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Alternative chemical for soursob control

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Recommended Citation

Pearce, G A. (1983), *Alternative chemical for soursob control*. Department of Agriculture and Food, Western Australia, Perth. Report.

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Department of Agriculture
Western Australia

Experimental Summary
1983 Results

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An alternative chemical for Soursob control

Dowco 433, A Dow Chemical Product

83PE47

Location: Dongara
 Crop: Gamenya Wheat - 63 kg/ha
 Sown: 5.7.83
 Soil Type: Alluvial Loam
 Spraying: 18.7.83

Results: Visual Ratings 23. 8.83
 21. 9.83
 Grain Yield 12.12.83

Treatment Number	Herbicide and Rates per hectare	Yield kg/ha	D.M.R	Soursob weed counts per sq. metre
1	Dowco 433 250 ml/ha AI	2666	A B C	54
2	Dowco 433 300 ml/ha AI	2560	B	53
3	Dowco 433 350 ml/ha AI	2793	A B	44
4	Dowco 433 400 ml/ha AI	2853	A B	40
5	Dowco 433 450 ml/ha AI	2486	C	47
6	Dowco 433 500 ml/ha AI	2640	A B C	48
7	Glean 20 gms product	2926	A	46
8	Diuron 2.0	2573	B C	44
9	Untreated	2453	C	116

Although Soursob plant numbers were approx. even for all treatments, the Soursob in the Glean treatment was looking sickly at time of plant counts 23.8.83. A later inspection (21.9.83) revealed that most of the Soursob in the Glean plots was dead but in the Dowco 433 treatments most surviving plants showed little or no chemical damage.

Effects of early spraying Phenoxy herbicides
on Gamenya Wheat

83NO67

Location: B. Haywood, Goomalling
 Crop: Gamenya Wheat
 Sown: 16th June 1983 40 kg/ha
 Soil Type: Sandy with gravel subsoil
 Spraying: 1.5 leaf stage 15. 7.83
 3 leaf stage 3. 8.83
 5 leaf stage 11. 9.83
 Results: Visual Ratings 5.10.83
 7.11.83
 Grain Yield 9.12.83

Treatments and Means				Yield in kg/ha			
1	Diuron-MCPA	350 ml - 400 ml	1 5/2	2023	A	B	C
2	Diuron-MCPA	350 ml - 400 ml	3 Lf	2207	A	B	C
3	Diuron-MCPA	350 ml - 400 ml	5 Lf	2047	A	B	C
4	Diuron-2,4-D	500 ml - 250 ml	1 5/2	2167	A	B	C
5	Diuron-2,4-D	500 ml - 250 ml	3 Lf	2223	A	B	
6	Diuron-2,4-D	500 ml - 250 ml	5 Lf	2057	A	B	C
7	MCPA	400 ml	1 5/2 Lf	1937			C D
8	MCPA	400 ml	3 Lf	2057	A	B	C
9	MCPA	400 ml	5 Lf	1933			C D
10	Bromoxynil-MCPA	1.0 L	1 5/2 Lf	2043	A	B	C
11	Bromoxynil-MCPA	1.0 L	3 Lf	2230	A		
12	Bromoxynil-MCPA	1.0 L	5 Lf	1940		B	C D
13	Dicamba-MCPA	1.0 L	1 5/2 Lf	2067	A	B	C
14	Dicamba-MCPA	1.0 L	3 LF	1970	A	B	C D
15	Dicamba-MCPA	1.0 L	5 Lf	1927			C D
16	Unsprayed control			1710			D

Weeds present were capeweed. All treatments gave satisfactory control. The unsprayed plot had a capeweed population of 6 per m².

The timing of spraying is important. The recommended time is 3 leaf which was the best yielding treatment with the exception of Dicamba-MCPA.

There was no visible distortion of the wheat plants with any of the treatments. The number of tillers was also not affected.

Effects of Dow Products on Gamenya Wheat at two times of spraying

Location: B. Haywood, Goomalling
 Crop: Gamenya Wheat
 Sown: 16th June 1983 40 kg/ha
 Soil Type: Sandy with gravel subsoil
 Spraying: 3-4 leaf 3. 8.83
 5-6 leaf 11. 9.83

Results: Visual Ratings 11. 9.83
 5.10.83
 7.11.83
 Grain Yields 9.12.83

Treatment Number	Herbicide and Rates per hectare	Yield kg/ha	D.M.R.
1	Dowco 433 250 ml/ha AI	1773	A
2	Dowco 433 500 ml/ha AI	1670	A B
3	Dowco 433 1000 ml/ha AI	1713	A B
4	Dowco 433/MCPA 250/250 ml/ha AI	1667	A B
5	Lontrel 60 ml/ha AI	1740	A B
6	Lontrel 100 ml/ha AI (100 ml)	1675	A B
7	Tordon 242 15.75/252 (600 ml)	1703	A B
8	Brominil M 200/200 ml/ha AI	1690	A B
9	Untreated 3-4 leaf	1420	C
10	Dowco 433 5-6 leaf 250 ml/ha AI	1557	B C
11	Dowco 433 5-6 leaf 500 ml/ha AI	1563	B C
12	Dowco 433 5-6 leaf 1000 ml/ha AI	1647	A B
13	Dowco 433/MCPA 5-6 leaf 300/300 ml/ha AI	1717	A B
14	Lontrel 5-6 leaf 60 ml/ha AI	1647	A B
15	Lontrel 5-6 leaf 100 ml/ha AI	1667	A B
16	Tordon 242 5-6 leaf 19.69/315 (750 ml)	1673	A B
17	Brominil M 5-6 Leaf 200/200 ml/ha AI	1717	A B
18	Untreated 5-6 leaf	1460	C

The major weed at this site was capeweed at a low level, 6 m². All treatments gave a satisfactory control of capeweed at the early stage of spraying (3-4 leaf). The treatments 10 and 11 did not kill all the capeweed and thus the yield reduction.

There was no apparent crop distortion or retardation by any of the treatments.

Hoegrass tank mixes with sequential applications

83NO68

Location: B. Haywood, Goomalling
 Crop: Gamenya Wheat
 Sown: 16th June 1983 40 kg/ha
 Soil Type: Sandy with gravel subsoil
 Spraying: 2-3 leaf 3. 8.83
 4-5 leaf 11. 9.83
 Results: Visual Ratings 5.10.83
 7.11.83
 Grain Yields 9.12.83

Treatments 83NO68

Treatment Number	Herbicide and Rates per hectare	Yield in kg/ha	D.M.R.
1	Hoegrass - Wetter 0.75 L + timing 2-3 leaf	1538	F G
2	Hoegrass - Wetter 0.75 L + timing 4-5 leaf	1576	D E F G
3	Hoegrass - Wetter 1.0 L + timing 2-3 leaf	1460	G
4	Hoegrass - Wetter 1.0 L + timing 4-5 leaf	1546	F G
5	Hoegrass - Wetter 1.5 L + timing 2-3 leaf	1603	C D E F G
6	Hoegrass - Wetter 1.5 L + timing 4-5 leaf	1826	B C D E F
7	Combine 1.5 L + timing 2-3 leaf	2085	A B
8	Combine 1.5 L + timing 4-5 leaf	1955	A B
9	Combine 2.0 L + timing 2-3 leaf	1916	A B C
10	Combine 2.0 L + timing 4-5 leaf	1906	A B C
11	Combine 3.0 L + timing 2-3 leaf	1865	A B C D E
12	Combine 3.0 L + timing 4-5 leaf	1963	A B
13	Hoegrass 0.75 L + Bromoxynil MCPA 0.75 L + timing 2-3 leaf	2136	A B
14	Hoegrass 0.75 L + Bromoxynil MCPA 0.75 L + timing 4-5 leaf	1843	A B C D E F

Cont'd

Treatment Number	Herbicide and Rates per hectare	Yield in kg/ha	D.M.R.
15	Hoegrass 1.0 L + Bromoxynil MCPA 1.0 L + timing 2-3 leaf	1996	A B
16	Hoegrass 1.0 L + Bromoxynil MCPA 1.0 L + timing 4-5 leaf	2120	A B
17	Hoegrass 1.5 L + Bromoxynil MCPA 1.5 L + timing 2-3 leaf	2151	A
18	Hoegrass 1.5 L + Bromoxynil MCPA 1.5 L + timing 4-5 leaf	2086	A B
19	Bromoxynil MCPA 0.75 L + timing 2-3 leaf	1861	A B C D E
20	Bromoxynil MCPA 0.75 L + timing 4-5 leaf	1876	A B C D
21	Bromoxynil MCPA 1.0 L + timing 2-3 leaf	1895	A B C
22	Bromoxynil MCPA 1.0 L + timing 4-5 leaf	1886	A B C D
23	Bromoxynil MCPA 1.5 L + timing 2-3 leaf	2036	A B
24	Bromoxynil MCPA 1.5 L + timing 4-5 leaf	1858	A B C D E
25	Nil + timing 2-3 leaf	1426	G
26	Nil + timing 4-3 leaf	1560	E F G

The only weeds at this site were capeweed. All treatments which had the Bromoxynil MCPA chemicals gave a satisfactory control. The unsprayed plots had a capeweed population of 6 per m².

No distortion was visible and flowering appeared normal for all treatments.

The timing of hoegrass spraying is important for ryegrass control but not so for crop safety.

Corn Spurry Chemical Trial

83PE60

Location: B. Doncon, Beverley
 Crop: Jacup Wheat
 Sown:
 Soil Type: Loam
 Spraying: 21.7.83

Results: Visual Ratings 11. 9.83
 5.10.83
 6.11.83
 Grain Yields 21.12.83

Treatment Number	Herbicide and Rates per hectare	Yield kg/ha	D.M.R.	WEED CONTROL			
				Corn Spurry weed	Capeweed	Clover	Grasses
1	Diuron-MCPA 350 ml - 400 ml	3053	A B	No	Yes	Yes	No
2	Igran 500 ml	1947	B C	90%	Yes	No	50%
3	Tribunil 850 G	3223	A	Yes	Yes	Yes	Yes
4	Barrel 1.0 L	2860	B C	No	Yes	Yes	No
5	Buckshot 1.0 L	1630		No	80%	Yes	No
6	Glean 20 G	2333		Yes	No	Yes	Yes
7	Brominil M 1.0 L	2833	C	No	Yes	No	No
8	Nil Control	2596	D	No	No	No	No

Sprayed when the crop was in the 3-4 leaf stage.

The main weeds at this site were corn spurry, silver grass, winter grass, clover, and capeweed.

Although Glean controlled the corn spurry, the Jacup wheat was visibly set back with obvious yield reduction. Even though this was a corn spurry site, controlling only the capeweed and clover gave a good response i.e. Diuron-MCPA. The corn spurry did not compete with the crop .

Broad Leaf Weed Trail using Roche Maag. Coded Products

83NO64

Location: B. Haywood, Goomalling
 Crop: Gamenya Wheat
 Sown: 16th June 1983 40 kg/ha
 Soil Type: Sandy over gravel
 Spraying: 9.8.83

Results: Visual Rating 11. 9.83
 5.10.83
 7.11.83
 Grain Yield 8.12.83

Treatment Number	Herbicide and Rates per hectare	Yield kg/ha	D.M.R	Plant Counts Harvester Between runs
1	RM230 750 ml + RM232 7 ml	1356	B C	80 11
2	RM230 750 ml + RM232 21 ml	1343	B C	72 7
3	RM230 750 ml + RM232 42 ml	1409	A B	42 9
4	RM230 750 ml + RM232 84 ml	1304	B C	74 14
5	RM231 750 ml	1257	B C	67 9
6	RM231 750 ml + RM232 7 ml	1440	A B	38 5
7	RM231 750 ml + RM232 21 ml	1424	A B	42 8
8	RM231 750 ml + RM232 42 ml	1340	B C	74 16
9	RM231 750 ml + RM232 84 ml	1340	B C	68 11
10	Barrel 750 ml	1184	C	87 17
11	Barrage MA 750 ml	1557	A	30 8
12	Untreated Control	781	D	300 60

This site was on a lupin stubble with a very high radish population in strips from the harvester.

No treatment controlled all the radish. The trial was sprayed at night and this may have affected the chemical action, or the population may have been too high for the rate of chemical.

The growth stage of the radish was seedling to 3 true leaf.

Chemical Additive Trial

83NO63

Location: B. Haywood, Goomalling
 Crop: Gamenya Wheat
 Sown: 14th June 1983 40 kg/ha
 Soil Type: Sandy Loam
 Spraying: 9. 8.83
 Results Visual Ratings 11. 9.83
 5.10.83
 7.11.83
 Grain Yield 8.12.83

Treatment Number	Herbicide and Rates per hectare	Yield in kg/ha	D.M.R.
1	RM230 1000 ml + RM240 200 ml	1928	B C D
2	RM230 1000 ml + RM240 300 ml	1875	C D
3	RM230 1000 ml + RM240 400 ml	1813	D
4	RM230 1000 ml + RM140 500 ml	1980	B C D
5	RM231 1000 ml + RM240 200 ml	1926	B C D
6	RM231 1000 ml + RM240 300 ml	1825	D
7	RM231 1000 ml + RM240 400 ml	1820	D
8	RM231 1000 ml	2131	A B
9	Barrell 1000 ml	2258	A
10	Barrage MA 1000 ml	2056	A B C
11	Untreated	1426	E

Main weeds were radish and capeweed. All treatments controlled the weeds. The cause of yield differences was due to crop retardation by some treatments.

The RM number products are experimental chemicals from Roche Maag.