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SUMMARY OF WEED TRIALS 1975

Annual Ryegrass
Spray Top
Broadleaved weeds in cereals
Wild Oats

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RYE GRASS IN CEREALS

Location - Esperance Research Station
Experiment No. 75E16

Details - The following treatment was applied to a crop of wheat,
variety Madden. Treatments were applied at the
2-4 leaf stage.

Treatment	Rates/ha	Yield/ha mean of 4 reps	Weed Count 16/8/75 plant/sq m	% Control Visual Est. 29%
Dosanex	1.68kg	2996	35	98
"	2.52kg	2294	7.5	99
"	3.36kg	2621	5	99
Sencor	0.14kg	3059	40.5	50
"	0.21kg	3059	32.5	75
Diuron	1kg	2840	17.5	80
H.23408	2L	2918	1	100
"	3L	3277	1	100
Nil		2871	52	

No treatment significantly different at 5%

Co-efficient of variation 17%.

Comments

Weed numbers too low to affect yield.

RYE GRASS IN CEREALS

Location - Salmon Gums Research Station
Experiment No. 755G16.

Experimental Details - The treatments were applied at the recommended stage of the wheat crop.

Experimental Results

Treatment	Rate/ha	Yield kg/ha	Weed Counts 6 weeks post spray plant/sq. m
Dosanex	1.68kg	1687	155
	2.52kg	1843	90
	3.36kg	1716	197
Sencor	0.14kg	1581	251
	0.21kg	1673	311
Hoechst 23408	2L	1723	1
	3L	1574	0
Diuron	1kg	1694	282
Control		1539	234

LSD at 5%

85.7 kg/ha

Coefficient of variation 3.4%

RYE GRASS IN CEREALS

Location - W. Newman - Newdegate
Experiment No. 75LG5.

Details - Treatments on clipper barley, Red brown sandy loam/clay.
Sprayed 10/6/75, when crop in 3 leaf and ryegrass 2 leaf.

Experimental Results

Treatments	Rate kg/ha	Yield/ha (Average of 1 & 3 reps only)*	Plant/sqm. Counts
Dosanex	1.68kg	1474 kg	150
	2.82kg	1400 kg	130
	3.36kg	1474 kg	90
	1.68 + Agral kg	1474 kg	145
Sencor	0.14kg	1363 kg	132.5
	0.21kg	1308 kg	127.5
Diuron	1.0kg	1381 kg	152
H.23408	2L	1602 kg	12.5
	3L	1648 kg	10
Control		1207 kg	225

No statistical analysis attempted due to some uneven damage by stock which caused substantial losses in a few plots.

H.23408 does not control mustard, wireweed, the clover, medics and marshmallow. At the high rates it appeared to cause some slight effect on the crop.

RYE GRASS IN CEREALS

Location - Newdegate Research Station
Experiment No. 75N19.

Experimental Details - Treatments were applied as indicated to a
post emergent crop, of XBVT210 barley.

Soils - Loam/clay Salmon - gimlet.

Treatment	Rate /ha	Application Time - Weed stage	Yield/ha Kg. Mean of 3 reps	Weed Counts plants/sq. m 6 weeks after spray
Dosanex	1.7	2 leaf	2918	150
	1.7	5 leaf	2777	145
	3.4	5 leaf	3221	90
Sencor	0.2	2 leaf	2999	132
	0.8	2 leaf	3027	127
Diuron	1.0	2 leaf	2583	152
	1.5	2 leaf	2833	12
	2.0	2 leaf	2555	10
Control			2749.2	225

LSD at 5% 427 kg

Sencor at 0.8 kg/ha caused severe damage and 25% death of crop.

RYE GRASS IN CEREALS

Location - Quairading
Experiment No. 75No32.

Details - Treatments were applied to a ryegrass infested wheat crop. Treatments were post emergent for both weeds and crop.

Experimental Results

Treatment	Rate/ha	Crop yield	Plant Counts	Visual Control
Dosanex	1.68kg	1254.4 kg/ha	155	42
"	2.52kg	1354.2 "	90	60
Sencor	0.14kg	1175.1 "	251	20
"	0.21kg	1086.2 "	311	20
Shell 29226	2.5L	1170.5 "	197	20
"	3.75L	1149.2 "	292	25
H.23408	2 L	1348.7 "	1	100
"	3 L	1327.9 "	0	100
Control		1149.2 "	234	

LSD at 5% = 41.9kg/ha

Coefficient of Variation = 6.3%

The most important observation is the effectiveness of Dosanex in reducing the losses without causing a major reduction in ryegrass numbers.

RYE GRASS IN CEREALS

Location - Barrent - Lenard, Beverley
Experiment No. 75A24.

Details - The chemicals were applied with the barley crop in the
4 leafed stage.

Experimental Results

Treatment	Rate/ha	Yield/ha	Ryegrass No/sq.m
Dosanex	1.68kg	1266.7 kg	174
"	2.52kg	1344.4 "	176
Sencor	0.14kg	1344.4**	149
"	0.21kg	1366.7 "	138
Shell 29226	2.5L	1133.3 "	230
"	3.75L	1166.7 "	293
H.23408	2.0L	1222.2*"	23
"	3.0L	1166.7*"	0
Control		1144 "	330

LSD 5% 120.7 .

Coefficient of Variation = 6.49%

* Yields reduced due to Cape weed infestation.

** Yield increase due mainly to Cape weed reduction.

SPRAY TOP ANNUAL RYEGRASS TRIAL 1975

Locality - Wongan Hills, Merredin Research Station
 Avondale Research Station, Newdegate Research Station.

Background - Killing of immature seed by killing seedhead with paraquat is a method of reducing seed production in annual ryegrass.

Method

Various rates of "Spray top" were applied to an even stand of ryegrass. Seed counts were made in December 1975 and will be made in March 1976. Plant counts after emergence will be made as well.

Counts were partitioned into seed in head and seed shed.

Experimental Results

Sprayed treatment Spraytop mls/ha	Site Seeds/sq. m.			
	Merredin	Wongan Hills	Avondale	Newdegate
0	6,757a*	11,415a	20,899a	18,687**
350	1,589b	2,490b	9,907b	14,288
525	1,860b	2,295b	8,278b	13,229
700	1,058b	2,455b	8,516b	13,006
1050	1,242b	2,444b	5,709c	10,892
% Seed shed	43%	49%	25%	33%
Coefficient of variation	29%	42%	29%	31%

* Indicates significant differences at 5% level.

** Not significant at 5% level.

Seasonal conditions were similar at Wongan Hills and Merredin with a fairly sharp cut off. At Avondale the season continued for a longer period, but not as long as it did at Newdegate.

From the data, application of increasing amounts of Spray top does not cause increased seed kills unless the plant is able to continue producing seeds despite herbicide damage. With a longer season as at Avondale the highest rate used improved the seed reduction significantly. At Newdegate it appears that the plant was able to recover and still produce seed at rates similar to untreated plants.

This treatment only kills seeds at a particular stage. If a wide range of plant maturity occur, with a long period of seed production due to a long season, not a great reduction in seed production can be achieved unless the plant is actually killed, and not just the existing seed heads killed. This would take greater amounts of chemicals.

HERBICIDE CONTROL OF BROAD LEAFED WEEDS IN CEREALS

Location

Chapman Research Station
Experiment No. 75C19.

Details

Sprayed 15-7-75 when wheat in 2 leaf stage. Weeds present included doublegees and Cape weed, and crop - wheat.

Treatments	Rate/ha	Yield kg/ha	Visual scores % Control Cape weed	Doublegees
Tribunil D	0.85kg	2120	98%	95%
"	1.0kg	2132	98%	98%
DM3786	1.0L	2050	93%	78%
"	2.0L	2191	100%	95%
Sencor	0.14kg	1968	95%	
DM3785	1.0L	1991	98%	55%
"	2.0L	1886	100%	90%
2,4-D Ester	0.35L	2132	72%	65%
Control		1886	0	0
Weeds at spraying /sq.m			41	79

LSD at 5% 459kg

Coefficient of Variation 10.5%

BROADLEAFED WEEDS IN CEREALS

Location - Property of Mr R. Adams, Beverley
Experiment No. 75A25.

Details - Treatments applied on the 14/7/75.

The wheat was at the 2 leaf stage. Weed present included doublegees (DG), Cape weed (C/W), Radish (Rad), and Erodium (Erod.).

Experimental Results

Treatment	Rate/ha	Yield kg/ha	% Control			
			Rad.	D/G.	Erod.	C/W.
Tribunil	0.85kg	2335	95	95	40	95
Tribunil	1 kg	2777	95	98	40	100
DM3785	1L	1977	90	70	50	90
	2L	1988	95	90	80	100
2,4-D Ester	0.35L	2022	100	40	66	60
Sencor	0.14kg	2088	90	60	60	80
Tribunil D	0.85kg	2299	100	98	60	100
Dicamba	1.46	1711	40	100	30	20
Brominil M	1.46	2299	100	100	65	100
Linuron	0.55kg	2166	100	100	70	100
Amidi	1 kg	2166	100	100	40	100
Control		1811	0	0	0	0

LSD at 5% 231kg/ha

Coefficient of variation 6%

Plants/sq.m at start of trial, C/W 37, D/G 30.

The variations in yields with treatments appear mainly due to the efficiency of weed control. Dicamba did not control Cape weed and radish, and the yield was not improved despite good control of Doublegee.

HERBICIDE CONTROL OF BROADLEAFED WEEDS IN CEREALS

Location - Merredin Research Station
Experiment No. 75M36.

Details - Sprayed 14-8-75, when wheat in the 2 leaf stage. Wheat variety Gamenya. Weeds present includes Cape weed, and Doublegee.

Treatment	Rate/ha	Yield/ha	Control - Visual estimate
Tribunil D	0.85kg	1843kg	67%
	1.0 kg	1698kg	65%
DM3786	1.0L	1862kg	75%
"	2.0L	1824kg	98%
Sencor	0.14kg	1765kg	66%
DM3785	1.0L	1875kg	78%
"	2.0L	1892kg	79%
2,4-D Ester	0.35L	1804kg	57%
Control		1756kg	0%

Number of weeds/sq.m at start of trial

Doublegee 9/sq.m
Cape Weed 25/sq.m

Coefficient of Variation 8.8% No treatment significantly different at the 5% level.

The weed numbers were too low to provide significant yield losses.

HERBICIDE CONTROL OF WILD OATS IN WHEAT

Location - Wittwern, East Carnamah,
Experiment No. 75T52.

L. Barrent - Lennard, Beverley
Experiment No. 75A23.

"Kapunda", G.E. White & Son E. Woodanilling
Experiment No. 75KA22.

Details - The chemicals were applied to wheat at the 6 leaf stage.
Wild oat infested crops were selected.

Experimental Results

Site		75TS22		75A23		75KA22	
Visual effects on crop.		Nil		Nil		Nil	
Weed Infestation plants/sq.m		18		70		92	
At spraying.							
Wheat Var.		Gamenya		Egret		Gamenya	
Treatments	Rate /ha	Yield kg/ha	Visual control % of control	Yield kg/ha	Visual control % of control	Yield kg/ha	Visual control % of control
H.23408	2L	842	99	1666	66	700	0
"	3L	836	100	1266	30	1100	35
"	4L	896	100	1266	63	1600	99
S.29761	1.5L	861	65	1420	60	1000	70
"	3L	920	95	1546	90	1300	95
"	4.5L	920	99	1546	90	600	95
"	6L	911	100	1720	100	1100	99
Avenge	0.75kg	854	80	1653	100	1300	25
"	1.5kg	802	100	1520	66	1200	75
Control		873	0	1320	0	900	0
LSD at 5%		N.S.		158		386	

Coefficient of variation

7%

6%

20%

The experiment at Wittwern was planted late, and levels of wild oats were quite low. One replicate of the Kapunda site was waterlogged during the growing season and this account for the higher coefficient of variation.