979*. Department of Agriculture and Food, Western Australia, Perth. Report.

This report is brought to you for free and open access by the Research Publications at Research Library. It has been accepted for inclusion in Experimental Summaries - Plant Research by an authorized administrator of Research Library. For more information, please contact jennifer.heathcote@agric.wa.gov.au, sandra.papenfus@agric.wa.gov.au, paul.orange@dpird.wa.gov.au.

EXPERIMENTAL SUMMARY

1979

J.R. Peirce
Weed Agronomy
Plant Research Division

WESTERN AUSTRALIA
DEPT OF AGRICULTURE
LIBRARY
-7 APR 1981

CONTENTS

- 79ME28
79NO30 A & B Soursob (Oxalis caprae) Control Along
Roadsides.
- 79NO29 Pre and Post Emergent Applications of Diuron
for Soursob Control in Cereals.
- 79ME31
79NO39 Post Emergent Control of Soursob in
Cereals.
- 79ME26 A & B Control of Matricaria (Pentzia sp.) in Cereals.
- 79NO40 Dormancy of Cape Tulip (Homeria sp.).
- 79NO38 Patersons Curse (Echium plantagineum)
Control in pastures.
Afghan thistle (Solanum hoplopetalum)
Control in pastures.

79ME28 and 79N030 A & B

Soursob Control Along Roadsides

Chemicals Roundup 1, 2 and 3 lha⁻¹)
Diuron 1, 2 and 3 lha⁻¹) applied at early flowering
Sencor TD 1, 2 and 3 kgha⁻¹)

Roundup 1, 2 and 3 lha⁻¹ - applied as additional treatment
at late flowering.

COMMENTS

Visual assessments indicat that Roundup at 2 and 3 lha⁻¹ have given best control. Late spraying at one site with Roundup shown to be superior to early spraying.

Regrowth of Soursob from treated areas will be measured during 1980.

79N029 : Pre and post emergent applications of diuron for soursob control in cereals.

Property : J. Miller - Beverley

Crop : Gamenya wheat

Weed : Mid-styled tetraploid form of soursob

Date of Sowing : 18/6/79

Date of Spraying : Pre-em 20/6; post-em 9/7

Stage of Crop : 2 leaves

Stage of Weed : Range 1-9 leaves. Average 4 leaves
3 cm across.

Treatments A) Post Sowing Pre + emergence	Yield, kg ha ⁻¹	% Yield Increase	Net * Returns ha ⁻¹
1) Diuron 1.0 l ha ⁻¹	1597	27	176.9
2) 1.5 l ha ⁻¹	1647	31	180.1
3) 2.0 l ha ⁻¹	1813	44	196.4
4) Control	1259		143.5
	417	LSD (0.05)	
B) Post-emergence			
1) Diuron 1.0 l ha ⁻¹	1756	49	195.1
2) 1.5 l ha ⁻¹	1687	43	184.6
3) 2.0 l ha ⁻¹	1687	43	182.0
4) Control	1180		134.5
	227	LSD (0.05)	

* Net returns based on \$114 tonne⁻¹ for wheat less cost of chemicals.

Comments

- 1) Control of soursob will be assessed from plant counts taken after the break of the season in 1980.
- 2) Pre-emergence applications of diuron appear safe to use and maybe of value for controlling other weeds such as ryegrass, capeweed, radish, turnip and doublegees.
- 3) Part of the yield increase obtained from these treatments would be due to control of doublegee and radish which was present on the site.
- 4) Experiment also conducted at Trayning but due to poor season the yields were not taken. However no visual damage due to post sowing, pre-emergent or post emergent applications of diuron were noted.

79MB31 : Post Emergent Control of Soursob in Cereals.
Property : B.L. Riley, Kodj Kodjin (Trayning).
Crop : Halberd wheat
Weed : Mid-styled tetraploid form of Soursob.
Date of Spraying : 22/6/79
Stage of Crop : 2 leaves
Stage of Growth of Weed : Small plants 3-10 cm diameter (6-10 leaves).

Treatments Rate ha ⁻¹	% Visual Control of Soursob	Grain Yield kg ha ⁻¹	% Yield Change	Net Return \$ ha ⁻¹
1. Diuron 1.5 l	22	1135	7	120.9
2. Diuron 2.0 l	11	1183	5	123.6
3. Diuron 2.5 l	46	1246	11	127.9
4. Linuron 1.5 kg	38	1183	5	117.4
5. Linuron 2.0 kg	38	1206	7	114.1
6. Linuron 2.5 kg	58	1302	15	119.3
7. Sencor TD 0.5 kg	45	1040	-8	
8. Sencor TD 0.75 kg	25	1008	-11	
9. Sencor TD 1.0 kg	60	968	-14	
10. Control	8	1127		128.5

LSD (0.05)

= 38 113

79N039 : Post Emergent Control of Soursob in Cereals.
Property : N. Hansen - Jenapullen (Northam).
Crop : Songlen wheat
Weed : Soursob, short-styled pentaploid form with flecked leaflets.
Date of Spraying : 2/7/79
Growth Stage of Crop : 2.5 - 3.0 leaves
Growth Stage of Weed : Large range of plants 2-23 leaves.
Date of Weed Counts : 17/8/79

Treatments Rate ha ⁻¹	Control of Soursob Plants m ⁻²	% Control of Soursob	Grain Yield kg ha ⁻¹	% Yield Change	Net Returns \$ ha ⁻¹ *
1) Diuron 1.5 l	73	64	983	31	103.5
2) Diuron 2.0 l	67	67	1208	61	126.7
3) Diuron 2.5 l	53	74	1225	63	125.9
4) Linuron 1.5 kg	57	72	1267	69	126.5
5) Linuron 2.0 kg	53	74	1292	72	123.7
6) Linuron 2.5 l	23	89	1250	67	113.8
7) Sencor TD 0.5 kg	97	52	1125	50	
8) Sencor TD 0.75 kg	90	56	1067	42	
9) Sencor TD 1.0 kg	90	56	1167	56	
10) Control	203	0	750		85.5

* Net returns based on \$114/tonne⁻¹ less cost of chemical.

Comments

- 1) Sencor TD (Sencor + Tribunil + 2,4-D) may have some affect on wheat crops grown in the lower rainfall areas. At Northam it appeared relatively safe to use on wheat although the control of soursob was not quite as good.
- 2) Because of the high cost of linuron and the fact that it is a powder (which causes problems with application) the diuron still appears to be the most satisfactory treatment.

79MS26A : Control of Matricaria (Pentzia suffruticosa) in Cereals.

Property : Ryan - Kodj Kodjin (Trayning).

Crop : Wheat

Date of Spraying : 25/7/79

Crop Stage : Advanced 4-6 tillers.

Weed Stage : Very small, range from Cotyledon to 4 true leaves (5 cm across) most Cotyledon - 2 leaves.

Volume of Application : 40 l/ha

Treatments

Rate ml/ha ⁻¹	Grain Yield kg ha ⁻¹	% Control of Matricaria
1) Diuron 600 + MCPA 400	1125	14
2) Diuron 1000 + MCPA 400	1139	65
3) Diuron 600 + Bromoxynil 800	1109	84
4) Diuron 1000 + Bromoxynil 1000	1051	99
5) Diuron 600	1049	33
6) Diuron 1000	1039	49
7) MCPA 400	1007	0
8) Bromoxynil 1000	991	79
9) MCPA 2000	1096	1
10) Bromoxynil 1500	1097	68
11) Brominil M 1400	1057	71
12) Control	1184	

Comments

- 1) Infestation was very small, late germinating and because of dry season was not very vigorous. Experiment should be repeated to get clearer indication of results from various treatments.

79ME26B : Control of Matricaria or Globe Chamomile (Pentzia globifera) in Cereals.

Property : F.R. Jones - Mukinbuddin.

Crop : Wheat

Date of Spraying : 1) 5/7/79 and 2) 25/7/79.

Crop Stage : Time (1) 2.0 - 2.5 leaves
 (2) 2.0 - 4.0 tillers

Weed Stage : Time (1) Very few emerged, most at Cotyledon stage.
 Time (2) Wide range from Cotyledon to 8-10 true leaves some 6 cm across.

Volume of Application : 40 l/ha⁻¹

Treatments

	Grain Yield ₁ kg ha ⁻¹	% Yield Increase	% Weed Control	Net Returns \$ ha ⁻¹
1) Diuron 600 ml + MCPA 400 ml	1100	-4	0	121.1
2) Diuron 1000 ml + MCPA 400 ml	1244	9	25	136.1
3) Diuron 600 ml + Bromoxynil 1000 ml	1389	21	98	147.2
4) Diuron 1000 ml + Bromoxynil 1000 ml	1322	16	81	138.2
5) Diuron 300 ml Time (1) + 600 ml Time 2	1400	22	88	155.4
6) Diuron 500 ml Time (1)	1678	47	94	188.4
7) MCPA 400 ml	1200	5	27	136.2
8) Bromoxynil 1000 ml	1478	29	96	160.2
9) MCPA 2000 ml	1378	20	0	153.0
10) Bromoxynil 1500 ml	1500	31	97	160.0
11) Brominil M 1400 ml	1500	31	83	157.8
12) Control	1144	0	0	130.
LSD 0.05	305			

Comments

- 1) Application of diuron, bromoxynil or mixtures of both gave good control of the weed.
- 2) The early application of a residual herbicide such as diuron might be more beneficial than the contact herbicide bromoxynil because of the staggered germination pattern of these two Matricaria species. By waiting to allow full germination of Matricaria before applying the contact herbicide considerable yield loss through competition may occur during season when adequate moisture is available.

78N040 : Cape Tulip Dormancy (1).

Property : D. Moir, Beverley.

Experimental Details : Factorial experiment using the following factors:

- 1) Burning vs Non Burning of pasture or stubble.
- 2) Systems a) Continuous cropping
b) Double cropping
c) Alternating crop and pasture
d) Continuous pasture.
- 3) Depth of planting of cormils 12 mm, 25 mm, 50 mm and 100 mm.

Experiment to run for 5 years. Cultural treatments applied after first cormil counts in 1979. Therefore only treatments operating at first count are burning vs non burning and depth of planting.

Depth of Planting	Percentage of sprouted cormils	
	Burnt	Non Burnt
12 mm	87	63
25 mm	70	83
50 mm	0.02	0.02
100 mm	0	0.00

Comments

- 1) No statistical analyses carried out, but there is some indication that burning promotes sprouting of cormils close to the surface.
- 2) There is a marked decline of sprouting below 25 mm.

79N038 : Patersons Curse Control in Pasture.

2,4-DB applied at 1.0, 1.5, 2.0, 2.5 and 3.0 l ha⁻¹ with and without wetting agent.

Sheep grazed on Patersons Curse one month after spraying.

Comments

Visual assessments indicate that better reduction of Patersons Curse occurred where no wetting agent was added to the treatments. Reductions of Patersons Curse was around 80% where rates of 2.0, 2.5 and 3.0 l ha⁻¹ of 2,4-DB was used. When a wetting agent was added reduction of Patersons Curse at same rates of 2,4-DB was about 60-65%. No obvious damage to clover occurred.

: Afghan Thistle Control.

Experiments located at six sites. Wagin (2), Balkuling, Goomalling, Three Springs and Perenjori.

Trials sprayed during summer 1978-79.

Twenty-five treatments applied to test some 10 chemicals applied at different rates and in various combinations.

Comments

Only two sites observed during 1980. Present indications are that only Roundup at 6 l ha⁻¹, Tordon 50 D at 5 l ha⁻¹ and Hyvar XL at 12 l ha⁻¹ have given any worthwhile control for at least 12 months.