1979 trial - Doublegee seed dormancy, lupins weed control, doublegee control in pasture

D J. Gilbey

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EXPERIMENTAL SUMMARY 1979 TRIALS

1) Doublegee Seed Dormancy
2) Lupins - Weed Control
3) Doublegee Control in Pasture

D.J. Gilbey
Weed Agronomy Section
January 1980
LOCALITY: Chapman Research Station

SOIL TYPE:

OBJECTIVE: To compare the effect of cultivation and spraying on doublegee seed longevity.


RESULTS:

March 1974 soil sampled - after 1 crop
March 1975 soil sampled - after 2 crops on Treatment 1
January 1976 soil sampled - after 3 crops on Treatment 1
November 1976 soil sampled - after 4 crops on Treatment 1
January 1978 soil sampled - after 5 crops on Treatment 1
August 1978 Doublegee plant counts on Treatments 1 & 2
December 1978 soil sampled - after 6 crops on Treatment 1

Live Doublegee seeds/m²

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Date Sampled</th>
<th>No. Crops</th>
<th>Plants/ m² Aug. 1978</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Continuous crop</td>
<td>70.2</td>
<td>37</td>
<td>22a</td>
</tr>
<tr>
<td>2. Continuous pasture</td>
<td>70.2</td>
<td>200</td>
<td>230b</td>
</tr>
<tr>
<td>3. Continuous pasture and spray</td>
<td>70.2</td>
<td>66</td>
<td>88ab</td>
</tr>
</tbody>
</table>

Comment:

Treatment 1 has now been cropped for 6 years in succession. After three crops there was less surviving live seed than on the pasture plots and this was also the situation after 4 crops when no live seed was recovered from the continuously cropped plots.
Cyclone Alby redistributed so much seed over plots during the 1978 growing season that all differences between treatments disappeared, and the trial has been discontinued.

In practical terms it seems unlikely that continuous cropping can eliminate doublegeee although it can significantly reduce the viable seed population.

Differences between sprayed and now sprayed continuous pasture are not significant but the ranking of the means supports data from Wongan Hills where spraying pasture significantly reduced the normal rapid accumulation of live seed that occurs in first year pasture that is not sprayed.
**DOUBLEGEE SEED LONGEVITY X CULTIVATION - 75WH65**

**LOCALITY**: Wongan Hills Research Station  
**SOIL TYPE**: Wongan loamy sand  
**OBJECTIVE**: To compare the effect of cultivation and spraying on doublegee seed longevity.  
**TRIAL STARTED**: 18.6.75  
**RESULTS**: 18.6.75 plant counts and soil samples were taken.  
5.3.76 soil samples taken.  
30.6.76 plant counts.  
6.4.77 soil samples taken.  
21.12.77 soil samples taken.  
22.6.78 plant counts.  
14.12.78 soil samples taken.  
4.7.79 plant counts.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1 Unsprayed Pasture</th>
<th>2 Sprayed Pasture</th>
<th>3 Cultivated Sprayed Pasture</th>
<th>LSD 5%</th>
</tr>
</thead>
</table>

**COMMENT**

Treatment 3 has now been cultivated for four successive years. After three years significantly fewer plants emerged on the cultivated plots than the other treatments as there was significantly less live seed surviving this treatment.

In all years spraying pasture has significantly reduced the amount of live doublegee seed.
**LOCALITY** : Wongan Hills Research Station  
**SOIL TYPE** : Wongan loamy sand  
**SOURCE OF SEED** : Chapman 1974  
**TRIAL STARTED** : 5.6.75 Doublegee achenes enclosed in gauze were buried at 12, 25, 50 and 100mm. 50 achenes were placed in each gauze bag.  
<table>
<thead>
<tr>
<th>Date of time recovering sample</th>
<th>Depth of Burial mm</th>
<th>No. of Seeds recovered</th>
<th>% live seed</th>
<th>% Dead/Empty Seed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil (stored in laboratory)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>March 1976</td>
<td>12</td>
<td>200</td>
<td>14</td>
<td>86</td>
</tr>
<tr>
<td></td>
<td>25</td>
<td>200</td>
<td>9.5</td>
<td>90.5</td>
</tr>
<tr>
<td></td>
<td>50</td>
<td>200</td>
<td>12.5</td>
<td>87.5</td>
</tr>
<tr>
<td></td>
<td>100</td>
<td>200</td>
<td>13</td>
<td>87</td>
</tr>
<tr>
<td>Mean</td>
<td>12</td>
<td>197</td>
<td>12.25</td>
<td>87.75</td>
</tr>
<tr>
<td>December 1976</td>
<td>12</td>
<td>197</td>
<td>12.2</td>
<td>87.8</td>
</tr>
<tr>
<td></td>
<td>25</td>
<td>200</td>
<td>5.5</td>
<td>94.5</td>
</tr>
<tr>
<td></td>
<td>50</td>
<td>200</td>
<td>4.5</td>
<td>95.5</td>
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<tr>
<td></td>
<td>100</td>
<td>199</td>
<td>9.5</td>
<td>90.5</td>
</tr>
<tr>
<td>Mean</td>
<td></td>
<td></td>
<td>7.9</td>
<td>92.1</td>
</tr>
<tr>
<td>February 1978</td>
<td>12</td>
<td>150*</td>
<td>.7</td>
<td>99.3</td>
</tr>
<tr>
<td></td>
<td>25</td>
<td>150*</td>
<td>2.7</td>
<td>97.3</td>
</tr>
<tr>
<td></td>
<td>50</td>
<td>199</td>
<td>4.5</td>
<td>95.5</td>
</tr>
<tr>
<td></td>
<td>100</td>
<td>195</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>Mean</td>
<td></td>
<td></td>
<td>2.0</td>
<td>98</td>
</tr>
<tr>
<td>December 1978</td>
<td>12</td>
<td>200</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>25</td>
<td>200</td>
<td>1.0</td>
<td>99</td>
</tr>
<tr>
<td></td>
<td>50</td>
<td>199</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>100</td>
<td>199</td>
<td>1.5</td>
<td>98.5</td>
</tr>
<tr>
<td>Mean</td>
<td></td>
<td></td>
<td>0.6</td>
<td>99.4</td>
</tr>
</tbody>
</table>

* One rep missing

The Effect of Years of Burial on number of surviving live seeds of 200 originally buried.

<table>
<thead>
<tr>
<th>Year</th>
<th>LSD 5%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>24.5</td>
</tr>
<tr>
<td>2</td>
<td>15.75</td>
</tr>
<tr>
<td>3</td>
<td>3.5</td>
</tr>
<tr>
<td>4</td>
<td>1.25</td>
</tr>
</tbody>
</table>

Comment

After four growing seasons only 0.6% remains alive. Depth at which the seed is buried has not significantly effected seed survival.
DOUBLEGEE SEED LONGEVITY X DEPTH - 76C9

LOCALITY : Chapman Research Station

SOURCE OF SEED : Chapman 1975

TRIAL STARTED : 14.7.76. Doublegee achenes enclosed in gauze were buried at 12, 25, 50 and 100 mm. 50 achenes per plot.

RESULTS : July 1976. Germination test on seed used at start of experiment.

Nov. 1976 - Seed recovered for germination test.
Nov. 1977 - Seed recovered for germination test.

<table>
<thead>
<tr>
<th>Length of time buried (mths)</th>
<th>Depth of Burial mm</th>
<th>No. of Seeds recovered</th>
<th>% live seed</th>
<th>% dead/empty seed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil (stored in Lab) July 1976</td>
<td>-</td>
<td>-</td>
<td>88</td>
<td>12</td>
</tr>
<tr>
<td>Four months (one winter) Nov. 1976</td>
<td>12</td>
<td>200</td>
<td>66.5</td>
<td>33.5</td>
</tr>
<tr>
<td></td>
<td>25</td>
<td>200</td>
<td>69.0</td>
<td>31.0</td>
</tr>
<tr>
<td></td>
<td>50</td>
<td>200</td>
<td>65.0</td>
<td>35.0</td>
</tr>
<tr>
<td></td>
<td>100</td>
<td>200</td>
<td>70.5</td>
<td>29.5</td>
</tr>
<tr>
<td></td>
<td>Mean</td>
<td></td>
<td>67.8</td>
<td>32.2</td>
</tr>
<tr>
<td>Sixteen mths (2 growing seasons) Nov. 1977</td>
<td>12</td>
<td>204</td>
<td>54.0</td>
<td>46.0</td>
</tr>
<tr>
<td></td>
<td>25</td>
<td>200</td>
<td>54.5</td>
<td>45.5</td>
</tr>
<tr>
<td></td>
<td>50</td>
<td>200</td>
<td>51.0</td>
<td>49.0</td>
</tr>
<tr>
<td></td>
<td>100</td>
<td>200</td>
<td>46.0</td>
<td>54.0</td>
</tr>
<tr>
<td></td>
<td>Mean</td>
<td></td>
<td>50.1</td>
<td>49.9</td>
</tr>
<tr>
<td>(3 growing seasons) Dec. 1978</td>
<td>12</td>
<td>198</td>
<td>16.0</td>
<td>84.0</td>
</tr>
<tr>
<td></td>
<td>25</td>
<td>198</td>
<td>32.0</td>
<td>67.0</td>
</tr>
<tr>
<td></td>
<td>50</td>
<td>197</td>
<td>24.0</td>
<td>76.0</td>
</tr>
<tr>
<td></td>
<td>100</td>
<td>192</td>
<td>14.0</td>
<td>86.0</td>
</tr>
<tr>
<td>Mean</td>
<td></td>
<td></td>
<td>22.0</td>
<td>78.0</td>
</tr>
</tbody>
</table>

Comment

After 3 seasons about \( \frac{1}{4} \) of the seed remains viable. The depth at which the seed was buried has had no significant effect on seed survival.
**LOCALITY** : Katanning Townsite  
**SOURCE OF SEED** : Dumbleyung 1976  
**TRIAL STARTED** : 5.5.77 Doublegee achenes enclosed in nylon gauze were buried at 12, 25, 50 and 100 mm with 50 achenes/plot.  
**RESULTS** : May 1977 germination test on seed used at start of expt. February 1978 - seed recovered for germination test. February 1979 - seed recovered for germination test.

<table>
<thead>
<tr>
<th>Date of Recovering Sample</th>
<th>Depth of Burial mm</th>
<th>No. of seeds recovered</th>
<th>% live</th>
<th>% dead/empty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil (stored in lab) May 1977</td>
<td>-</td>
<td>-</td>
<td>60</td>
<td>40</td>
</tr>
<tr>
<td>February 1978</td>
<td>12</td>
<td>200</td>
<td>2</td>
<td>98</td>
</tr>
<tr>
<td></td>
<td>25</td>
<td>200</td>
<td>3</td>
<td>97</td>
</tr>
<tr>
<td></td>
<td>50</td>
<td>209</td>
<td>4.4</td>
<td>95.6</td>
</tr>
<tr>
<td></td>
<td>100</td>
<td>208</td>
<td>2.5</td>
<td>97.5</td>
</tr>
<tr>
<td></td>
<td>Mean</td>
<td></td>
<td>4.2</td>
<td>95.8</td>
</tr>
<tr>
<td>February 1979</td>
<td>12</td>
<td>225</td>
<td>3.4</td>
<td>96.6</td>
</tr>
<tr>
<td></td>
<td>25</td>
<td>199</td>
<td>1.0</td>
<td>99.0</td>
</tr>
<tr>
<td></td>
<td>50</td>
<td>205</td>
<td>1.0</td>
<td>99.0</td>
</tr>
<tr>
<td></td>
<td>100</td>
<td>189</td>
<td>3.0</td>
<td>99.0</td>
</tr>
<tr>
<td></td>
<td>Mean</td>
<td></td>
<td>2.2</td>
<td>97.8</td>
</tr>
</tbody>
</table>

**Comment**

Viability of seed has not been affected by the depth at which it has been buried. Overall viability of the seed has declined to a low level in one year as has happened at Wongan Hills.
EFFECT OF DOUBLE CROPPING, SHALLOW DRY CULTIVATION AND SPRAYING PASTURE ON Viable DOUBLEGEE SEED 74A4

LOCALITY : Avondale Research Station

OBJECTIVE : To study the combined effect of recommended control practices on viable doublegee seed populations in the soil.

TRIAL DETAILS : Started 1974 on paddock cropped in 1973. In 1974 half of trial was cropped with and without dry shallow cultivation and half was resown to pasture with and without spray. In 1975 whole trial was under pasture with and without spray. No further treatment until 1978 when whole trial was cropped.

RESULTS :

Year 1 - trial was soil sampled before 1974 treatments and live doublegee seeds counted.
Year 2 - soil sampled after 1974 growing season before 1975 treatments.
Year 3 - soil sampled after 1975 growing season.
Year 4 - not soil sampled.
Year 5 - soil sampled after 1977 growing season.
Year 6 - sown to wheat in 1978 growing season. Doublegee plant emergence and crop counted before spraying.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Viable Seeds/m²</th>
<th>Plants/m²</th>
<th>Wheat Yield</th>
<th>Viable Seeds/m²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cult, 1974</td>
<td>Crop 1974</td>
<td>Spray 1974 &amp; '75</td>
<td>Yr 1</td>
<td>Yr 2</td>
</tr>
<tr>
<td>1. +</td>
<td>+</td>
<td>-</td>
<td>71</td>
<td>72</td>
</tr>
<tr>
<td>2. +</td>
<td>+</td>
<td>+</td>
<td>71</td>
<td>142</td>
</tr>
<tr>
<td>3. -</td>
<td>+</td>
<td>-</td>
<td>71</td>
<td>84</td>
</tr>
<tr>
<td>4. -</td>
<td>+</td>
<td>+</td>
<td>71</td>
<td>61</td>
</tr>
<tr>
<td>5. +</td>
<td>-</td>
<td>-</td>
<td>71</td>
<td>183</td>
</tr>
<tr>
<td>6. +</td>
<td>-</td>
<td>+</td>
<td>71</td>
<td>131</td>
</tr>
<tr>
<td>7. -</td>
<td>-</td>
<td>-</td>
<td>71</td>
<td>325</td>
</tr>
<tr>
<td>8. -</td>
<td>-</td>
<td>+</td>
<td>71</td>
<td>83</td>
</tr>
</tbody>
</table>

Comments

By year 3 all treatments had significantly lower viable seed than the single crop and nil spray treatment. After year 3 there were no significant differences due to treatments in viable seed numbers, doublegee plants in the crop, wheat yield or viable seeds after the crop.
LUPIN TOLERANCE TO HERBICIDES - ILLYARRIE - 79C24

LOCALITY : Chapman Research Station

VARIETY : Illyarrie lupins

SOWN : 20.6.79 at 80 kg/ha

HERBICIDE APPLICATION : Trifluralin 12.6.79
Simazine 21.6.79 and 9.8.79
Diuron 21.6.79
Tribunil 9.8.79
Linuron 9.8.79
Hoegrass 9.8.79

At post emergence application on 9.8.79 lupins had up to 14 leaves and nodal shoots were forming.

RESULTS : Weeds and lupins were counted on 10.8.79

VISUAL RATING SCALE : On 21.8.79
0 = no effect
1 = slight
2 = severe
3 = complete kill

VISUAL RATING SCALE : On 4.10.79
0 = no effect
1 = very light effect
2 = slight effect
3 = moderate
4 = severe
5 = complete kill
### RESULTS

<table>
<thead>
<tr>
<th>Treatment/ha</th>
<th>Weeds/m²</th>
<th>Lupins/m²</th>
<th>Visual Rating Lupins</th>
<th>Lupin Yield kg/ha</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Unsprayed</td>
<td>12.7</td>
<td>19.7</td>
<td>000  200</td>
<td>731</td>
</tr>
<tr>
<td>2 Simazine 1 l</td>
<td>0</td>
<td>27.0</td>
<td>000  000</td>
<td>1057</td>
</tr>
<tr>
<td>3 Simazine 2 l</td>
<td>0</td>
<td>20.3</td>
<td>000  000</td>
<td>1268</td>
</tr>
<tr>
<td>4 Simazine 4 l</td>
<td>5.7</td>
<td>21.3</td>
<td>001  200</td>
<td>830</td>
</tr>
<tr>
<td>5 Simazine 8 l</td>
<td>10.7</td>
<td>20.0</td>
<td>000  100</td>
<td>1199</td>
</tr>
<tr>
<td>6 Simazine 1 l</td>
<td>5.3</td>
<td>27.0</td>
<td>000  110</td>
<td>858</td>
</tr>
<tr>
<td>7 Simazine 2 l</td>
<td>10.0</td>
<td>25.3</td>
<td>000  222</td>
<td>538</td>
</tr>
<tr>
<td>8 Simazine 8 l</td>
<td>6.3</td>
<td>19.0</td>
<td>000  000</td>
<td>329</td>
</tr>
<tr>
<td>9 Simazine 1 l</td>
<td>0.7</td>
<td>20.3</td>
<td>000  000</td>
<td>1219</td>
</tr>
<tr>
<td>10 Simazine 2 l</td>
<td>0</td>
<td>24.7</td>
<td>002  002</td>
<td>721</td>
</tr>
<tr>
<td>11 Simazine 4 l</td>
<td>0</td>
<td>23.5</td>
<td>000  000</td>
<td>1164</td>
</tr>
<tr>
<td>12 Simazine 8 l</td>
<td>0</td>
<td>25.0</td>
<td>000  000</td>
<td>112  211</td>
</tr>
<tr>
<td>13 Simazine 425 g</td>
<td>12.7</td>
<td>19.7</td>
<td>112  211</td>
<td>553</td>
</tr>
<tr>
<td>14 Simazine 850 g</td>
<td>6.0</td>
<td>21.3</td>
<td>212  322</td>
<td>317</td>
</tr>
<tr>
<td>15 Simazine 1700 g</td>
<td>7.0</td>
<td>19.7</td>
<td>222  233</td>
<td>256</td>
</tr>
<tr>
<td>16 Simazine 3400 g</td>
<td>1.7</td>
<td>2.7</td>
<td>333  445</td>
<td>65</td>
</tr>
<tr>
<td>17 Linuron 275 g</td>
<td>14.7</td>
<td>30.0</td>
<td>111  111</td>
<td>515</td>
</tr>
<tr>
<td>18 Linuron 550 g</td>
<td>3.0</td>
<td>16.3</td>
<td>222  332</td>
<td>386</td>
</tr>
<tr>
<td>19 Linuron 1100 g</td>
<td>3.0</td>
<td>19.0</td>
<td>222  333</td>
<td>257</td>
</tr>
<tr>
<td>20 Linuron 2200 g</td>
<td>0.3</td>
<td>0</td>
<td>333  555</td>
<td>0</td>
</tr>
<tr>
<td>21 Linuron 550 g</td>
<td>5.0</td>
<td>25.7</td>
<td>000  000</td>
<td>1003</td>
</tr>
<tr>
<td>22 Linuron 1000 g</td>
<td>10.3</td>
<td>24.3</td>
<td>000  000</td>
<td>844</td>
</tr>
<tr>
<td>23 Linuron 2200 g</td>
<td>9.3</td>
<td>28.0</td>
<td>000  000</td>
<td>1114</td>
</tr>
<tr>
<td>24 Linuron 4 l</td>
<td>8.7</td>
<td>23.7</td>
<td>000  000</td>
<td>1000</td>
</tr>
<tr>
<td>25 Linuron 550 g</td>
<td>375 ml</td>
<td>19.0</td>
<td>000  000</td>
<td>798</td>
</tr>
<tr>
<td>26 Linuron 750 ml</td>
<td>12.7</td>
<td>23.7</td>
<td>000  000</td>
<td>1002</td>
</tr>
<tr>
<td>27 Linuron 1.5 l</td>
<td>20.3</td>
<td>19.3</td>
<td>000  000</td>
<td>739</td>
</tr>
<tr>
<td>28 Linuron 3.0 l</td>
<td>11.3</td>
<td>26.0</td>
<td>000  000</td>
<td>877</td>
</tr>
</tbody>
</table>

| LSD 5%            |          |           |  (320)               |

### COMMENT

Simazine - At seeding 2 l/ha satisfactory with crop damage at 8 l/ha. Post emergence treatment yield not significantly different from unsprayed except 8 l/ha which had significant crop damage.

Diuron - Satisfactory at 2 l/ha and good crop tolerance to 8 l/ha.

Tribunil - No tolerance at 850 g/ha.

Linuron - No tolerance at 550 g/ha.

Trifluralin - Good tolerance to all rates.

Hoegrass - Good tolerance to all rates.
LUPIN TOLERANCE TO HERBICIDES - UNICROP

79C25

LOCALITY : Chapman Research Station

VARIETY : Unicrop lupins

SOWN : 20.6.79 at 80 Kg/ha

HERBICIDE APPLICATION :

<table>
<thead>
<tr>
<th>Herbicide</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trifluralin</td>
<td>12.6.79</td>
</tr>
<tr>
<td>Simazine</td>
<td>21.6.79 and 9.8.79</td>
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<tr>
<td>Diuron</td>
<td>21.6.79</td>
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<td>Tribunil</td>
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<tr>
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<td>9.8.79</td>
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<tr>
<td>Hoegrass</td>
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</table>

At post emergence applications on 9.8.79 lupins had up to 14 leaves, and nodal shoots were forming.

RESULTS : Weeds and lupins were counted on 10.8.79.

Visual rating scale on 21.8.79:

0 = no effect
1 = slight
2 = severe
3 = complete kill

Visual rating scale on 4.10.79:

0 = no effect
1 = very slight effect
2 = slight effect
3 = moderate
4 = severe
5 = complete kill
## RESULTS

<table>
<thead>
<tr>
<th>Treatments/ha</th>
<th>Weeds /m²</th>
<th>Lupins /m²</th>
<th>Visual Rating Lupins</th>
<th>Lupin Yield Kg/ha</th>
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<tr>
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<td>15. 850 g</td>
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<td>17. 3400g</td>
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<td>340</td>
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<td>26. Hoegrass &amp; W.A.</td>
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**LSD 5%**

### Comment

**Simazine** - 2 l/ha at seeding satisfactory with good crop tolerance at 4 l/ha. 2 l/ha post emergence satisfactory with slight crop damage at 4 l/ha and significant yield loss at 8 l/ha.

**Diuron** - Satisfactory at 2 l/ha and good crop tolerance at 8 l/ha.

**Tribunil** - No crop tolerance at 850 g/ha.

**Linuron** - No crop tolerance at 275 g/ha.

**Trifluralin** - Good tolerance at all rates.

**Hoegrass** - Good tolerance at all rates.
LUPIN TOLERANCE TO HERBICIDES - ULTRA

79C26

LOCALITY : Chapman Research Station

VARIETY : Ultra lupins

SOWN : 20.6.79 at 80 Kg/ha

HERBICIDE APPLICATION : Trifluralin 12.6.79
Simazine 21.6.79 and 9.8.79
Diuron 21.6.79
Tribunil
Linuron 9.8.79
Hoegrass

At post emergence applications on 9.8.79 lupins had 8-10 leaves.

RESULTS : Weeds and lupins were counted on 10.8.79.

Visual rate scale on 21.8.79: 0 = no effect
1 = slight
2 = severe
3 = complete kill

Visual rating scale on 4.10.79: 0 = no effect
1 = very slight effect
2 = slight effect
3 = moderate
4 = severe
5 = complete kill
### RESULTS

<table>
<thead>
<tr>
<th>Treatments/ha</th>
<th>Weeds /m²</th>
<th>Lupins /m²</th>
<th>Visual Rating</th>
<th>Lupin Yield Kg/ha</th>
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<td>18.7</td>
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<td>1700g</td>
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<td>1100 g</td>
<td>3.0</td>
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<td>000</td>
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<td>2 l</td>
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<td>000</td>
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<td>25.</td>
<td>4 l</td>
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<td>000</td>
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<td>26. Hoegrass + W.A.</td>
<td>375ml</td>
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<td>28.7</td>
<td>000</td>
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<td>27.</td>
<td>750ml</td>
<td>12.7</td>
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<td>000</td>
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<td>28.</td>
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<td>3.0 l</td>
<td>11.3</td>
<td>20.7</td>
<td>000</td>
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</table>

**LSD 5%** 171 ***

**Comment**

- **Simazine** - 4 l/ha significantly reduced the yield of Ultra at both times of spraying. The recommended rate for the varieties of 2 l/ha is not safe.
- **Diuron** - Ultra yields were not significantly reduced by up to 8 l diuron/ha.
- **Tribunil** - Although yields were not significantly reduced visual crop damage was severe at 3.4 kg/ha. The recommended rate of 850 g/ha was satisfactory.
- **Linuron** - Recommended rate of 550 g/ha was satisfactory.
- **Trifluralin** - Ultra tolerated the highest rate of trifluralin and the recommended rate of 1 l/ha has a high crop safety margin.
- **Hoegrass & W.A.** - Ultra tolerated the highest rate of Hoegrass and 1.5 l/ha could be safely used.
LOCALITY : Chapman Research Station
VARIETY : Uniharvest lupins
SOWN : 20.6.79 at 80 kg/ha

HERBICIDE APPLICATION : Trifluralin 12.6.79
Simazine 21.6.79 and 9.8.79
Diuron 21.6.79
Tribunil
Linuron 9.8.79
Hoegrass

At post emergence applications on 9.8.79 lupins had up to 14 leaves, and nodal shoots were forming.

RESULTS : Weeds and lupins were counted on 10.8.79

Visual rating scale on 21.8.79: 0 = no effect
1 = slight
2 = severe
3 = complete kill

Visual rating scale on 4.10.79: 0 = no effect
1 = very slight effect
2 = slight effect
3 = moderate
4 = severe
5 = complete kill
RESULTS

<table>
<thead>
<tr>
<th>Treatments/ha</th>
<th>Weeds /m²</th>
<th>Lupins /m²</th>
<th>Visual Rating</th>
<th>Yield Lupins Kg/ha</th>
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<td>29. Hoegrass</td>
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<td>11.3</td>
<td>27.7</td>
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</table>

5% LSD

139.4***

Comment

Simazine - 2 l/ha satisfactory on Uniharvest pre and post emergence with good crop tolerance to 4 l/ha. 8 l simazine/ha post emergence reduced yield and produced slight to moderate visual crop damage.

Diuron - Satisfactory at 2 l/ha and good crop tolerance to 8 l/ha.

Tribunil - No crop tolerance to 1700 g/ha so 850 g/ha would not be a satisfactory recommendation.

Linuron - No crop tolerance to rates used.

Trifluralin - Good crop tolerance to all rates.

Hoegrass - 750 mls/ha satisfactory. 3 l/ha significantly reduced yield so 1.5 l/ha would not be a satisfactory recommendation on Uniharvest.
LUPIN TOLERANCE TO HERBICIDES - MARRI 79C28

LOCALITY: Chapman Research Station

VARIETY: Marri lupins

SOWN: 20.6.79 at 80 Kg/ha

HERBICIDE APPLICATION: Trifluralin 12.6.79
Simazine 21.6.79 and 9.8.79
Diuron 21.6.79
Tribunil
Linuron 9.8.79
Hoegrass

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<thead>
<tr>
<th>Treatments/ha</th>
<th>Weeds /m²</th>
<th>Lupins /m²</th>
<th>Visual Rating Lupins</th>
<th>Lupin Yield Kg/ha</th>
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<td>12.7</td>
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<td>3.</td>
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<td>26.0</td>
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<td>14. Tribunil</td>
<td>425 g</td>
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<td>222</td>
<td>198</td>
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<tr>
<td>15.</td>
<td>850 g</td>
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<tr>
<td>16.</td>
<td>1700 g</td>
<td>7.0</td>
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<td>17.</td>
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<td>18. Linuron</td>
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<td>19.</td>
<td>550 g</td>
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<td>332</td>
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<tr>
<td>20.</td>
<td>1100 g</td>
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<td>222</td>
<td>333</td>
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<tr>
<td>21.</td>
<td>2200 g</td>
<td>0.3</td>
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<tr>
<td>22. Trifluralin 500ml</td>
<td>5.0</td>
<td>28.3</td>
<td>000</td>
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</tr>
<tr>
<td>23.</td>
<td>1 l</td>
<td>10.3</td>
<td>010</td>
<td>110</td>
</tr>
<tr>
<td>24.</td>
<td>2 l</td>
<td>9.3</td>
<td>000</td>
<td>000</td>
</tr>
<tr>
<td>25.</td>
<td>4 l</td>
<td>8.7</td>
<td>000</td>
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<tr>
<td>26. Hoegrass + W.A.</td>
<td>375ml</td>
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<tr>
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<td>750ml</td>
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<td>1.5 l</td>
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</tbody>
</table>

**LSD 5%**

**150***

### Comment

- **Simazine** - Grain yields not significantly different from unsprayed treatment 2 l/ha satisfactory at seeding and post emergence, with some visual crop damage at all rates of application.
- **Diuron** - 1 l diuron/ha significantly increased yield. Good crop tolerance to 8 l/ha.
- **Tribunil** - No tolerance at any rate of application.
- **Linuron** - No tolerance at any rate of application.
- **Trifluralin** - Good tolerance to all rates.
- **Hoegrass** - Good tolerance to all rates.
TIME OF SPRAYING SIMAZINE OR LUPINS
79M043

LOCALITY : I. Metcalf - Lake Hinds

VARIETY : Marri

SOWN : 28.5.79

SPRAYING : Treatments 2-6 sprayed immediately after seeding.

Treatments 7-10 sprayed 8.6.79 (10 days) cotyledons fully open and juvenile leaves emerging.

Treatments 11-14 sprayed 18.6.79 (20 days) lupins had 2-3 leaves.

Treatments 15-18 sprayed 28.6.79 (30 days) lupins had 6 leaves.

RESULTS : Weeds and lupins were counted on 1.8.79.

Visual ratings were made on 28.6.79 and 25.10.79.

Rating scale: 0 = no effect
1 = slight effect
2 = moderate effect
3 = severe to complete kill
### RESULTS

<table>
<thead>
<tr>
<th>Treatment/ha</th>
<th>Broadleaf Weed 5/m²</th>
<th>Ryegrass 5/m²</th>
<th>Lupins 5/m²</th>
<th>Visual Rating 28.6.79</th>
<th>Visual Rating 25.10.79</th>
<th>Grain Yield kg/ha</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Unsprayed</td>
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<td>14.3</td>
<td>197</td>
<td>000</td>
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<td>2. Diuron 2</td>
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<td>3</td>
<td>141</td>
<td>001</td>
<td>000</td>
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<td>1015</td>
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<td>7. At 10 days</td>
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<td>2.3</td>
<td>144</td>
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<td>498</td>
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<td>11. At 20 days</td>
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<td>3.7</td>
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<td>80</td>
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<td>157</td>
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<td>000</td>
</tr>
<tr>
<td>17.</td>
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<td>13</td>
<td>189</td>
<td>000</td>
<td>000</td>
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<td>18.</td>
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<tr>
<th>% LSD Rates 1/ha</th>
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<th>3</th>
<th>4</th>
<th>6</th>
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<td>1035</td>
<td>671</td>
<td>428</td>
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<table>
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<th>% LSD Time days after seeding</th>
<th>0</th>
<th>10</th>
<th>20</th>
<th>30</th>
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<tr>
<td></td>
<td>738</td>
<td>641</td>
<td>589</td>
<td>1051</td>
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</table>

**Comment**

3 l simazine/ha and over, reduced yields at 0 and 10 days after seeding.

4 l/ha and over, reduced yields at 20 days after seeding.

In each case lupin plant numbers were reduced.

Spraying at 30 days did not affect lupin yields and weed control was poor at all rates.

Otherwise best yields were obtained with the recommended 2 l/ha at seeding.
LOCALITY: A. Clemens "Gunyidi" Watheroo

VARIETY: Marri

SOWN: 8.6.79

SPRAYING: Treatments 2-6 sprayed immediately after seeding.
Treatments 7-10 sprayed 18.6.79 (10 days) cotyledons partly open and no juvenile leaves emerging.
Treatments 11-14 sprayed 28.6.79 (20 days) lupins had 2 leaves.
Treatments 15-18 sprayed (30 days) lupins had 4 leaves.

RESULTS: Weeds and lupins were counted 14.8.79.
Visual ratings were made on 31.7.79 and 24.10.79.

Rating scale (weeds): 0 = no effect
1 = 0-25% control
2 = 25-50% "
3 = 50-75% "
4 = 75-98% "
5 = 98-100% "
6 = 100% control

Rating scale (lupins): 0 = no effect
1 = slight effect
2 = moderate effect
3 = severe effect
# RESULTS

<table>
<thead>
<tr>
<th>Treatment/ha</th>
<th>Plant Counts/5m²</th>
<th>Visual Ratings</th>
<th>Grain Yield kg/ha</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lupins</td>
<td>Doublegee</td>
<td>Brome</td>
</tr>
<tr>
<td>1. Unsprayed</td>
<td>124</td>
<td>135.7</td>
<td>118.3</td>
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<tr>
<td>2. Diuron</td>
<td>116</td>
<td>32.7</td>
<td>47.0</td>
</tr>
<tr>
<td>3. Simazine</td>
<td>127</td>
<td>5.0</td>
<td>9.7</td>
</tr>
<tr>
<td>4. At 0 days</td>
<td>101</td>
<td>4.3</td>
<td>7.3</td>
</tr>
<tr>
<td>5.</td>
<td>88</td>
<td>1.7</td>
<td>5.0</td>
</tr>
<tr>
<td>6.</td>
<td>76</td>
<td>2.3</td>
<td>5.0</td>
</tr>
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<td>7. At 10 days</td>
<td>97</td>
<td>2.0</td>
<td>6.3</td>
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<td>9.</td>
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<td>14.</td>
<td>97</td>
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<td>15.0</td>
</tr>
<tr>
<td>15. At 30 days</td>
<td>128</td>
<td>18.7</td>
<td>55.3</td>
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<tr>
<td>16.</td>
<td>132</td>
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<tr>
<td>17.</td>
<td>114</td>
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<td>53.0</td>
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<tr>
<td>18.</td>
<td>114</td>
<td>0.7</td>
<td>21.0</td>
</tr>
</tbody>
</table>

% LSD 21

**Comment**

No treatment significantly reduced yields.

Diuron significantly increased the yield of lupins, even though simazine gave better weed control than diuron.
TIME OF SPRAYING SIMAZINE ON LUPINS

79TS22

LOCALITY : J. Pericich - Arrino

VARIETY : Marri

SOWN : 24.5.79 @ 90kg/ha.
        Double super @ 103kg/ha.

SOIL TYPE : Grey/yellow sand to pale yellow sand

SPRAYING : Treatments 2-6 sprayed immediately after seeding.

Treatments 7-10 sprayed 4.6.79 (10 days) cotyledons fully open and juvenile leaves emerging.

Treatments 11-14 sprayed 13.6.79 (20 days) lupins had 2-3 leaves.

Treatments 15-18 sprayed 22.6.79 (30 days) lupins had 4 leaves.

RESULTS : Weeds and lupins were counted on 19.7.79.

Visual ratings were made on 18.7.79 and 24.10.79.

Rating scale (weeds): 0 = no effect
                      1 = 0-25% control
                      2 = 25-50% "
                      3 = 50-75% "
                      4 = 75-98% "
                      5 = 98-100% "
                      6 = 100% control

Rating scale (lupins): 0 = no effect
                      1 = slight effect
                      2 = moderate effect
                      3 = severe effect
## RESULTS

<table>
<thead>
<tr>
<th>Treatment/ha</th>
<th>Plant Counts/5m²</th>
<th>Visual Ratings</th>
<th>Grain Yield kg/ha</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lupins Broadleaf</td>
<td>18.7.79</td>
<td>24.10.79</td>
</tr>
<tr>
<td></td>
<td>Brome- Grass</td>
<td>Lupins</td>
<td>Weeds Lupins</td>
</tr>
<tr>
<td>1. Unsprayed</td>
<td>199</td>
<td>43.3</td>
<td>33.7</td>
</tr>
<tr>
<td>2. Diuron</td>
<td>211</td>
<td>38.3</td>
<td>22.3</td>
</tr>
<tr>
<td>3. Simazine</td>
<td>223</td>
<td>16.7</td>
<td>9.3</td>
</tr>
<tr>
<td>4. At 0 days</td>
<td>199</td>
<td>11.0</td>
<td>9.3</td>
</tr>
<tr>
<td>5.</td>
<td>214</td>
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<td>2.7</td>
</tr>
<tr>
<td>6.</td>
<td>172</td>
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<td>3.7</td>
</tr>
<tr>
<td>7. At 10 days</td>
<td>175</td>
<td>16.0</td>
<td>20.3</td>
</tr>
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<td>8.</td>
<td>209</td>
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<td>15.3</td>
</tr>
<tr>
<td>9.</td>
<td>174</td>
<td>4.3</td>
<td>23.7</td>
</tr>
<tr>
<td>10.</td>
<td>166</td>
<td>6.0</td>
<td>11.7</td>
</tr>
<tr>
<td>11. At 20 days</td>
<td>212</td>
<td>11.0</td>
<td>34.7</td>
</tr>
<tr>
<td>12.</td>
<td>178</td>
<td>3.3</td>
<td>8.7</td>
</tr>
<tr>
<td>13.</td>
<td>172</td>
<td>6.3</td>
<td>20.7</td>
</tr>
<tr>
<td>14.</td>
<td>134</td>
<td>5.7</td>
<td>11.7</td>
</tr>
<tr>
<td>15. At 30 days</td>
<td>195</td>
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<tr>
<td>18.</td>
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<td>13.7</td>
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</table>

| % LSD | 41 | NS |

### Comments

There was no significant effect of time of spraying simazine on lupin yields, although slight to moderate damage was observed soon after spraying and particularly on plots sprayed later.
TIME OF SPRAYING SIMAZINE ON LUPINS

79TS23

LOCALITY: N. Reed - Arrino
VARIETY: Marri
SOWN: 28.5.79 @ 90kg/ha
T.E. super @ 146kg/ha
SOIL TYPE: Brown/yellow sand
Blackbutt/Banksia
SPRAYING: Treatments 2-6 sprayed immediately after seeding.
Treatments 7-10 sprayed 8.6.79 (10 days) cotyledons fully open and juvenile leaves emerging.
Treatments 11-14 sprayed 18.6.79 (20 days) lupins had 2 leaves.
Treatments 15-18 sprayed 28.6.79 (30 days) lupins had 3 leaves.

RESULTS: Weeds and lupins were counted on 1.5.79.
Visual ratings were made on 18.7.79 and 24.10.79.

Rating scale (weeds): 0 = no effect
1 = 0-25% control
2 = 25-50% "
3 = 50-75% "
4 = 75-98% "
5 = 98-100% "
6 = 100% control

Rating scale (lupins): 0 = no effect
1 = slight damage
2 = moderate damage
3 = severe damage
## RESULTS

### Visual Ratings

<table>
<thead>
<tr>
<th>Treatment/ha</th>
<th>18.7.79</th>
<th>24.10.79</th>
<th>Grain Yield kg/ha</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lupins</td>
<td>Weeds</td>
<td>Lupins</td>
</tr>
<tr>
<td>1. Unsprayed</td>
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<td>022</td>
<td>111</td>
</tr>
<tr>
<td>2. Diuron</td>
<td>000</td>
<td>002</td>
<td>111</td>
</tr>
<tr>
<td>3. Simazine</td>
<td>100</td>
<td>320</td>
<td>011</td>
</tr>
<tr>
<td>4. At 0 days</td>
<td>-10</td>
<td>233</td>
<td>000</td>
</tr>
<tr>
<td>5.</td>
<td>111</td>
<td>434</td>
<td>000</td>
</tr>
<tr>
<td>6.</td>
<td>111</td>
<td>444</td>
<td>000</td>
</tr>
<tr>
<td>7. At 10 days</td>
<td>111</td>
<td>434</td>
<td>000</td>
</tr>
<tr>
<td>8.</td>
<td>111</td>
<td>434</td>
<td>000</td>
</tr>
<tr>
<td>9.</td>
<td>212</td>
<td>444</td>
<td>000</td>
</tr>
<tr>
<td>10.</td>
<td>221</td>
<td>444</td>
<td>000</td>
</tr>
<tr>
<td>11. At 20 days</td>
<td>211</td>
<td>443</td>
<td>000</td>
</tr>
<tr>
<td>12.</td>
<td>222</td>
<td>434</td>
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<tr>
<td>13.</td>
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<td>14.</td>
<td>222</td>
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<td>001</td>
</tr>
<tr>
<td>15. At 30 days</td>
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<tr>
<td>18.</td>
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### Comment

There was no significant effect of time of spraying simazine on lupin yields, although slight to moderate damage was observed soon after spraying.
TIME OF SPRAYING SIMAZINE ON LUPINS

79GE39

LOCALITY : H. Manners - Allanooka

VARIETY : Marri

SOWN : 11.6.79

SPRAYING : Treatments 2-6 sprayed immediately after seeding.

Treatments 7-10 sprayed 21.6.79 (10 days) cotyledons fully open and juvenile leaves emerging.

Treatments 11-14 sprayed 2.7.79 (20 days) lupins had 4 leaves.

Treatments 15-18 sprayed 11.7.79 (30 days) lupins had 6 leaves.

RESULTS : Weeds and lupins were counted on 15.8.79.

Visual ratings were made on 21.8.79.

Rating scale (weeds): 0 = no effect
1 = 0-25% control
2 = 25-50% "
3 = 50-75% "
4 = 75-98% "
5 = 98-100% "
6 = 100% control

Rating scale (lupins): 0 = no effect
1 = slight effect
2 = moderate effect
3 = severe effect
## RESULTS

<table>
<thead>
<tr>
<th>Treatment/ha</th>
<th>Plant Counts/5m²</th>
<th>Visual Ratings 21.8.79</th>
<th>Grain Yield kg/ha</th>
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<tbody>
<tr>
<td></td>
<td>Lupins</td>
<td>Weeds</td>
<td>Lupins</td>
</tr>
<tr>
<td>1. Unsprayed</td>
<td>174</td>
<td>185</td>
<td>000</td>
</tr>
<tr>
<td>2. Diuron 2</td>
<td>137</td>
<td>110</td>
<td>010</td>
</tr>
<tr>
<td>3. Simazine 2</td>
<td>132</td>
<td>106</td>
<td>111</td>
</tr>
<tr>
<td>4. At 0 days 3</td>
<td>125</td>
<td>75</td>
<td>121</td>
</tr>
<tr>
<td>5.           4</td>
<td>88</td>
<td>56</td>
<td>222</td>
</tr>
<tr>
<td>6.           6</td>
<td>76</td>
<td>48</td>
<td>222</td>
</tr>
<tr>
<td>7. At 10 days 2</td>
<td>128</td>
<td>51</td>
<td>211</td>
</tr>
<tr>
<td>8.           3</td>
<td>90</td>
<td>70</td>
<td>222</td>
</tr>
<tr>
<td>9.           4</td>
<td>79</td>
<td>65</td>
<td>222</td>
</tr>
<tr>
<td>10.          6</td>
<td>70</td>
<td>49</td>
<td>222</td>
</tr>
<tr>
<td>11. At 20 days 2</td>
<td>169</td>
<td>129</td>
<td>000</td>
</tr>
<tr>
<td>12.          3</td>
<td>164</td>
<td>115</td>
<td>100</td>
</tr>
<tr>
<td>13.          4</td>
<td>154</td>
<td>94</td>
<td>111</td>
</tr>
<tr>
<td>14.          6</td>
<td>145</td>
<td>76</td>
<td>111</td>
</tr>
<tr>
<td>15. At 30 days 2</td>
<td>171</td>
<td>172</td>
<td>000</td>
</tr>
<tr>
<td>16.          3</td>
<td>167</td>
<td>185</td>
<td>000</td>
</tr>
<tr>
<td>17.          4</td>
<td>152</td>
<td>161</td>
<td>011</td>
</tr>
<tr>
<td>18.          6</td>
<td>182</td>
<td>130</td>
<td>011</td>
</tr>
</tbody>
</table>

### Comment

6 l simazine/ha reduced lupin yield on plots sprayed within 10 days of seeding. Plant counts and visual ratings show that early spraying was more severe on lupins than late spraying. They also show that weed control was poorer on late sprayed treatments.
TIME OF SPRAYING SIMAZINE ON LUPINS

LOCALITY: G. Pearce - Mingenew
VARIETY: Marri
SOWN: 11.6.79
SOIL TYPE: Yellow sand

SPRAYING: Treatments 2-6 sprayed immediately after seeding.

Treatments 7-10 sprayed 21.6.79 (10 days) cotyledons fully open and 2 juvenile leaves emerged.

Treatments 11-14 sprayed 2.7.79 (20 days) lupins had 4 leaves.

Treatments 15-18 sprayed 11.7.79 (30 days) lupins had 6 leaves.

RESULTS: Weeds and lupins were counted on 16.8.79.

Visual ratings were made on 23.8.79.

Rating scale (weeds): 0 = no effect
1 = 0-25% control
2 = 25-50% "
3 = 50-75% "
4 = 75-98% "
5 = 98-100% "
6 = 100% control

Rating scale (lupins): 0 = no effect
1 = slight effect
2 = moderate effect
3 = severe effect
## RESULTS

<table>
<thead>
<tr>
<th>Treatment/ha</th>
<th>Plant Counts/5m²</th>
<th>Visual Ratings</th>
<th>Grain Yield</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lupins</td>
<td>Brome</td>
<td>Broadleaf</td>
</tr>
<tr>
<td>1. Unsprayed</td>
<td>179</td>
<td>6.7</td>
<td>9.7</td>
</tr>
<tr>
<td>2. Diuron 2</td>
<td>135</td>
<td>2.3</td>
<td>2.0</td>
</tr>
<tr>
<td>3. Simazine 2</td>
<td>109</td>
<td>5.3</td>
<td>7.3</td>
</tr>
<tr>
<td>4. At 0 days</td>
<td>3</td>
<td>97</td>
<td>2.7</td>
</tr>
<tr>
<td>5. At 4 days</td>
<td>78</td>
<td>0.7</td>
<td>3.3</td>
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<tr>
<td>6. At 6 days</td>
<td>65</td>
<td>1.0</td>
<td>0.7</td>
</tr>
<tr>
<td>7. At 10 days</td>
<td>76</td>
<td>2.0</td>
<td>3.0</td>
</tr>
<tr>
<td>8. At 2 days</td>
<td>3</td>
<td>60</td>
<td>2.3</td>
</tr>
<tr>
<td>9. At 4 days</td>
<td>4</td>
<td>58</td>
<td>2.0</td>
</tr>
<tr>
<td>10. At 6 days</td>
<td>6</td>
<td>49</td>
<td>1.3</td>
</tr>
<tr>
<td>11. At 20 days</td>
<td>2</td>
<td>167</td>
<td>7.3</td>
</tr>
<tr>
<td>12. At 3 days</td>
<td>3</td>
<td>179</td>
<td>5.7</td>
</tr>
<tr>
<td>13. At 4 days</td>
<td>4</td>
<td>171</td>
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</tr>
<tr>
<td>14. At 6 days</td>
<td>6</td>
<td>168</td>
<td>5.7</td>
</tr>
<tr>
<td>15. At 30 days</td>
<td>2</td>
<td>182</td>
<td>6.3</td>
</tr>
<tr>
<td>16. At 3 days</td>
<td>3</td>
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<td>11.0</td>
</tr>
<tr>
<td>17. At 4 days</td>
<td>4</td>
<td>170</td>
<td>11.0</td>
</tr>
<tr>
<td>18. At 6 days</td>
<td>6</td>
<td>167</td>
<td>7.0</td>
</tr>
</tbody>
</table>

5% LSD 24 49

### COMMENT

Simazine reduced lupin yields on plots sprayed within 20 days of seeding, particularly at the higher rates which indicates a low tolerance to the herbicide.

Simazine did not control weeds on plots sprayed 20 days or later after seeding.

Lupins were badly sand blasted early in the season.
LOCALITY: Forrester Mingenew

VARIETY: Marri

SOWN: 11.6.79

SOIL TYPE: Yellow sand - native plot

SPRAYING: Treatments 2-6 sprayed immediately after seeding. Treatments 7-10 sprayed 21.6.79 (10 days) Cotyledons fully open and 2 juvenile leaves emerged. Treatments 11-14 sprayed 2.7.79 (20 days) lupins had 2-4 leaves. Treatments 15-18 sprayed 11.7.79 (30 days) lupins had 6 leaves.

RESULTS: Weeds and lupins were counted 16.8.79. Visual ratings were made on 23.8.79.

*Rating scale (lupins)

0 = no effect
1 = slight effect
2 = moderate effect
3 = severe effect
### RESULTS

<table>
<thead>
<tr>
<th>Treatment/ha</th>
<th>Plant counts/5m²</th>
<th>Visual Rating 23.8.79</th>
<th>Grain Yield Kg/ha</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lupins</td>
<td>Total weeds</td>
<td>Lupins</td>
</tr>
<tr>
<td>1. Unsprayed</td>
<td>1.82</td>
<td>12.7</td>
<td>000</td>
</tr>
<tr>
<td>2. Diuron 2</td>
<td>1.72</td>
<td>2.7</td>
<td>000</td>
</tr>
<tr>
<td>3. Simazine 2</td>
<td>1.66</td>
<td>5.7</td>
<td>121</td>
</tr>
<tr>
<td>4. At 0 days</td>
<td>1.20</td>
<td>3.3</td>
<td>111</td>
</tr>
<tr>
<td>5. 4</td>
<td>1.16</td>
<td>5.0</td>
<td>222</td>
</tr>
<tr>
<td>6. 6</td>
<td>0.86</td>
<td>2.3</td>
<td>222</td>
</tr>
<tr>
<td>7. At 10 days</td>
<td>1.44</td>
<td>2.3</td>
<td>221</td>
</tr>
<tr>
<td>8. 3</td>
<td>0.94</td>
<td>4.3</td>
<td>222</td>
</tr>
<tr>
<td>9. 4</td>
<td>0.92</td>
<td>0.3</td>
<td>212</td>
</tr>
<tr>
<td>10. 6</td>
<td>0.78</td>
<td>2.3</td>
<td>222</td>
</tr>
<tr>
<td>11. At 20 days</td>
<td>1.89</td>
<td>10.7</td>
<td>000</td>
</tr>
<tr>
<td>12. 3</td>
<td>1.75</td>
<td>8.0</td>
<td>100</td>
</tr>
<tr>
<td>13. 4</td>
<td>1.60</td>
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<td>100</td>
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<td>14. 6</td>
<td>1.83</td>
<td>7.7</td>
<td>000</td>
</tr>
<tr>
<td>15. At 30 days</td>
<td>1.74</td>
<td>8.3</td>
<td>000</td>
</tr>
<tr>
<td>16. 3</td>
<td>1.64</td>
<td>13.3</td>
<td>000</td>
</tr>
<tr>
<td>17. 4</td>
<td>1.99</td>
<td>8.3</td>
<td>100</td>
</tr>
<tr>
<td>18. 6</td>
<td>1.73</td>
<td>6.3</td>
<td>000</td>
</tr>
</tbody>
</table>

**COMMENT**

Simazine did not effect lupin grain yield although plant numbers were reduced when simazine was sprayed within 10 days of seeding.

Later spraying had no significant effect on either the lupins or the weeds which were mainly flatweed and annual ryegrass.

Lupins were badly sand blasted early in the season.
SPRAY SEED SIMAZINE COMBINATIONS
FOR MINIMUM TILLAGE LUPINS 79M048

LOCALITY : P. Glover, West Watheroo

VARIETY : Marri

SOWN : 7.6.79 at 79 Kg/ha
       Mn Super  200 Kg/ha

SOIL TYPE : White/grey gravelly sand
            Xmas tree/Banksia/Blackbutt

SPRAYING : Treatments 3,5,6,8,10 sprayed with spray seed 5.6.79.
           Treatments 2,4,7,9 sprayed with spray seed +
           simazine as a tank mix on 5.6.79 (T.M.)
           Treatments 3,5,8,10,11 sprayed with simazine
           on 7.6.79.
           N.B. treatments 3,5,8,10 received spray seed
           + simazine as a split application (SP)

RESULTS : Plant counts 31.7.79
           Visual ratings 28.6.79 and 17.10.79

Rating Scale (Lupins)

0 = no effect
1 = 0-25% control
2 = 25-50% control
3 = 50-75% control
4 = 75-98% control
5 = 98-150% control
6 = 100%

(Lupins)

0 = no effect
1 = slight effect
2 = moderate effect
3 = severe effect
## RESULTS

### Treatment 1/ha

<table>
<thead>
<tr>
<th>Sprayseed</th>
<th>Simazine</th>
<th>Method</th>
<th>Plant Counts/5m²</th>
<th>Other Broadleaf</th>
<th>Visual Ratings 28.6.79</th>
<th>17.10.79</th>
<th>Grain Yield Kg/ha</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Lupins</td>
<td>Capeweed</td>
<td>Grasses</td>
<td></td>
<td>Lupins</td>
</tr>
<tr>
<td>1. Nil</td>
<td>Nil</td>
<td>TM</td>
<td>175</td>
<td>246</td>
<td>262</td>
<td>5.3</td>
<td>00</td>
</tr>
<tr>
<td>2. 1</td>
<td>1</td>
<td>TM</td>
<td>186</td>
<td>10</td>
<td>20</td>
<td>24.3</td>
<td>00</td>
</tr>
<tr>
<td>3. 1</td>
<td>1</td>
<td>SP</td>
<td>211</td>
<td>25</td>
<td>53</td>
<td>1.7</td>
<td>00</td>
</tr>
<tr>
<td>4. 1</td>
<td>2</td>
<td>TM</td>
<td>196</td>
<td>9</td>
<td>6</td>
<td>0.7</td>
<td>00</td>
</tr>
<tr>
<td>5. 1</td>
<td>2</td>
<td>SP</td>
<td>178</td>
<td>12</td>
<td>29</td>
<td>4.0</td>
<td>00</td>
</tr>
<tr>
<td>6. 2</td>
<td>0</td>
<td>BS</td>
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<td>10</td>
<td>77</td>
<td>118</td>
<td>00</td>
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<td>7. 2</td>
<td>1</td>
<td>TM</td>
<td>181</td>
<td>11</td>
<td>25</td>
<td>4.0</td>
<td>00</td>
</tr>
<tr>
<td>8. 2</td>
<td>1</td>
<td>SP</td>
<td>198</td>
<td>10</td>
<td>31</td>
<td>0</td>
<td>00</td>
</tr>
<tr>
<td>9. 2</td>
<td>2</td>
<td>TM</td>
<td>179</td>
<td>11</td>
<td>10</td>
<td>1.3</td>
<td>00</td>
</tr>
<tr>
<td>10. 2</td>
<td>2</td>
<td>SP</td>
<td>194</td>
<td>6</td>
<td>32</td>
<td>2.0</td>
<td>00</td>
</tr>
<tr>
<td>11. 0</td>
<td>2</td>
<td>AS</td>
<td>176</td>
<td>214</td>
<td>209</td>
<td>1.3</td>
<td>00</td>
</tr>
</tbody>
</table>

**LSD**

**95**

**116**

**NS**

**NS**

**5%**

**88**

| TM = Tank mix before seeding | BS = Before seeding |
| SP = Split application       | AS = After seeding  |

### COMMENT

Lupin yields were significantly increased by spraying with sprayseed plus simazine either as a tank mix before seeding or as a split application as currently recommended. There was no difference between the two methods.

Highest yields were obtained with either 2 l Simazine + 1 l spray seed or 1 l simazine + 2 l spray seed/ha.

1 l of each/ha was no worse than 2 l of each/ha.
SPRAY SEED SIMAZINE COMBINATIONS
FOR MINIMUM TILLAGE LUPINS 79M049

LOCALITY : I. Metcalf, West Moora

VARIETY : Marri

SOWN : 7.6.79 at 79 Kg/ha
Mn super 200 Kg/ha

SOIL TYPE : Pale yellow/grey sand (Blackbutt)

SPRAYING : Treatments 3,5,6,8,10 sprayed with spray seed 31.5.79.
Treatments 2,4,7,9 sprayed with sprayseed + simazine as a tank mix on 31.5.79 (T.M.)
Treatments 3,5,8,10,11 sprayed with simazine 8.6.79.
N.B. Treatments 3,5,8,10 received spray seed + simazine as a split application (SP)

RESULTS : Plant counts 31.7.79
Visual ratings 17.10.79

Visual Rating scale (weeds)
0 = no effect
1 = 0-25% control
2 = 25-50% control
3 = 50-75% control
4 = 75-98% control
5 = 98-100% control
6 = 100% control

(lupins)
0 = no effect
1 = slight effect
2 = moderate effect
3 = severe effect
### Treatment Results

<table>
<thead>
<tr>
<th>Treatments l/ha</th>
<th>Plant Counts/5m²</th>
<th>Visual Ratings 17.10.79</th>
<th>Grain Yield Kg/ha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sprayseed</td>
<td>Simazine Method</td>
<td>Lupins</td>
<td>Grasses</td>
</tr>
<tr>
<td>1. Nil</td>
<td>Nil</td>
<td>177</td>
<td>160</td>
</tr>
<tr>
<td>2. 1</td>
<td>1 TM</td>
<td>189</td>
<td>13</td>
</tr>
<tr>
<td>3. 1</td>
<td>1 SP</td>
<td>196</td>
<td>13</td>
</tr>
<tr>
<td>4. 1</td>
<td>2 TM</td>
<td>180</td>
<td>2</td>
</tr>
<tr>
<td>5. 1</td>
<td>2 SP</td>
<td>208</td>
<td>31</td>
</tr>
<tr>
<td>6. 2</td>
<td>0 BS</td>
<td>193</td>
<td>85</td>
</tr>
<tr>
<td>7. 2</td>
<td>1 TM</td>
<td>200</td>
<td>8</td>
</tr>
<tr>
<td>8. 2</td>
<td>1 SP</td>
<td>194</td>
<td>12</td>
</tr>
<tr>
<td>9. 2</td>
<td>2 TM</td>
<td>202</td>
<td>3</td>
</tr>
<tr>
<td>10. 2</td>
<td>2 SP</td>
<td>190</td>
<td>4</td>
</tr>
<tr>
<td>11. 0</td>
<td>2 AS</td>
<td>184</td>
<td>93</td>
</tr>
</tbody>
</table>

**LSD NS 50 13 20**

**TM = Tank mix before seeding**

**SP = Split application**

**BS = Before seeding**

**AS = After seeding**

**COMMENT**

2 l Sprayseed/ha or sprayseed/simazine combinations increased lupin yields.

2 l sprayseed + simazine treatments the best lupin yields were obtained with 1 l of each/ha applied either as a tank mix 8 days before seeding or split as recommended.
DOUBLEGEE CONTROL IN SUB CLOVER

PASTURE 69A33

<table>
<thead>
<tr>
<th>LOCALITY</th>
<th>Avondale Research Station</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPRAYING DATE</td>
<td>7.6.79</td>
</tr>
<tr>
<td>WATER VOLUME</td>
<td>95 - 110 l/ha</td>
</tr>
<tr>
<td>STAGE OF DOUBLEGEE &amp; CLOVER</td>
<td>Doublegee 3-4 leaf stage</td>
</tr>
<tr>
<td></td>
<td>Clover 3 or more trifoliate leaves</td>
</tr>
<tr>
<td>CHEMICALS USED</td>
<td>Tribunil 70% a.i.</td>
</tr>
<tr>
<td></td>
<td>Tribunil D 54.6% a.i. + 17.5% Na salt</td>
</tr>
<tr>
<td></td>
<td>2,4-DB 40% a.i.</td>
</tr>
<tr>
<td></td>
<td>Diuron 50% a.i. flowable</td>
</tr>
<tr>
<td></td>
<td>MCPA 50% a.i.</td>
</tr>
<tr>
<td>RESULTS</td>
<td>Plant counts on 13.8.79.</td>
</tr>
<tr>
<td></td>
<td>Visual ratings on 2.7.79 and 25.9.79</td>
</tr>
</tbody>
</table>

Rating scale doublegee

0 = no effect
1 = 0-25% control
2 = 25-50% control
3 = 50-75% control
4 = 75-98% control
5 = 98-100% control
6 = 100% control

clover

0 = no effect
1 = slight effect
2 = severe effect
3 = complete kill
## RESULTS

<table>
<thead>
<tr>
<th>Treatments/ha</th>
<th>Clover Double-gee</th>
<th>Cape-gee</th>
<th>Other Broad-leaf weeds</th>
<th>Visual Ratings</th>
<th>25.9.79</th>
<th>27.7.79</th>
<th>25.9.79</th>
<th>27.7.79</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Clover Double-gee</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Unsprayed</td>
<td>221</td>
<td>58</td>
<td>71</td>
<td>16</td>
<td>000</td>
<td>304</td>
<td>000</td>
<td>000</td>
</tr>
<tr>
<td>2. Tribunil 500 g</td>
<td>231</td>
<td>8</td>
<td>31</td>
<td>5</td>
<td>000</td>
<td>564</td>
<td>000</td>
<td>344</td>
</tr>
<tr>
<td>3. Tribunil 850 g</td>
<td>169</td>
<td>3</td>
<td>22</td>
<td>0</td>
<td>000</td>
<td>645</td>
<td>000</td>
<td>565</td>
</tr>
<tr>
<td>4. Tribunil D 850 g</td>
<td>186</td>
<td>2</td>
<td>23</td>
<td>3</td>
<td>011</td>
<td>646</td>
<td>000</td>
<td>555</td>
</tr>
<tr>
<td>5. 2,4-DB 1.5 l</td>
<td>306</td>
<td>9</td>
<td>23</td>
<td>7</td>
<td>000</td>
<td>455</td>
<td>000</td>
<td>324</td>
</tr>
<tr>
<td>6. 2,4-DB 1.5 l + W.A.</td>
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<td>36</td>
<td>25</td>
<td>1</td>
<td>000</td>
<td>544</td>
<td>000</td>
<td>304</td>
</tr>
<tr>
<td>7. Diuron + MCPA 100 ml + 100 ml</td>
<td>229</td>
<td>32</td>
<td>16</td>
<td>23</td>
<td>000</td>
<td>646</td>
<td>000</td>
<td>304</td>
</tr>
<tr>
<td>8. Diuron + MCPA 200 ml + 200 ml</td>
<td>216</td>
<td>8</td>
<td>26</td>
<td>2</td>
<td>000</td>
<td>665</td>
<td>000</td>
<td>435</td>
</tr>
<tr>
<td>9. Diuron + MCPA 400 ml + 400 ml</td>
<td>199</td>
<td>5</td>
<td>9</td>
<td>1</td>
<td>020</td>
<td>666</td>
<td>000</td>
<td>555</td>
</tr>
<tr>
<td>10. Diuron + MCPA 800 ml + 800 ml</td>
<td>136</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>111</td>
<td>666</td>
<td>111</td>
<td>555</td>
</tr>
<tr>
<td>11. Diuron 1600 ml</td>
<td>65</td>
<td>0</td>
<td>5</td>
<td>5</td>
<td>222</td>
<td>666</td>
<td>222</td>
<td>666</td>
</tr>
</tbody>
</table>

### COMMENTS

Best results were obtained with Tribunil and Tribunil D at 850 g/ha. Diuron + MCPA at 200 mls of each/ha showed good selectivity in July but was poorer than Tribunil treatments by September. Clover did not tolerate 800 mls of each so 400 mls of each could not be recommended.

2,4-DB has been poorer than Tribunil at Avondale whenever comparisons have been made.
LOCALITY : N. Pearce - Wubin
SPRAYING DATE : 26.6.79
WATER VOLUME : 95-110 l/ha
STAGE OF DOUBLEGEE AND CLOVER : Doublegee 1-3 leaves
                                      Clover 1-6 trifoliate leaves
CHEMICALS USED : Tribunil 70% a.i.
                  Tribunil D 54.6% a.i. + 17.5% Na salt
                  2,4-DB  54.6% a.i.
                  Diuron  50% a.i. flowable
                  MCPA   50% a.i.
RESULTS : Plant counts on 8.8.79
           Visual ratings on 20.9.79
Rating scale doublegee
0 = no effect
1 = 0-25% control
2 = 25-50% control
3 = 50-75% control
4 = 75-98% control
5 = 98-100%
6 = 100% control
Rating scale clover
0 = no effect
1 = slight effect
2 = severe effect
3 = complete kill
## RESULTS

<table>
<thead>
<tr>
<th>Treatments/ha</th>
<th>Plant Counts/5m²</th>
<th>Visual Ratings 20.9.79</th>
<th>79M047(a) N. Pearce Wubin</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Clover Double-gee</td>
<td>Other Broad-leaf</td>
<td>Clover Double-gee Capeweed</td>
</tr>
<tr>
<td>1. Unsprayed</td>
<td>469</td>
<td>158</td>
<td>269</td>
</tr>
<tr>
<td>2. Tribunil 500g</td>
<td>448</td>
<td>44</td>
<td>52</td>
</tr>
<tr>
<td>3. Tribunil 850g</td>
<td>297</td>
<td>17</td>
<td>90</td>
</tr>
<tr>
<td>4. Tribunil D 850g</td>
<td>334</td>
<td>14</td>
<td>13</td>
</tr>
<tr>
<td>5. 2,4-DB 1.5 l</td>
<td>704</td>
<td>149</td>
<td>107</td>
</tr>
<tr>
<td>6. 2,4-DB 1,5 l + WA</td>
<td>508</td>
<td>67</td>
<td>172</td>
</tr>
<tr>
<td>7. Diuron + MCPA 100 ml + 100 ml</td>
<td>599</td>
<td>101</td>
<td>107</td>
</tr>
<tr>
<td>8. Diuron + MCPA 200 ml + 200 ml</td>
<td>360</td>
<td>25</td>
<td>42</td>
</tr>
<tr>
<td>9. Diuron + MCPA 400 ml + 400 ml</td>
<td>274</td>
<td>11</td>
<td>8</td>
</tr>
<tr>
<td>10. Diuron + MCPA 800 ml + 800 ml</td>
<td>134</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>11. Diuron 1600 ml</td>
<td>94</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

| 5% LSD                | 168              | 56                     |

### COMMENTS

Tribunil D 850 g/ha was best treatment. Although 850 g Tribunil/ha reduced clover plant numbers the visual result by late September was good.

Diuron + MCPA 200 mls/ha was selective but clover could not tolerate 400 mls/ha, so the lower rate could not be recommended.
DOUBLEGEE CONTROL IN SUB CLOVER

PASTURE 79M047(b)

LOCALITY : P. McLagan - Miling

SPRAYING DATE : 7.6.79

WATER VOLUME : 95-110 l/ha

STAGE OF DOUBLEGEE AND CLOVER : Doublegee 3-6 leaves
                                        Clover 3 or more trifoliate leaves

CHEMICALS USED : Tribunil 70% a.i.
                  Tribunil D 54.6% a.i. + 17.5% Na salt
                  2,4-DB 40% a.i.
                  Diuron 50% a.i. flowable
                  MCPA 50% a.i.

RESULTS : Plant counts on 9.8.79 (2 reps)
           Visual ratings on 26.6.79 and 20.9.79

Rating scale  Doublegee

0 = no effect
1 = 0-25% control
2 = 25-50% control
3 = 50-75% control
4 = 75-98% control
5 = 98-100% control
6 = 100% control

Clover

0 = no effect
1 = slight effect
2 = severe effect
3 = complete kill
### RESULTS

<table>
<thead>
<tr>
<th>Treatments/ha</th>
<th>Plant Counts/2½m²</th>
<th>Visual Ratings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Clover</td>
<td>Double</td>
</tr>
<tr>
<td></td>
<td>gee</td>
<td>leaf</td>
</tr>
<tr>
<td>1. Unsprayed</td>
<td>94</td>
<td>110</td>
</tr>
<tr>
<td>2. Tribunil 500g</td>
<td>57</td>
<td>35</td>
</tr>
<tr>
<td>3. Tribunil 850g</td>
<td>111</td>
<td>11</td>
</tr>
<tr>
<td>4. Tribunil D 850 g</td>
<td>75</td>
<td>10</td>
</tr>
<tr>
<td>5. 2,4-DB 1.5 l</td>
<td>119</td>
<td>53</td>
</tr>
<tr>
<td>6. 2,4-DB 1.5 l + W.A.</td>
<td>96</td>
<td>47</td>
</tr>
<tr>
<td>7. Diuron + MCPA 100 ml + 100 ml</td>
<td>62</td>
<td>58</td>
</tr>
<tr>
<td>8. Diuron + MCPA 200 ml + 200 ml</td>
<td>76</td>
<td>42</td>
</tr>
<tr>
<td>9. Diuron + MCPA 400 ml + 400 ml</td>
<td>85</td>
<td>10</td>
</tr>
<tr>
<td>10. Diuron + MCPA 800 ml + 800 ml</td>
<td>41</td>
<td>3</td>
</tr>
<tr>
<td>11. Diuron 1600 ml</td>
<td>13</td>
<td>1</td>
</tr>
</tbody>
</table>

**5% LSD**

**NS** 24

### COMMENTS

Best treatments were Tribunil and Tribunil D at 850 g/ha. 200 ml Diuron and MCPA/ha was satisfactory on doublegee.

The results of this trial cannot be used with confidence because both doublegee and clover plants numbers were low on this site. The final assessment was not recorded because the site was very grassy with very little doublegee or clover surviving.
LOCALITY : Wongan Hills Research Station
SPRAYING DATE : 27.6.79
WATER VOLUME : 95-110 l/ha
STAGE OF DOUBLEGEE AND CLOVER :
  Doublegee  2-4 leaves
  Clover      3-4 trifoliate leaves
CHEMICALS USED :
  Tribunil    70% a.i.
  Tribunil D  54.6% a.i. + 17.5% Na salt
  2,4-DB      40% a.i.
  Diuron      50% a.i. flowable
  MCPA        50% a.i.
RESULTS :
  Visual ratings on 19.9.79
    Rating scale doublegee
      0 = no effect
      1 = 0-25% control
      2 = 25-50% control
      3 = 50-75% control
      4 = 75-98% control
      5 = 98-100% control
      6 = 100% control
    Rating scale clover
      0 = no effect
      1 = slight effect
      2 = severe effect
      3 = complete kill
## RESULTS

<table>
<thead>
<tr>
<th>Treatments/ha</th>
<th>Visual Ratings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>19.9.79</td>
</tr>
<tr>
<td></td>
<td>Clover Doublegee</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Treatments/ha</th>
<th>Visual Ratings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>19.9.79</td>
</tr>
<tr>
<td></td>
<td>Clover Doublegee</td>
</tr>
</tbody>
</table>

1. Unsprayed
2. Tribunil D 500 g
3. Tribunil D 850 g
4. Tribunil D 850 g
5. 2,4-DB 1.5 l
6. 2,4-DB 1.5 l + W.A.
7. Diuron + MCPA 100 ml + 100 ml
8. Diuron + MCPA 200 ml + 200 ml
9. Diuron + MCPA 400 ml + 400 ml
10. Diuron + MCPA 800 ml + 800 ml
11. Diuron 1600 ml
12. Diuron + MCPA 1000 ml + 1000 ml

### COMMENT

Best treatments were Tribunil and Tribunil D at 850 g/ha
200 mls Diuron + MCPA showed good selectivity. Rates above
400 ml/ha were too severe on the clover.
LOCALITY : S. Martin - Wickepin
SPRAYING DATE : 5.6.79
WATER VOLUME : 95-110 l/ha

STAGE OF DOUBLEGEE AND CLOVER :
Doublegee 2-3 leaves
clover 2-3 trifoliolate leaves

CHEMICALS USED :
Tribunil 70% a.i.
Tribunil D 54.6% a.i. + 17.5% Na salt
2,4-DB 40% a.i.
Diuron 50% a.i. flowable
MCPA 50% a.i.

RESULTS :
Visual ratings on 3.7.79 and 25.9.79.

Rating scale doublegee
0 = no effect
1 = 0-25% control
2 = 25-50% control
3 = 50-75% control
4 = 75-98% control
5 = 98-100% control
6 = 100% control

clover
0 = no effect
1 = slight effect
2 = severe effect
3 = complete kill
## RESULTS

<table>
<thead>
<tr>
<th>Treatments/ha</th>
<th>Visual Ratings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3.7.79</td>
</tr>
<tr>
<td></td>
<td>Clover</td>
</tr>
<tr>
<td>1. Unsprayed</td>
<td>000 000</td>
</tr>
<tr>
<td>2. Tribunil 500g</td>
<td>011 555</td>
</tr>
<tr>
<td>3. Tribunil 850g</td>
<td>011 566</td>
</tr>
<tr>
<td>4. Tribunil D 850g</td>
<td>2-1 6-6</td>
</tr>
<tr>
<td>5. 2,4-DB 1.5 l</td>
<td>000 444</td>
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<tr>
<td>6. 2,4-DB 1.5 l + W.A.</td>
<td>000 434</td>
</tr>
<tr>
<td>7. Diuron + MCPA 100 ml + 100 ml</td>
<td>100 544</td>
</tr>
<tr>
<td>8. Diuron + MCPA 200 ml + 200 ml</td>
<td>1-1 5-5</td>
</tr>
<tr>
<td>9. Diuron + MCPA 400 ml + 400 ml</td>
<td>222 666</td>
</tr>
<tr>
<td>10. Diuron + MCPA 800 ml + 800 ml</td>
<td>222 666</td>
</tr>
<tr>
<td>11. Diuron 1600 ml</td>
<td>222 656</td>
</tr>
</tbody>
</table>

## COMMENTS

Best results were from 850 g Tribunil or Tribunil D/ha. 200 mls Diuron + MCPA showed some selectivity but 400 mls and above was severe on the clover.
**DOUBLÉGEE CONTROL IN SUB CLOVER**

**PASTURE 79NO27**

<table>
<thead>
<tr>
<th>LOCALITY</th>
<th>P. Pickering - Dowerin</th>
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<tbody>
<tr>
<td>SPRAYING DATE</td>
<td>6.6.79</td>
</tr>
<tr>
<td>WATER VOLUME</td>
<td>95-110 l/ha</td>
</tr>
</tbody>
</table>
| STAGE OF DOUBLÉGEE AND CLOVER | Doublegee range from 2-10 leaves  
                          | Clover 7-8 leaves |
| CHEMICALS USED      | Tribunil 70% a.i.  
                          | Tribunil D 54.6% a.i. + 17.5% Na salt  
                          | 2,4-DB 40% a.i.  
                          | Diuron 50% a.i. flowable  
                          | MCPA 50% a.i. |
| RESULTS             | Visual ratings on 2.7.79 and 19.9.79  
                          | Rating scale doublegee  
                          | 0 = no effect  
                          | 1 = 0-25% control  
                          | 2 = 25-50% control  
                          | 3 = 50-75% control  
                          | 4 = 75-98% control  
                          | 5 = 98-100% control  
                          | 6 = 100% control  
                          | Rating scale clover  
                          | 0 = no effect  
                          | 1 = slight effect  
                          | 2 = severe effect  
                          | 3 = complete kill |
## RESULTS

<table>
<thead>
<tr>
<th>Treatments/ha</th>
<th>Visual Ratings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2.7.79</td>
</tr>
<tr>
<td></td>
<td>Clover Double-ge</td>
</tr>
<tr>
<td>1. Unsprayed</td>
<td>000</td>
</tr>
<tr>
<td>2. Tribunil 500g</td>
<td>010</td>
</tr>
<tr>
<td>3. Tribunil 850g</td>
<td>000</td>
</tr>
<tr>
<td>4. Tribunil D 850g</td>
<td>000</td>
</tr>
<tr>
<td>5. 2,4-DB 1.5 l</td>
<td>000</td>
</tr>
<tr>
<td>6. 2,4-DB 1.5 l + W.A.</td>
<td>000</td>
</tr>
<tr>
<td>7. Diuron + MCPA 100ml + 100ml</td>
<td>000</td>
</tr>
<tr>
<td>8. Diuron + MCPA 200ml + 200ml</td>
<td>100</td>
</tr>
<tr>
<td>9. Diuron + MCPA 400ml + 400ml</td>
<td>110</td>
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<tr>
<td>10. Diuron + MCPA 800ml + 800ml</td>
<td>212</td>
</tr>
<tr>
<td>11. Diuron 1600ml</td>
<td>222</td>
</tr>
</tbody>
</table>

### COMMENTS

Best results were from 850g Tribunil D/ha and 1.5 l 2,4-DB/ha.

Diuron + MCPA selectivity was poor.