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EXPERIMENTAL SUMMARIES

1990

R.W.Madin
J.Buckley

Weed Science Branch
Division of Plant Industries

Experimental Summary 1990

R.W. Madin

J. Buckley

- | | | |
|-----|---------|---|
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CROP ESTABLISHMENT TRIAL.

TRIAL NUMBER: 90WH74

LOCATION: Wongan Hills Research Station

OFFICERS: R.Madin, J.Buckley, WHRS staff

OBJECTIVE: To assess the effect of timing of Roundup and Sprayseed application and cultivation on crop growth.

TRIAL DESIGN: Randomised Complete Blocks, 3 Replicates

PLOT SIZE: 40m x 3m = 120m²

CROP VARIETY: Reeves

SEEDING: 30/5/90 - 49kg/Ha + 53kg/Ha D.A.P.

SITE PREPARATION -

SITE DESCRIPTION: Uniform area with high density weed population.

SOIL TYPE: Loamy Sand.

HARVESTING: 40m x 1.4m = 56m²

SPRAYING DETAILS: 29/3/90 - as reqd treatments
7/5/90 - 23DBS + as reqd treatments
17/5/90 - 13DBS treatments
29/5/90 - 1DBS + as reqd treatments
6/8/90 - Sprayed whole trial with
Hoegrass 1.5L/Ha + Brominil M 1.4L/Ha + W.A.

	29/3/90	7/5/90	17/5/90	29/5/90	6/8/90
VOLUME:	73L/Ha	74L/Ha	69L/Ha	70.5L/Ha	60L/Ha
PRESSURE:	170kPa	155kPa	140kPa	170kPa	190kPa
NOZZLE TYPE:	110015LP	80015LP	80015LP	80015LP	80015LP
WIND (KPH-DIR):	5-10 ENE	8-12 WSW	5-10 NNE	8-12 SSW	8-12NNW
SOIL SURFACE:	Dry	Dry	Dry	Moist	Moist
MOISTURE:					
SUB-SURFACE:	Dry	Dry	Moist	Wet	Moist
TEMPERATURE (DRY BULB):	31.0°C	27.5°C	22.0°C	14.5°C	15.0°C
TEMPERATURE (WET BULB):	18.5°C	18.5°C	16.5°C	11.5°C	10.5°C
RELATIVE HUMIDITY:	28.0%	40.0%	55.0%	71.0%	55.0%

CROP
GROWTH STAGE: Pre Pre Pre Pre Z15.5/24-25

WEED
GROWTH STAGE:

Capeweed	5-10cm	5-10cm	5-15cm	10-20cm	10-30cm
Doublegee	2-6 leaf	5-10cm	5-10cm	5-10cm	10-20cm
Goosefoot	10-15cm	10-15cm	10-15cm	10-15cm	
Barley Grass	10cm	till'ng	till'ng	till'ng	till'ng
Brome Grass	10cm	till'ng	till'ng	till'ng	till'ng
Silver Grass				1-2 leaf	till'ng
Ryegrass				1-2 leaf	till'ng
Clover	2-5cm	5-10cm	5-10cm	10-15cm	5-15cm
Radish					10-20cm

Treatment				Wheat plant Counts /m2	Wheat head Counts /m2	Wheat yield kg/Ha
1.	Sprayseed	1 DBS	Direct Drilled	13.4	205.6	1515
2.	Sprayseed	10 DBS	Direct Drilled	14.2	179.6	1569
3.	Sprayseed	21 DBS	Direct Drilled	13.7	164.8	1349
4.	Roundup CT	1 DBS	Direct Drilled	13.0	193.2	1741
5.	Roundup CT	10 DBS	Direct Drilled	14.3	161.7	1619
6.	Roundup CT	21 DBS	Direct Drilled	13.4	149.3	1658
7.	Roundup CT	as reqd	Direct Drilled	13.9	213.0	2048
8.	Roundup CT	1 DBS	Scarify Seed	12.7	166.0	1569
9.	Roundup CT	10 DBS	Scarify Seed	14.7	209.2	1726
10.	Roundup CT	21 DBS	Scarify Seed	12.9	176.5	1688
11.	Roundup CT	as reqd	Scarify Seed	12.9	217.3	1980
12.	Sprayseed	1 DBS	Scarify Seed	13.8	179.6	1753
13.	Sprayseed	10 DBS	Scarify Seed	13.4	183.9	1682
14.	Sprayseed	21 DBS	Scarify Seed	13.8	195.7	1887
15.	Unsprayed	Control	Conventional	13.0	172.8	1485
				SED	SED	SED
				1.0	16.4	148.7

Comments

This trial is part of an ongoing series of trials initiated in 1984. In that year the use of glyphosate and other knockdown herbicides resulted in poor crop establishment in commercial crops in some instances. It was thought that large weeds at the time of spraying knockdowns with seeding following soon after led to the problems experienced. Dead and dying weeds, cloddy seedbeds and even residual herbicide effects were implicated.

Trials since 1984 have failed to clearly link large weeds and the use of Knockdown herbicides with poor crop establishment and reduced crop yield.

This current trial has not changed our current thinking on the problem. This was fully reported in the Weed Science Branch 1988-89 Annual Report.

RYEGRASS CONTROL IN WHEAT USING SLOW RELEASE TRIFLURALIN.

TRIAL NUMBER: 90AB19

LOCATION: GSARI-Katanning

OFFICERS: R.Madin, J.Buckley

OBJECTIVE: To compare 2 experimental formulations of Controlled Release Trifluralin at 4 rates and 2 timings with some commonly used herbicides for the control of Ryegrass in wheat.

TRIAL DESIGN: Randomised Complete Blocks, 3 Replicates

PLOT SIZE: 30m x 3m = 90m²

CROP VARIETY: Reeves

SEEDING: 15/6/90 - Sown at 90kg/Ha + Agras No.1 at 100kg/Ha

SOIL TYPE: Sandy Clay Loam

SITE PREPARATION: Site was sown with Ryegrass and Clover approximately 2 weeks prior to seeding. Sprayed whole trial area with Sprayseed at 1.0L/Ha, prior to applying 3DBS treatments.

SITE DESCRIPTION: Wheat crop with uniform stand of Ryegrass over whole trial area.

HARVESTING: Weed Science Wintersteiger 30m x 1.4m = 42m²

SPRAYING DETAILS: 12/6/90 - 3DBS Treatments
15/6/90 - IBS Treatments

	12/6/90	15/6/90
VOLUME:	68L/Ha	68L/Ha
PRESSURE:	140kPa	140kPa
NOZZLE TYPE:	80015LP	80015LP
WIND (KPH-DIR):	5-10 WNW	10-15 SSW
SOIL SURFACE:	Wet	Wet
MOISTURE: SUB-SURFACE:	Wet	Wet
TEMPERATURE (DRY BULB):	15.5°C	13.0°C
TEMPERATURE (WET BULB):	13.0°C	10.0°C
RELATIVE HUMIDITY:	76.0%	69.0%
CROP GROWTH STAGE:	3DBS	IBS
WEED GROWTH STAGE:	PRE-EM	PRE-EM

CROP AND WEED RATINGS 15/8/90.

TREATMENT	RATE (ml/Ha)	TIMING	CROP	RYEGRASS	C/WEED	RADISH
1. CRT 288	2272	3 DBS	1	9	5	6
2. CRT 288	2272	0 DBS	1	6	7	2
3. CRT 288	4545	3 DBS	1	5	7	5
4. CRT 288	4545	0 DBS	1	3	5	4
5. CRT 288	6818	3 DBS	1	5	5	2
6. CRT 288	6818	0 DBS	2	3	9	2
7. CRT 288	9090	3 DBS	1	4	4	5
8. CRT 288	9090	0 DBS	2	2	6	4
9. CRT 295	2272	3 DBS	1	7	6	6
10. CRT 295	2272	0 DBS	1	4	9	2
11. CRT 295	4545	3 DBS	1	5	6	2
12. CRT 295	4545	0 DBS	2	4	6	6
13. CRT 295	6818	3 DBS	1	5	7	5
14. CRT 295	6818	0 DBS	1	2	5	5
15. CRT 295	9090	3 DBS	1	4	9	9
16. CRT 295	9090	0 DBS	3	2	6	7
17. Trifluralin 1000		3 DBS	1	5	7	9
18. Trifluralin 1000		0 DBS	1	3	5	4
19. Stomp 330	1800	3 DBS	2	3	7	9
20. Stomp 330	1800	0 DBS	2	3	4	6
21. Logran	35g	0 DBS	3	2	1	4
22. Control	--	--	1	9	9	5

E.W.R.C.

RATINGS (1-9)

RYEGRASS MAXIMUM POPULATION = 200/m²CAPEWEED MAXIMUM POPULATION = 10/m²RADISH MAXIMUM POPULATION = 10/m²

GROWTH STAGES:

CROP Z16/24

RYEGRASS Z12/22

CAPEWEED 1-4 cm

RADISH cot-10 cm

Treatment	Ryegrass plant counts/m ²		Wheat yield kg/Ha
1. CRT 288 2272ml/ha 3DBS	177.8		2064
2. CRT 288 2272ml/ha 1DBS	154.2		1960
3. CRT 288 4545ml/ha 3DBS	120.5		2048
4. CRT 288 4545ml/ha 1DBS	55.6		2306
5. CRT 288 6818ml/ha 3DBS	160.0		1893
6. CRT 288 6818ml/ha 1DBS	48.0		2087
7. CRT 288 9090ml/ha 3DBS	60.4		2111
8. CRT 288 9090ml/ha 1DBS	32.9		2186
9. CRT 295 2272ml/ha 3DBS	166.7		1869
10. CRT 295 2272ml/ha 1DBS	80.9		2008
11. CRT 295 4545ml/ha 3DBS	188.0		1996
12. CRT 295 4545ml/ha 1DBS	79.6		2099
13. CRT 295 6818ml/ha 3DBS	111.6		2135
14. CRT 295 6818ml/ha 1DBS	65.8		2345
15. CRT 295 9090ml/ha 3DBS	51.8		2068
16. CRT 295 9090ml/ha 1DBS	57.8		2365
17. Trifluralin 1000ml/ha 3DBS	102.2		1944
18. Trifluralin 1000ml/ha 1DBS	99.6		2194
19. Stomp 1800ml/ha 3DBS	65.8		2278
20. Stomp 1800ml/ha 1DBS	74.7		2068
21. Logran 35 g/ha 1DBS	61.3		2119
22. Control - -	158.7		1921
	SED		SED
	35.2		188.6

Comments:

In general terms, ryegrass control improved as the rate of CR Trifluralin increased irrespective of formulation. Application of both formulations immediately before seeding at nearly all rates gave superior ryegrass control to that applied 3 days before seeding. Crop tolerance was satisfactory for all treatments however there was some initial crop thinning at the higher rates of both CR Trifluralins, Stomp and Logran when applied immediately before seeding. Broadleaf weeds were too variable in their distribution and number for any useful conclusions to be made about herbicide effect.

No treatments yielded significantly different to the unsprayed control. Yield trends for the CR Trifluralin treatments were in favour of application immediately before seeding rather than 3DBS for all rates and formulations.

Interestingly, Trifluralin EC performed as well as any treatment and exhibited good crop safety.

EARLY APPLICATION OF 2,4-D TO WHEAT.

TRIAL NUMBER: 90ME84

LOCATION: N.Broun - Corrigin

OFFICERS: R.Madin, J.Buckley

OBJECTIVE: To assess the use of 2,4-D.Amine at early times of application for the control of Broadleaf weeds in Wheat.

TRIAL DESIGN: Randomised Complete Blocks, 3 Replicates

PLOT SIZE: 20m x 3m = 60m²

CROP VARIETY: Tincurrin

SEEDING: Early June 1990 , 60 kg/Ha + Super.

SOIL TYPE: Sandy Clay Loam with Gravel

SITE PREPARATION: Sprayed with knockdown herbicides + worked up several times.

SITE DESCRIPTION: Bulk Wheat crop with infestations of Radish, Doublegee and Lupins as well as Ryegrass and Wild Oats.

HARVESTING: 20m x 1.5m = 30m²

SPRAYING DETAILS: 6/7/90 - Z12-13 Treatments
26/7/90 - Z21-22 Treatments
31/7/90 - Sprayed whole trial with Hoegrass 1.5L/Ha + W.A. to control Wild Oats and Ryegrass.

	6/7/90	26/7/90	31/7/90
VOLUME:	66L/Ha	71L/Ha	61L/Ha
PRESSURE:	140kPa	150kPa	130kPa
NOZZLE TYPE:	80015LP	80015LP	80015LP
WIND (KPH-DIR):	8-12 ENE	0-5 SSW	10-20NNE
SOIL SURFACE:	Dry	Wet	Dry
MOISTURE: SUB-SURFACE:	Moist	Wet	Moist
TEMPERATURE (DRY BULB):	15.0°C	14.0°C	15.0°C
TEMPERATURE (WET BULB):	11.0°C	9.5°C	10.5°C
RELATIVE HUMIDITY:	62.0%	56.0%	56.0%

WEED GROWTH STAGE:

Radish	2-4 leaf	4-8 leaf	
Ryegrass	Z12.5-12.5	Z15/21-23	Z15-16/22-23
Wild Oats	Z12.0-13.0	Z15/21-23	Z15-16/22-23
Doublegee	2-4 leaf	2-6 leaf	
Lupins	2-4 leaf	2-6 leaf	

Treatment		Radish plants /m2	Radish control RATE. (%)	Rye- grass heads /m2	Wild oats Panicle /m2
1. 2,4-D Am 200ml/Ha	Z12-13	29.8	63.3	21.0	8.0
2. 2,4-D Am 400ml/Ha	Z12-13	27.8	83.3	9.5	10.5
3. 2,4-D Am 600ml/Ha	Z12-13	17.3	90.0	8.6	13.0
4. 2,4-D Am 800ml/Ha	Z12-13	6.9	96.7	3.7	3.1
5. 2,4-D Am 1600ml/Ha	Z12-13	2.9	96.0	14.2	16.7
6. 2,4-D Am 200ml/Ha	Z21-22	29.1	73.3	11.7	38.3
7. 2,4-D Am 400ml/Ha	Z21-22	25.3	90.0	9.9	35.8
8. 2,4-D Am 600ml/Ha	Z21-22	18.7	97.7	19.8	70.4
9. 2,4-D Am 800ml/Ha	Z21-22	12.7	100.0	30.2	34.0
10. 2,4-D Am 1600ml/Ha	Z21-22	8.4	100.0	56.2	90.7
11. 2,4-D Am 800ml/Ha+WA	Z12-13	17.6	95.0	7.4	16.1
12. 2,4-D Am 800ml/Ha+WA	Z21-22	18.2	99.3	33.3	46.9
13. Control		58.0	0.0	6.8	2.5
		SED 14.2		SED 15.3	SED 18.1

Treatment		Wheat Heads /m ²	Deformed wheat heads (%)	Av. Wheat seeds /head	1000 grain wt (g)	Crop yield kg/Ha
1.	2,4-D Am 200ml/Ha Z12-13	199.0	6.5	38.7	32.4	1100
2.	2,4-D Am 400ml/Ha Z12-13	200.3	14.8	35.0	32.5	1089
3.	2,4-D Am 600ml/Ha Z12-13	205.7	11.2	37.7	32.0	1122
4.	2,4-D Am 800ml/Ha Z12-13	198.0	16.2	35.3	34.7	1044
5.	2,4-D Am 1600ml/Ha Z12-13	204.3	23.8	37.3	34.1	978
6.	2,4-D Am 200ml/Ha Z21-22	200.0	7.0	31.3	31.8	1089
7.	2,4-D Am 400ml/Ha Z21-22	213.7	10.6	34.0	33.0	1045
8.	2,4-D Am 600ml/Ha Z21-22	193.0	10.6	34.0	32.6	1011
9.	2,4-D Am 800ml/Ha Z21-22	229.0	18.4	37.7	32.5	955
10.	2,4-D Am 1600ml/Ha Z21-22	189.3	8.5	31.0	32.1	911
11.	2,4-D Am 800ml/Ha+WA Z12-13	205.0	45.9	34.3	33.2	889
12.	2,4-D Am 800ml/Ha+WA Z21-22	206.0	7.6	31.0	30.9	978
13.	Control	173.3	0.0	33.0	31.1	845
SED		18.2	6.5	3.7	1.0	118

EARLY APPLICATION OF 2,4-D TO WHEAT.

TRIAL NUMBER: 90WH92

LOCATION: Wongan Hills Research Station

OFFICERS: R.Madin, J.Buckley

OBJECTIVE: To assess the use of 2,4-D.Amine applied early to Wheat at various rates of application.

TRIAL DESIGN: Randomized Complete Blocks, 3 Replicates

PLOT SIZE: $35\text{m} \times 3\text{m} = 105\text{m}^2$

CROP VARIETY: Reeves

SEEDING: Mid June 50kg/Ha + D.A.P.50kg/Ha

SITE PREPARATION: -

SITE DESCRIPTION: Bulk wheat crop infested with Radish over whole trial site.

SOIL TYPE: Sandy Clay Loam with Gravel

HARVESTING: Weed Science Wintersteiger $35\text{m} \times 1.4\text{m} = 49.0\text{m}^2$

SPRAYING DETAILS: 18/7/90 - Z12-13 Treatments
 6/8/90 - Z21-22 Treatments 23/8/90 - Sprayed
 whole trial with Hoegrass 1.5L/Ha + W.A. to
 remove Ryegrass

	18/7/90	6/8/90	23/8/90
VOLUME	72L/Ha	70L/Ha	59L/Ha
PRESSURE:	145kPa	135kPa	170kPa
NOZZLE TYPE:	80015LP	80015LP	80015LP
WIND (KPH-DIR):	5-10 WSW	5-10 NNW	12-18 ENE
SOIL SURFACE:	Wet	Moist	Dry
MOISTURE:			
SUB-SURFACE:	Wet	Moist	Moist
TEMPERATURE			
(DRY BULB):	16.0°C	15.0°C	16.5°C
TEMPERATURE			
(WET BULB):	11.5°C	10.5°C	11.0°C
RELATIVE HUMIDITY:	59.0%	58.0%	51.0%
CROP GROWTH STAGE:	Z12.2-12.8	Z14.3-14.6	Z15.5/22-23
WEED GROWTH STAGE:			
Radish	cot-4 leaf	cot-8 leaf	5-30cm diam
Ryegrass	Z12-13	Z12-15/23	Z14

Treatment		Radish control rating (%) 7/9/90	Radish control rating (%) 25/10/90	Radish plant counts /m2	Crop vigour rating (%) 7/9/90
1. 2,4-D Am 200ml/ha	Z12-13	60.0	61.7	18.7	90.0
2. 2,4-D Am 400ml/ha	Z12-13	65.0	68.3	16.9	98.3
3. 2,4-D Am 600ml/ha	Z12-13	65.0	68.3	12.0	91.7
4. 2,4-D Am 800ml/ha	Z12-13	85.0	90.0	9.8	91.7
5. 2,4-D Am 1600ml/ha	Z12-13	86.7	95.0	7.6	81.7
6. 2,4-D Am 200ml/ha	Z21-22	38.3	30.0	13.8	80.0
7. 2,4-D Am 400ml/ha	Z21-22	46.7	73.3	14.9	83.3
8. 2,4-D Am 600ml/ha	Z21-22	51.7	83.3	15.3	75.0
9. 2,4-D Am 800ml/ha	Z21-22	56.7	90.0	17.1	88.3
10. 2,4-D Am 1600ml/ha	Z21-22	76.7	96.0	11.3	83.3
11. 2,4-D Am 800ml/ha + W.A.	Z12-13	85.0	78.3	10.9	96.7
12. 2,4-D Am 800ml/ha + W.A.	Z21-22	56.7	86.7	14.9	76.7
13. Control		0.0	0.0	24.2	83.3
	SED	15.3	6.0	3.8	11.4

Treatment		Ryegrass head counts/ m ²	Wheat head counts/ m ²	Deformed wheat heads (%)
1.	2,4-D Amine 200ml/ha Z12-13	94.4	193.8	0.3
2.	2,4-D Amine 400ml/ha Z12-13	153.1	196.3	0.0
3.	2,4-D Amine 600ml/ha Z12-13	167.3	184.6	3.1
4.	2,4-D Amine 800ml/ha Z12-13	138.9	198.7	0.0
5.	2,4-D Amine 1600ml/ha Z12-13	160.5	211.7	3.1
6.	2,4-D Amine 200ml/ha Z21-22	104.3	177.7	0.0
7.	2,4-D Amine 400ml/ha Z21-22	171.0	183.9	0.0
8.	2,4-D Amine 600ml/ha Z21-22	157.4	196.9	0.0
9.	2,4-D Amine 800ml/ha Z21-22	142.0	211.1	0.6
10.	2,4-D Amine 1600ml/ha Z21-22	147.5	206.1	0.3
11.	2,4-D Amine 800ml/ha + W.A.Z12-13	175.9	190.7	4.9
12.	2,4-D Amine 800ml/ha + W.A.Z21-22	120.3	216.0	1.2
13.	Control	100.0	147.5	0.0
SED		33.4	15.4	1.1

Treatment		Average wheat seeds/ head	1000 grain wt (g)	Crop yield (T/Ha)
1.	2,4-D Amine 200ml/ha Z12-13	36.8	44.5	1820.0
2.	2,4-D Amine 400ml/ha Z12-13	39.7	41.6	1891.3
3.	2,4-D Amine 600ml/ha Z12-13	37.0	42.3	1823.0
4.	2,4-D Amine 800ml/ha Z12-13	39.5	42.3	1854.0
5.	2,4-D Amine 1600ml/ha Z12-13	42.7	41.1	1792.7
6.	2,4-D Amine 200ml/ha Z21-22	41.0	41.5	1799.7
7.	2,4-D Amine 400ml/ha Z21-22	39.4	42.1	1816.7
8.	2,4-D Amine 600ml/ha Z21-22	39.4	42.8	1673.7
9.	2,4-D Amine 800ml/ha Z21-22	41.2	43.7	1690.7
10.	2,4-D Amine 1600ml/ha Z21-22	38.8	42.1	1813.0
11.	2,4-D Amine 800ml/ha + W.A Z12-13	42.4	41.9	2068.3
12.	2,4-D Amine 800ml/ha + W.A.Z21-22	38.4	43.1	1782.3
13.	Control	35.8	42.3	1306.3
SED		2.5	1.8	114.3

Comments:

The Corrigin and Wongan Hills sites contrasted markedly in the effects of 2,4-D on the wheat crop. The former site exhibiting gross deformities e.g. onion leaf at the earliest timing (Z12) and at the highest rates, particularly with wetting agent addition. This difference in sites may be a reflection of environment conditions but more likely a cultivar effect (Tincurrin cf Reeves at Wongan Hills).

Head deformities were not clearly translated into reduced grains per head or grain weight. Yields reflected more in weed control achieved and were not readily related to crop effects. Wild oats and ryegrass at Corrigin and ryegrass at Wongan Hills may have masked to some extent the radish control achieved and any crop effect from the 2,4-D.

Ryegrass at Wongan Hills appeared to be resistant to Hoegrass while at Corrigin, spraying with Hoegrass too near to the second 2,4-D application timing antagonized the Hoegrass. The higher the rate of 2,4-D the greater the apparent antagonism.

At both sites, radish control 'released' the grass population which was in relation to the degree of radish control achieved.

Overall, these trials indicated that increasing rates of 2,4-D gave improved radish control and by and large early application was superior to later particularly at the lower rates. However, potential for crop damage (head distortion) exists which may, but not necessarily, be reflected in reduced yield. Addition of Wetting Agent to 2,4-D enhanced crop effects without increasing weed control.

Because of large response differences between sites and varieties, considerably more research would be required before sound recommendations for early application of 2,4-D to cereals or wetting agent addition could be made. Present label recommendations with respect to timing and varietal restrictions appear appropriate.

GRASS AND BROADLEAF WEED CONTROL IN WHEAT WITH HOEGRASS TANKMIXES.

TRIAL NUMBER:	90ME83 / 6213EX	
LOCATION:	N.Broun - Corrigin	
OFFICERS:	R.Madin, J.Buckley	
OBJECTIVE:	To control grass and broadleaf weeds in wheat with Hoegrass tankmixes.	
TRIAL DESIGN:	Random block design - 3 replicates.	
PLOT SIZE	20m x 3m	
CROP VARIETY:	Tincurrin	
SEEDING:	Seeded 7/6/90 at 60kg/Ha + Super 112kg/Ha.	
SOIL TYPE:	Sandy Clay Loam with Gravel.	
SITE PREPARATION:	Sprayed with knockdown herbicides and worked up several times.	
SITE DESCRIPTION:	Bulk Wheat crop infested with Wild Oats, Ryegrass Radish, Doublegee and Lupins.	
HARVESTING	20m x 1.5m = 30m ² Harvested by Narrogin District Office staff.	
SPRAYING DETAILS:	6/7/90 Z12-13 treatments applied 25/7/90 Z14/21 treatments applied	
	6/7/90	25/7/90
VOLUME:	66 L/HA	71 L/HA
PRESSURE:	140 KPA	150 KPA
NOZZLE TYPE:	80015LP	80015 LP
WIND (KPH-DIR):	8-12 ENE	0-5 SSW
SOIL SURFACE	DRY	WET
MOISTURE: SUB-SURFACE	MOIST	WET
TEMPERATURE (DRY BULB)	18.5°C	15.0°C
TEMPERATURE (WET BULB)	12.0°C	10.0°C
RELATIVE HUMIDITY	46.0%	53.0%
CROP GROWTH STAGE	Z12.0-12.3	Z14.5/21-22

WEED GROWTH STAGE-

Radish	2-4leaf	4-8 leaf
Ryegrass	Z11.5-12.5	Z15/22-23
Wild Oats	Z12.0-13.0	Z15/22-23
Doublegee	2-4 leaf	2-6 leaf
Lupins	2-4 leaf	2-6 leaf

Treatment	Wild oat Pan- icles /m2	Rye- grass Heads /m2	Radish Control Rate(%)	Radish Plants /m2
1. Hoegrass 1.0L+RPexp3088A 0.25L+W.A.	7.4	0.0	90.0	21.5
2. Hoegrass 1.0L+RPexp3088A 0.50L+W.A.	8.7	0.6	97.7	6.9
3. Hoegrass 1.0L+RPexp3088A 0.75L+W.A.	13.0	0.0	99.3	5.6
4. Hoegrass 1.0L+RPexp3088A 1.0L+W.A.	9.9	1.3	100.0	1.3
5. Hoegrass 1.0L+Brodal 12.5ml+Brom 315ml+W.A	6.2	1.3	75.0	28.9
6. Hoegrass 1.0L+Brodal 25ml+Brom 625ml+W.A.	21.0	0.0	95.0	8.7
7. Hoegrass 1.0L+Brodal 37.5ml+Brom 940ml+W.A	12.4	1.2	98.3	3.6
8. Hoegrass 1.0L+Brodal 50ml+Brom 1.25L+W.A.	3.1	0.0	99.3	2.5
9. Hoegrass 1.0L+Glean 5g+Oil(1%)	11.1	1.9	75.0	22.2
10. Hoegrass 1.0L+Tigrex 750ml (Z14/21)	51.2	7.4	98.3	2.4
11. Hoegrass 1.0L fb BromM 1.0L	11.1	0.0	75.0	33.3
12. Hoegrass 1.0L+Brodal 50ml+W.A.	14.8	0.6	96.7	11.5
13. Hoegrass 1.0L+Brodal 100ml+W.A.	19.8	4.3	99.3	1.8
14. Hoegrass 1.0L+Bromoxynil 1.25L+W.A.	16.0	0.0	85.0	14.2
15. Control	43.2	17.3	0.0	40.2
SED	10.9	2.1	5.5	11.0

Treatment	Wheat head counts/m ²	Crop yield (T/Ha)
1. Hoegrass 1.0L+RPexp3088A 0.25L+W.A.	209.7	1711.3
2. Hoegrass 1.0L+RPexp3088A 0.50L+W.A.	210.3	1633.3
3. Hoegrass 1.0L+RPexp3088A 0.75L+W.A.	216.7	1600.0
4. Hoegrass 1.0L+RPexp3088A 1.0L+W.A.	221.3	1777.7
5. Hoegrass 1.0L+Brodal 12.5ml+Brom 315ml+W.A	212.7	1533.3
6. Hoegrass 1.0L+Brodal 25ml+Brom 625ml+W.A.	209.3	1644.3
7. Hoegrass 1.0L+Brodal 37.5ml+Brom 940ml+W.A	214.7	1600.0
8. Hoegrass 1.0L+Brodal 50ml+Brom 1.25L+W.A.	202.3	1688.7
9. Hoegrass 1.0L+Glean 5g+Oil(1%)	202.3	1555.3
10. Hoegrass 1.0L+Tigrex 750ml (Z14/21)	214.0	1289.0
11. Hoegrass 1.0L fb BromM 1.0L	205.3	1533.0
12. Hoegrass 1.0L+Brodal 50ml+W.A.	220.7	1688.7
13. Hoegrass 1.0L+Brodal 100ml+W.A.	209.3	1500.0
14. Hoegrass 1.0L+Bromoxynil 1.25L+W.A.	223.0	1711.3
15. Control	154.3	869.7
SED	12.2	138.4

GRASS AND BROADLEAF WEED CONTROL IN WHEAT WITH HOEGRASS TANKMIXES.

TRIAL NUMBER: 90NO130

LOCATION: G.Allen, York

OFFICERS: R.Madin, J.Buckley

OBJECTIVE: To control grass and broadleaf weeds in wheat with Hoegrass tankmixes

TRIAL DESIGN: Randomised Complete Blocks, 3 Replicates

PLOT SIZE: 40m x 3m = 120m²

CROP VARIETY: Reeves

SEEDING: 30/5/90, Seeded at 50kg/Ha + 100kg/Ha Agras

SITE PREPARATION: Site worked once early once in the season. Sprayed with Sprayseed at 1.5L/Ha one day before seeding.

SOIL TYPE: Sandy Clay Loam with Gravel

SITE DESCRIPTION: Bulk wheat crop with moderate to heavy infestation of Wild Oats, Ryegrass and Radish plus lighter levels of other broadleaf weeds over whole trial area.

HARVESTING: Weed Science Branch Wintersteiger, 40m x 1.4m = 56m².

SPRAYING DETAILS: 5/7/90, Z12-13 Treatments applied
19/7/90, Z14/21 Treatments applied

	5/7/90	19/7/90
VOLUME:	62L/Ha	72L/Ha
PRESSURE:	115kPa	145kPa
NOZZLE TYPE:	80015LP	80015LP
WIND (KPH-DIR):	10-15 ESE	12-18 WNW
SOIL SURFACE:	Dry	Wet
MOISTURE: SUB-SURFACE:	Moist	Wet
TEMPERATURE (DRY BULB):	13.5°C	18.5°C
TEMPERATURE (WET BULB):	11.0°C	15.5°C
RELATIVE HUMIDITY:	75.0%	74.0%
CROP GROWTH STAGE:	Z13.4	Z14.5-15/22-23

WEED GROWTH STAGE:

Radish	cot-4 leaf	4-8 leaf
Ryegrass	Z11.5-13.5/21	Z13-15.5/23-25
Wild Oats	Z12-14/21-22	Z14.5-15.5/23-25
Doublegee	cot-4 leaf	2-6 leaf
Capeweed	cot-4 leaf	2-6 leaf

Treatment	Radish plants /m ²	Cape- weed plants /m ²	Double- gee plants /m ²
1. Hoegrass 1.0L + RPexp3088A 0.25L + W.A.	8.2	5.5	0.2
2. Hoegrass 1.0L + RPexp3088A 0.50L + W.A.	0.9	0.2	0.4
3. Hoegrass 1.0L + RPexp3088A 0.75L + W.A.	0.4	0.0	0.0
4. Hoegrass 1.0L + RPexp3088A 1.0L + W.A.	0.2	0.0	0.0
5. Hoegrass 1.0L + Brodal 12.5ml + Brom 315ml + W.A.	13.1	4.2	0.7
6. Hoegrass 1.0L + Brodal 25ml + Brom 625ml +W.A.	5.3	1.3	0.5
7. Hoegrass 1.0L + Brodal 37.5ml + Brom 940ml +W.A.	1.1	1.1	0.2
8. Hoegrass 1.0L + Brodal 50ml + Brom 1.25L +W.A.	0.4	1.1	0.0
9. Hoegrass 1.0L + Glean 5g + Oil(1%)	23.0	19.4	1.7
10.Hoegrass 1.0L + Tigrex 750ml (Z14/21)	1.8	3.8	0.2
11.Hoegrass 1.0L fb BromM 1.0L	4.5	7.3	0.0
12.Hoegrass 1.0L + Brodal 50ml + W.A.	10.9	16.2	0.2
13.Hoegrass 1.0L + Brodal 100ml + W.A.	2.2	6.2	1.3
14.Hoegrass 1.0L + Bromoxynil 1.25L + W.A.	14.4	1.6	0.2
15.Control	43.8	2.7	0.4
SED	7.3	3.8	0.4

Treatment	Wild oat control Rating (%)	Wild oat panicles /m2	Rye- grass heads /m2
1. Hoegrass 1.0L + RPexp3088A 0.25L + W.A.	85.0	98.1	14.2
2. Hoegrass 1.0L + RPexp3088A 0.50L + W.A.	86.7	69.8	37.0
3. Hoegrass 1.0L + RPexp3088A 0.75L + W.A.	83.3	86.4	17.3
4. Hoegrass 1.0L + RPexp3088A 1.0L + W.A.	85.0	91.7	26.0
5. Hoegrass 1.0L + Brodal 12.5ml + Brom 315ml +W.A.	85.0	84.6	23.5
6. Hoegrass 1.0L + Brodal 25ml + Brom 625ml +W.A.	81.7	93.8	14.8
7. Hoegrass 1.0L + Brodal 37.5ml + Brom 940ml +W.A.	83.3	92.6	18.5
8. Hoegrass 1.0L + Brodal 50ml + Brom 1.25L +W.A.	90.0	77.8	16.1
9. Hoegrass 1.0L + Glean 5g + Oil(1%)	82.5	70.4	18.5
10. Hoegrass 1.0L + Tigrex 750ml (Z14/21)	53.3	144.4	1.9
11. Hoegrass 1.0L fb BromM 1.0L	78.3	116.0	19.8
12. Hoegrass 1.0L + Brodal 50ml + W.A.	86.7	64.2	18.5
13. Hoegrass 1.0L + Brodal 100ml + W.A.	78.3	137.0	9.3
14. Hoegrass 1.0L + Bromoxynil 1.25L + W.A.	83.3	89.5	13.6
15. Control	0.0	207.4	115.4
SED		28.8	12.5

Treatment	Radish control rating (%)	Wheat heads (/m ²)	Crop yield (T/Ha)
1. Hoegrass 1.0L + RPexp3088A 0.25L + W.A.	55.0	175.9	1446.7
2. Hoegrass 1.0L + RPexp3088A 0.50L + W.A.	96.7	179.6	1681.7
3. Hoegrass 1.0L + RPexp3088A 0.75L + W.A.	100.0	187.0	1607.3
4. Hoegrass 1.0L + RPexp3088A 1.0L + W.A.	100.0	178.7	1638.5
5. Hoegrass 1.0L + Brodal 12.5ml + Brom 315ml+W.A.	43.3	152.5	1532.7
6. Hoegrass 1.0L + Brodal 25ml + Brom 625ml+W.A.	81.7	175.3	1544.7
7. Hoegrass 1.0L + Brodal 37.5ml + Brom 940ml+W.A.	98.3	171.6	1479.0
8. Hoegrass 1.0L + Brodal 50ml + Brom 1.25L+W.A.	91.7	169.7	1729.3
9. Hoegrass 1.0L + Glean 5g + Oil(1%)	45.0	174.1	1348.5
10. Hoegrass 1.0L + Tigrex 750ml (Z14/21)	86.7	115.4	803.7
11. Hoegrass 1.0L fb BromM 1.0L	83.3	150.6	1175.7
12. Hoegrass 1.0L + Brodal 50ml + W.A.	40.0	159.2	1321.7
13. Hoegrass 1.0L + Brodal 100ml + W.A.	80.0	125.3	1366.0
14. Hoegrass 1.0L + Bromoxynil 1.25L + W.A.	56.7	172.2	1533.0
15. Control	0.0	90.1	414.0
SED		15.0	108.6

Comments:

A premix of Diflufenican + bromoxynil is undergoing large scale field evaluation this year in Western Australia as Jaguar.

Broadal plus bromoxynil tankmixes performed similarly to the Jaguar pre-mix. Visual weed control of the tankmix was somewhat poorer however, at the lowest rate of use.

Early weed control using Jaguar, in both trials resulted in substantially better crop yields than later applied treatments.

Wild oat control at York was barely acceptable due to the marginal rate used and the harsh (cold) spraying conditions.

Further trial work involving a broader weed spectrum and tankmixes is planned for 1991.

More detailed information is available in Rhône-Poulenc's publication, Crop Leader.

WILD OAT CONTROL IN WHEAT - RATES OF GRASP X TIMING OF APPLICATION.

TRIAL NUMBER: 90NO132

LOCATION: G.Allen, York

OFFICERS: R.Madin, J.Buckley

OBJECTIVE: To assess the use of Grasp at 4 rates and 2 timings to control Wild Oats and Ryegrass in wheat.

TRIAL DESIGN: Randomised Complete Blocks, 3 Replicates

PLOT SIZE: 40m x 3m = 120m²

CROP VARIETY: Halberd

SEEDING: 31/5/90, Seeded at 50kg/Ha + 100kg/Ha Agras.

SOIL TYPE: Gritty Clay Loam

SITE PREPARATION: Site worked up once early in the season. Sprayed with Sprayseed at 1.5L/Ha one day before seeding.

SITE DESCRIPTION: Bulk wheat crop with heavy infestations of Wild Oats and Ryegrass over the whole trial site.

HARVESTING: 40m x 1.4m = 56m²

SPRAYING DETAILS: 22/6/90 - Z12 Treatments
19/7/90 - Z21-22 Treatments
27/7/90 - Sprayed whole trial with Brominil M 1.4L/HA + W.A. to control broadleaf weeds.

	22/6/90	* 19/7/90	27/7/90
VOLUME:	69L/Ha	72L/Ha	71L/Ha
PRESSURE:	140kPa	145kPa	240kPa
NOZZLE TYPE:	80015LP	80015LP	8002LP
WIND (KPH-DIR):	0-5 ESE	12-18 WNW	5-10 WNW
SOIL SURFACE:	Dry	Wet	Wet
MOISTURE: SUB-SURFACE:	Moist	Wet	Wet
TEMPERATURE (DRY BULB):	16.0°C	17.0°C	12.5°C
TEMPERATURE (WET BULB):	10.5°C	14.5°C	9.5°C
RELATIVE HUMIDITY:	51.0%	77.0%	68.0%
CROP GROWTH STAGE:	Z12.0	Z14-15/21-22	Z15/22

WEED GROWTH STAGE:

Ryegrass	Z11-12	Z14-15/21-23	
Wild Oats	Z11.5-12.5	Z14-15/21-23	
Radish	cot-2 leaf	4-8 leaf	5-20cm
Doublegee	cot-2 leaf	4-8 leaf	5-10cm

Treatment	Ryegrass control rating (%)	Wild oat control rating (%)	Wheat heads /m2	Wheat yield (Kg/Ha)
1. Grasp 0.5L/Ha+W.A. Z12	38.3	31.7	163.6	1000.3
2. Grasp 0.75L/Ha+W.A. Z12	58.3	58.3	188.2	1312.3
3. Grasp 1.0L/Ha+W.A. Z12	73.3	70.0	203.1	1426.0
4. Grasp 1.5L/Ha+W.A. Z12	85.0	85.0	203.1	1381.3
5. Grasp 0.5L/Ha+W.A. Z21-22	45.0	46.7	150.0	920.0
6. Grasp 0.75L/Ha+W.A. Z21-22	70.0	68.3	141.3	869.3
7. Grasp 1.0L/Ha+W.A. Z21-22	91.7	88.3	198.7	1217.7
8. Grasp 1.5L/Ha+W.A. Z21-22	93.3	93.3	198.7	1312.7
9. Hoegrass 1.5L/Ha+W.A.Z12	53.3	53.3	172.2	1220.7
10.Hoegrass 1.5L/Ha+W.A.Z21-22	86.7	86.7	208.6	1247.3
11.Puma S 0.75L/Ha Z12	0.0	61.7	156.1	1205.7
12.Puma S 0.75L/Ha Z21-22	0.0	93.3	167.9	1330.7
13.Control	0.0	0.0	117.3	461.7
SED			19.9	122.7

Treatment	Wild oats (early germ) panicles/m2	Wild oats (late germ.) panicles/m2	Ryegrass heads /m2
1. Grasp 0.5L/Ha+W.A. Z12	237.0	217.9	26.5
2. Grasp 0.75L/Ha+W.A. Z12	95.1	157.4	29.0
3. Grasp 1.0L/Ha+W.A. Z12	77.2	125.3	53.7
4. Grasp 1.5L/Ha+W.A. Z12	74.1	125.3	30.8
5. Grasp 0.5L/Ha+W.A. Z21-22	164.8	191.3	18.5
6. Grasp 0.75L/Ha+W.A. Z21-22	83.3	130.3	9.9
7. Grasp 1.0L/Ha+W.A. Z21-22	54.9	112.3	62.9
8. Grasp 1.5L/Ha+W.A. Z21-22	7.4	103.1	8.0
9. Hoegrass 1.5L/Ha+W.A. Z12	135.2	115.4	30.2
10. Hoegrass 1.5L/Ha+W.A. Z21-22	24.7	161.7	16.7
11. Puma S 0.75L/Ha Z12	92.0	138.3	33.4
12. Puma S 0.75L/Ha Z21-22	8.0	30.3	62.3
13. Control	238.9	140.1	19.8
SED	27.9	44.7	26.6

Comments:

This trial was conducted under testing conditions (i.e. Two weeks of cold frosty conditions) and a heavy wild oat infestation. Subsequent germination(s) occurred after the first timing of Grasp application. Ryegrass and Wild Oat control improved with increasing rate of Grasp and was superior for all rates at the second timing of application. Both Puma and Hoegrass also gave better Wild Oat control at the second time of application.

All treatments yielded significantly better than the unsprayed control.

WILD OAT CONTROL IN WHEAT -TIMING AND RATES OF
APPLICATION OF GRASS CONTROLLERS.

TRIAL NUMBER: 90NO129

LOCATION: G.Allen, York

OFFICERS: R.Madin, J.Buckley

OBJECTIVE: To compare Grasp, Hoegrass and Puma at 2 rates and 3 timings for controlling Wild Oats and Ryegrass in wheat.

TRIAL DESIGN: Randomised Complete Blocks, 3 Replicates

PLOT SIZE: 40m x 3m = 120m²

SOIL TYPE: Gritty Clay Loam

CROP VARIETY: Halberd

SEEDING: 31/5/90, Seeded at 50kg/Ha + Agras 100kg/Ha.

SITE PREPARATION: Site worked up once early in the season. Sprayed with Sprayseed at 1.5L/Ha one day before sowing.

SITE DESCRIPTION: Bulk wheat crop with heavy infestations of Wild Oats and Ryegrass over whole trial area.

HARVESTING: Weed Science Wintersteiger 40m x 1.4m = 56m²

SPRAYING DETAILS: 22/6/90 - Z12 Treatments
 19/7/90 - Z21-22 Treatments
 27/7/90 - Sprayed whole trial with
 Brominil M 1.4L/Ha + W.A. to control
 broadleaf weeds.
 31/7/90 - Z22-23 Treatments

	22/6/90	19/7/90	27/7/90	31/7/90
VOLUME:	69L/Ha	72L/Ha	71L/Ha	71L/Ha
PRESSURE:	140kPa	145kPa	240kPa	145kPa
NOZZLE TYPE:	80015LP	80015LP	8002LP	80015LP
WIND (KPH-DIR):	0-5 ESE	12-18 NNW	5-10 WNW	5-10 NNE
SOIL SURFACE:	Dry	Wet	Wet	Moist
MOISTURE SUB-SURFACE:	Moist	Wet	Wet	Wet
TEMPERATURE (DRY BULB):	16.0°C	18.5°C	12.5°C	14.5°C
TEMPERATURE (WET BULB):	10.5°C	15.0°C	9.5°C	11.0°C
RELATIVE HUMIDITY:	51.0%	69.0%	68.0%	66.0%
CROP GROWTH STAGE:	Z12.0	Z13.9/21-22	Z15/22	Z14.5-15.2/22-23
WEED GROWTH STAGE:				
Ryegrass	Z11-12	Z14-15/21-23	Z14.5-15.5/21-24	
Wild Oats	Z11.5-12.5	Z14-15/21-23	Z14.5-15.5/22-24	
Radish	cot-2 leaf	4-8 leaf	5-20cm	
Doublegee	cot-2 leaf	4-8 leaf	5-10cm	

Treatment	Wild oat control Rating (%)	Ryegrass control Rating (%)	Wheat heads /m2	Wheat yield (Kg/Ha)
1. Grasp 1.0L/Ha + W.A. Z12	83	80	203	1078
2. Grasp 1.5L/Ha + W.A. Z12	83	85	199	1262
3. Hoegrass 1.0L/Ha + W.A. Z12	38	53	138	679
4. Hoegrass 1.5L/Ha + W.A. Z12	72	82	189	920
5. Puma 1.0L/Ha Z12	55	0	199	842
6. Puma 1.5L/Ha Z12	67	0	188	851
7. Grasp 1.0L/Ha+ W.A. Z14-21	85	85	169	717
8. Grasp 1.5L/Ha+ W.A. Z14-21	90	87	198	887
9. Hoegrass 1.0L/Ha+ W.A. Z14-21	85	88	137	718
10. Hoegrass 1.5L/Ha+ W.A. Z14-21	90	87	183	789
11. Puma 1.0L/Ha Z14-21	85	0	154	774
12. Puma 1.5L/Ha Z14-21	90	0	143	801
13. Grasp 1.0L/Ha + W.A. Z22-23	23	45	112	390
14. Grasp 1.5L/Ha + W.A. Z22-23	38	37	138	301
15. Hoegrass 1.0L/Ha+W.A. Z22-23	7	7	147	372
16. Hoegrass 1.5L/Ha+W.A. Z22-23	13	22	120	378
17. Puma 1.0L/Ha Z22-23	13	0	154	381
18. Puma 1.5L/Ha Z22-23	27	0	168	345
19. Control	0	0	119	345
SED			29	113

Treatment	Wild oats (Early germ) heads/m2	Wild oats (Late germ) heads/m2	Ryegrass heads /m2
1. Grasp 1.0L/Ha + W.A. Z12	58.6	109.3	132.7
2. Grasp 1.5L/Ha + W.A. Z12	49.4	98.2	66.7
3. Hoegrass 1.0L/Ha + W.A.Z12	124.1	97.5	72.8
4. Hoegrass 1.5L/Ha + W.A.Z12	106.1	142.0	79.6
5. Puma 1.0L/Ha Z12	121.6	112.4	160.5
6. Puma 1.5L/Ha Z12	49.4	114.8	409.8
7. Grasp 1.0L/Ha + W.A. Z14-21	20.4	155.6	104.9
8. Grasp 1.5L/Ha + W.A. Z14-21	7.4	71.6	81.5
9. Hoegrass 1.0L/Ha + W.A Z14-21	45.7	114.2	45.7
10.Hoegrass 1.5L/Ha + W.A.Z14-21	8.7	71.0	51.9
11.Puma 1.0L/Ha Z14-21	6.2	17.3	352.4
12.Puma 1.5L/Ha Z14-21	10.5	13.6	200.0
13.Grasp 1.0L/Ha + W.A. Z22-23	180.8	172.8	21.6
14.Grasp 1.5L/Ha + W.A. Z22-23	125.3	314.1	71.6
15.Hoegrass 1.0L/Ha + W.A Z22-23	257.4	166.0	22.8
16.Hoegrass 1.5L/Ha + W.A Z22-23	306.1	159.2	8.6
17.Puma 1.0L/Ha Z22-23	213.0	196.3	122.8
18.Puma 1.5L/Ha Z22-23	193.2	227.7	159.3
19.Control	171.0	100.0	40.1
SED	44.9	56.0	64.5

Comments:

Late application (Z22-23) of either Grasp, Hoegrass or Puma failed to lift yields above that of the control (345Kg/ha). There was no significant difference in weed control or yield between the 1.0L rate or the 1.5L rate for each of these chemicals at the late timing of application.

With the exception of Grasp, there was no difference in yield between the first and second timing of application. Grasp, at both rates, yielded significantly better at the first timing of application. Puma was disadvantaged by its failure to give any control of ryegrass. Indeed, control of wildoats by Puma allowed the ryegrass to flourish. This trial and 90N0132 served to highlight the problems associated with rate cutting and stressful environmental conditions at the time of spraying. In hindsight the 'ideal' application timing would have been mid-way between Z12 and Z14-21, a matter of days.

GRASS CONTROL IN PASTURE - RATES OF KERB

Trial Number: 90ME82

Location: P. Copestake, North Corrigin

Treatment	Silvergrass control rating (%)	Clover seed yield (g/m2)
1. Kerb 250g/Ha	61.7	32.4
2. Kerb 500g/Ha	76.7	29.0
3. Kerb 750g/Ha	80.0	25.9
4. Kerb 1000g/Ha	86.7	32.3
5. Kerb 1250g/Ha	93.7	46.4
6. Kerb 1500g/Ha	70.0	28.0
7. Carbetamex 2000g/Ha	97.0	29.4
8. Carbetamex 1000g/Ha	91.7	32.1
9. Simazine 750ml/Ha	33.3	31.0
10. Control	0.0	27.2
		SED 3.4

Comments:

Grass control improved with increasing rates of Kerb up to 1.0Kg/ha. Inexplicably the 1.5Kg/ha rate was inferior to the 1.0Kg/ha rate. An error in mixing of the Kerb is the only logical explanation.

Carbetamex (Carbetamide) at rates of 1.0 and 2.0Kg/ha gave equivalent grass control to the best Kerb treatment. There was no difference in control between the two rates. Simazine gave control of silvergrass only.

Grasses present included silvergrass, barley grass and some brome grass. No treatment significantly improved clover seed yield. The trial was grazed and selective grazing of plots did occur. A buffer area between trials was sprayed with Gramoxone 300 ml and Simazine 500 ml to good effect.

SILVERGRASS CONTROL IN PASTURE - RECROP

Trial Number: 89NO73

Location: Avondale

Comments:

This trial was recropped to wheat in 1990. The site was direct drilled and no in-crop herbicides were used or needed. Silvergrass control in 1989 had no bearing on the level of weeds in the 1990 crop. However the level of silvergrass control achieved in 1989 was strongly reflected in the wheat yield achieved in 1990. The better the grass control the higher the yield. There was no evidence of root disease in the crop and at crop maturity all treatment looked similar.

The question remains as to whether yield responses were due to disease control, improved nitrogen status or moisture conservation or a combination of all three.

Pasture Treatments - 1989	1990 Wheat Yields (kg/Ha)
1. Simazine 500ml/Ha Pre-em	3456
2. Simazine 750ml/Ha Pre-em	3377
3. Simazine 1000ml/Ha Pre-em	3686
4. Simazine 1500ml/Ha Pre-em	3789
5. Simazine 500ml/Ha Post-em	3284
6. Simazine 750ml/Ha Post-em	3304
7. Simazine 1000ml/Ha Post-em	3588
8. Simazine 1500ml/Ha Post-em	3779
9. Pursuit 250ml/Ha Pre-em	3343
10. Pursuit 500ml/Ha Pre-em	2976
11. Pursuit 1000ml/Ha Pre-em	3573
12. Pursuit 150ml/Ha+Simazine 500ml/Ha Pre-em	3564
13. Pursuit 250ml/Ha+Simazine 500ml/Ha Pre-em	3294
14. Pursuit 250ml/Ha+Simazine 1000ml/Ha Pre-em	3745
15. 2,2-DPA 2.0kg/Ha Post-em	3471
16. Simazine 750ml/Ha+Fusilade 250ml/Ha+WA Post-em	4226
17. Kerb 1.5kg/Ha Pre-em	4387
18. Control	2878
	SED 197

GRASS CONTROL IN PASTURE DEMONSTRATION.

Trial Number: 90LG79

Location: C. Henderson, Varley

Site: Clover based pasture with silvergrass, barley grass, ryegrass
bromegrass, doublegee and capeweed.

Spraying Date: 13/6/90

Treatments

1. Gramoxone 500ml/ha (October)
2. Control
3. Kerb 1.5Kg/ha
4. Gramoxone 300ml/ha+Simazine 750ml/ha.
5. Fusilade 300ml/ha+Simazine 750ml/ha
6. Roundup 150ml/ha+ Pursuit 250ml/ha
7. Roundup 300ml/ha
8. Pursuit 500ml/ha.

Comments:

Best grass control was achieved with Kerb, however Gramoxone + Simazine gave good control as did Fusilade + Simazine. These plots were to be recropped in 1991 but this did not eventuate.

SILVERGRASS CONTROL IN PASTURE - SIMAZINE RATES X TIMING OF APPLICATION.

TRIAL NUMBER: 90NO131

LOCATION: West Dale

OFFICERS: R.Madin, J.Buckley

OBJECTIVE: To control Silvergrass in a Sub-Clover pasture.

TRIAL DESIGN: Randomised Complete Blocks, 3 Replicates

PLOT SIZE: 20m x 3m = 60m²

SEEDING: Established pasture

SOIL TYPE: Sandy Loam with Gravel.

SITE DESCRIPTION: Sub-Clover pasture with heavy infestation of Silvergrass over whole trial site.

HARVESTING:

SPRAYING DETAILS: 21/6/90 - 1st Timing
17/7/90 - 2nd Timing

	21/6/90	17/7/90
VOLUME:	71L/Ha	71L/Ha
PRESSURE:	155kPa	150kPa
NOZZLE TYPE:	80015LP	80015LP
WIND (KPH-DIR):	0-5 ESE	10-15 SSW
SOIL SURFACE:	Moist	Wet
MOISTURE: SUB-SURFACE:	Moist	Wet
TEMPERATURE (DRY BULB):	15.5°C	12.0°C
TEMPERATURE (WET BULB):	10.5°C	9.5°C
RELATIVE HUMIDITY:	54.0%	73.0%
CLOVER GROWTH STAGE:	5-10cm	10-15cm
WEED GROWTH STAGE:		
Silvergrass	2 leaf - Well tillered	Well tillered
Flatweed	10cm	10-20cm
Capeweed	10-15cm	10-20cm

TREATMENTS	RATE/Ha	TIMING
1. Simazine	0.5L	Mid-June
2. Simazine	0.75L	Mid-June
3. Simazine	1.0L	Mid June
4. Simazine	1.5L	Mid-June
5. Simazine	0.5L	Mid-July
6. Simazine	0.75L	Mid July
7. Simazine	1.0L	Mid July
8. Simazine	1.5L	Mid-July
9. Kerb	1.5kg	Mid-June
10. Gramoxone	0.5L	Mid-June
11. Control	-	-

Comments:

Gramoxone gave initial scorching of Silvergrass and clover however regeneration of both occurred. Gramoxone plots were grassy in 1991. Mid-June was comparatively dry with all simazine treatments other than 1.5L giving poor silvergrass control. Treatments applied in a wetter July gave better results however 0.5L and 0.75 gave only fair silvergrass control. Kerb was excellent for silvergrass control.

Grass levels in the regenerating plots in 1991 reflected the degree of control achieved in the previous year. This trial indicated that soil moisture status at or after spraying is as critical as the rate of simazine for silvergrass control in pasture.

Clover (Nungarin) tolerance was acceptable although some yellowing was evident at the 1.5L/ha rate.

DOUBLEGEE CONTROL IN PASTURE.

TRIAL NUMBER:	90WH93
LOCATION:	Wongan Hills Research Station
OFFICERS:	R.Madin, J.Buckley
OBJECTIVE:	To control Doublegees in a Sub-Clover pasture
TRIAL DESIGN:	Randomised Complete Blocks, 3 Replicates
PLOT SIZE:	20m x 3m = 60m ²
SEEDING:	Established pasture
SOIL TYPE:	Sandy Clay Loam
SITE DESCRIPTION:	Sub-Clover based pasture with moderate to heavy infestation of Doublegee over whole trial site.
HARVESTING:	3,40cm x 40cm quadrats/plot = 0.48m ² /plot
SPRAYING DETAILS:	14/8/90 - All treatments applied
VOLUME:	72L/Ha
PRESSURE:	155kPa
NOZZLE TYPE:	80015LP
WIND (KPH-DIR):	10-15 SSW
SOIL SURFACE:	Moist
MOISTURE: SUB-SURFACE:	Moist
TEMPERATURE (DRY BULB):	14.0°C
TEMPERATURE (WET BULB):	11.0°C
RELATIVE HUMIDITY:	71.0%
CROP GROWTH STAGE:	10-20cm - Early Flowering
WEED GROWTH STAGE:	
Doublegee	10-30cm - Some setting seed
Capeweed	10-30cm
Geranium	10-20cm
Marshmallow	10-20cm
Grasses	Well Tillered

Treatment		Doublegee control (%)	Clover damage (%)	Clover seed yield (g/m ²)
1.Diuron+2,4-DB	400ml+500ml	60.0	3.3	23.1
2.Tribunil	750g	66.7	0.0	34.7
3.Tribunil+2,4-DB	400g+400ml	70.0	0.0	29.9
4.Pursuit	250ml+W.A.	33.3	3.3	21.8
5.Pursuit	125ml+W.A.	16.7	0.0	32.9
6.Pursuit+Glyphosate	125ml+150ml+W.A	41.7	18.3	18.3
7.Glyphosate	150ml+W.A.	43.3	18.3	18.3
8.Glyphosate	300ml+W.A.	80.0	36.7	11.4
9.Propanil	2.0L	23.3	6.7	27.4
10.Propanil	4.0L	45.0	16.7	27.8
11.Pursuit+Propanil	125ml+1.0L	26.7	0.0	44.3
12.Pursuit+Diuron	125ml+200ml	51.7	0.0	24.7
13.Gesagard (Prometryne)	1.0kg	53.3	6.7	20.0
14.Control		0.0	0.0	30.2
				SED 8.0

Comments:

The standard treatments in Diuron + 2,4-DB, Tribunil and Tribunil + 2,4-DB gave the best control of doublegee but with no improvement in clover seed yield. Any treatment containing Glyphosate substantially reduced clover seed yield. Glyphosate at 300 ml/ha gave good doublegee control but at the expense of the clover. Propanil was safe on clover but did little on doublegee. A safe, effective herbicide for doublegee control in pasture is still required.

CHEMICAL CONTROL OF SUMMER WEEDS - CHENOPODIUM(spp)
GOOSEFOOT.

TRIAL NUMBER: 90A11

LOCATION: Avondale Research Station

OFFICERS: R.Madin, J.Buckley

OBJECTIVE: To control Goosefoot (Chenopodium spp) in a pasture paddock following Summer rains.

TRIAL DESIGN: Randomised Complete Blocks, 3 Replicates

PLOT SIZE: 30m x 3m = 60m²

SITE DESCRIPTION: Pasture paddock following summer rainfall, infested with a dense even stand of Goosefoot.

SOIL TYPE: Sandy Clay Loam

HARVESTING: -

SPRAYING DETAILS: 22/3/90

VOLUME: 73L/Ha

PRESSURE: 170kPa

NOZZLE TYPE: 110015LP

WIND (KPH-DIR): 5-10 SE

SOIL SURFACE: Dry

MOISTURE: SUB-SURFACE: Dry

TEMPERATURE (DRY BULB): 22.5°C

TEMPERATURE (WET BULB): 18.5°C

RELATIVE HUMIDITY: 67.0%

CROP GROWTH STAGE: -

WEED GROWTH STAGE:

Goosefoot	15-20cm
Capeweed	15cm
Doublegee	4-8.leaf
Barley Grass	Well Tillered

Treatment		Goosefoot control. (%)	Grass control (%)	Clover Damage (%)
1. Pursuit +W.A	150ml/Ha.	23	10	3
2. Pursuit +W.A	250ml/Ha.	28	10	10
3. 2,4-D Amine	500ml/Ha	33	0	0
4. 2,4-D Amine	1.0L/Ha	63	7	3
5. Diuron+2,4-DAm	500ml/Ha+500ml/Ha	58	25	18
6. Diuron+2,4-D Am	1.0L/Ha+1.0L/Ha	92	40	23
7. Roundup+2,4-D Est	400ml/Ha+200ml/Ha	95	95	3
8. Ally+2,4-D Est	5g/Ha+200ml/Ha	50	30	60
9. Tillmaster	2.0L/Ha	98	98	17
10.Control		0	0	0

Comments:

Tillmaster at 2.0L/ha, Glyphosate at 400ml/ha + 2,4-D Ester 200ml/ha and Diuron 1.0L/ha+2,4-D Amine 1.0L/ha gave very good control of Goosefoot sprayed in March on sizable plants. Tillmaster and Glyphosate + 2,4-D also controlled grasses and other broadleaf weeds. There is potential for using lower herbicide rates on smaller plants.