1990

Pursuit for weed control in peas.

S. Curtin

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Summary

Six trials set up as demonstration strips were established on six different farms in the Merredin Agricultural Advisory Region. The farmers chosen were farmers familiar with pea growing and the sites selected were chosen to present a weed challenge the farmer would like to see the chemical tested against. So the demonstration strips all had different weed types and the treatments were different depending on whether the farmer had seeded or not and upon his preference for a spraying time.

Below are summarised the main points from the trials and also the table shows an attempt at rating the effect of the chemical on the weeds present in all the trials.

* Pursuit has the best effect on Crucifers (Mustard, Radish, Turnip), Rough Poppy, Capeweed and Wild Oats.

* There is reasonable to good control of ryegrass and volunteer cereals (but mainly suppression).

* IBS and IAS were similar in effect for most trials and both were better than post emergent applications.

* Pursuit is better applied to bare ground and waiting for weeds to germinate. It is weaker when applied to already germinated plants.

* Grass seem the main competitive weed with peas and the trials showed out the importance of early weed control, before they germinate.

* Pursuit can handle low populations of grass weeds such as ryegrass, volunteer cereals and wild oats, but if the challenge is high, then Pursuit is not strong enough and needs to be followed up by a grass herbicide. For a post emergent application of Pursuit, this was always the case but not always for the treatments close to seeding.

* Doublegee was only suppressed for about six weeks before regrowing.

* Wild Oats are more susceptible to Pursuit than ryegrass and volunteer cereals. With IBS/IAS treatments no extra grass control for wild oats was necessary.

* 250 g/ha seemed an acceptable rate for IBS/IAS.

* There was no noticeable effect on the peas in any of the trials with any of the rates or timings.

* As a general recommendation, I would suggest 250 ml/ha IBS followed by a grass herbicide if a heavy ryegrass burden is expected or noticed.
<table>
<thead>
<tr>
<th>Weeds</th>
<th>Control (IBS/IAS Treatments)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mustard</td>
<td>5</td>
</tr>
<tr>
<td>Radish</td>
<td>5</td>
</tr>
<tr>
<td>Turnip</td>
<td>5</td>
</tr>
<tr>
<td>Capeweed</td>
<td>4</td>
</tr>
<tr>
<td>Doublegee</td>
<td>2</td>
</tr>
<tr>
<td>Rough Poppy</td>
<td>5</td>
</tr>
<tr>
<td>Wild Oats</td>
<td>4-5</td>
</tr>
<tr>
<td>Volunteer Cereals</td>
<td>3</td>
</tr>
<tr>
<td>Ryegrass</td>
<td>2-3</td>
</tr>
</tbody>
</table>

0 - No control.
1 - Suppression but recovers.
2 - Suppression and reduced numbers but recovers.
3 - Acceptable but not good.
4 - Good control.
5 - Total control.
This trial was one of the best demonstrations of Pursuit's effectiveness against mustard in particular. Other weeds were rough poppy and ryegrass and a small amount of cereal and doublegee.

250 ml applied immediate before seeding (IBS) was by far the best treatment with 100% control of mustard and poppy and good ryegrass control. This is in contrast to 375 ml post emergent which had good control of mustard (77%) and suppression of ryegrass. There was no yield advantage from the post emergent treatment but there was a 55% yield increase from the IBS treatment.

Of note too is that the mustard did not germinate until six weeks after the IBS spray was applied.

This trial had three treatments 250 ml/ha IAS and two rates of post emergent spraying. There was good control of capeweed, radish, turnip and ryegrass and suppression of doublegee and cereals. The suppression of doublegee however was not long lasting and six weeks after spraying, the doublegee was showing signs of recovery. With the post emergent sprays all weeds were affected but doublegees were still surviving at harvest. In terms of yield, all sprays produced the same response which ranged from 33-39% increase.

Fusilade was also sprayed on this trial to see if there was any effect on further controlling weeds. Although the Fusilade strips were bare of cereals and grasses there was no yield advantage and if anything there was a slight unexplained depression of about 100 kg/ha except for the control. The grass level was not high enough to cause a problem except in the control.

At the time of setting up this trial it was unknown that the area selected had in the previous year been a site for testing Lorpars effectiveness on wild oats, so there were two densities of wild oats across the trial. This is shown by the plant counts where the Nil has only 9.3 wild oats/m² while some of the other treatments have from 40-50 wild oats/m². However, by counting plant densities outside the trial, it could be seen there was a significant reduction in the number of wild oats growing - 40-50 versus 114 plants/m². By harvest time it was obvious that Pursuit is very strong on wild oats with all plots where Pursuit was sprayed after seeding showing almost total wild oat control. The plot sprayed post emergent had a low level of wild oats present but still achieved good control.

The other weed here was mainly capeweed which was almost totally controlled especially young germinating capeweed. In the post emergent treatment, some of the larger transplant capeweed survived.

There was no difference in applying either 250 ml or 375 ml after seeding in their effect on weeds and the yield. Both rates had a similar effect. There was a 62% yield increase over the control. This would have been more if the wild oat challenge to the Nil had been as high as the Pursuit plots. It may be more appropriate to use the Diuron plot to compare yield increases because it had a similar density of wild oats. If so the yield increase was 240%.
Fusilade strips were also sprayed out on this trial. Again where Pursuit was used IAS, there was no effect of an additional Fusilade spray as the wild oats were already controlled. Where Fusilade did show a yield increase was with the Pursuit sprayed post emergent (40% increase) and with the Diuron treatment (190%). 1 L of Diuron on its own had little use except in reducing the number of germinating capeweed.

The farmers treatment yielded almost as well as the Pursuit treatments.

Volunteer wheat and ryegrass were the only weeds to germinate on this site. There was suppression of both weeds but IBS was by far the better treatment. This was obvious only in plant counts early on (60% reduction in ryegrass) but not in appearances. By harvest however, the effect of the grasses was very obvious. It seems that Pursuit IBS is better for ryegrass than Pursuit applied once the ryegrass has germinated in this case IAS. By harvest, the earlier suppression of grass in the IAS treatment, had broken down and the plot was covered in ryegrass. This is shown in the yields where IAS went 209 kg/ha while IBS went 867 kg/ha.

A Fusilade/Sertin mix was sprayed across the site and this further increased yields over and above the Pursuit treatments. In the control, there was a 600 kg/ha increase from controlling the grasses. But it is still below the yield of the Pursuit IBS treatment and highlights the importance of early weed control.

In this trial with high grass densities, Pursuit on its own gave satisfactory control if used IBS but a grass herbicide in addition gave the best control and shows that Pursuit on its own will not give the best level of control under a higher grass challenge.

Peas were sown on the 19/5 and completely windblown on 2/6. It was not until the 14/6 that the peas re-emerged. It was assumed that the wind would have removed most of the Pursuit but there was still an obvious effect. No counts were done but the main weed present was mustard of which there was good control in both the IBS and IAS treatments. IBS was the better treatment with 59% increase over the control and IAS only 35% increase.

The Pursuit treatments yielded better than the farmers paddock.

Mustard and wild oats were the main weeds on this site and control was total for both with the IBS and IAS treatments. The post emergent treatment was slightly weaker on the wild oats than the other treatments but where the IBS and IAS treatments gave total control, the PEM still had some plants remaining which were stunted and suppressed but would still set viable seed.

There was no significant difference between the IAS and IBS treatments in terms of yield and it was about 235% better. In this trial the PEM treatment yielded better than the others but it was not obvious why from the observations made especially when weed control was better on the previous treatments.

The farmers paddock treatments of Assure and Brodal yielded as well as the Pursuit treatments.
# Pursuit for Weed Control in Peas

## Trial 90ME86

**Farmer:** Berwyn Walker, Bencubbin

<table>
<thead>
<tr>
<th>Treatments</th>
<th>Yield kg/ha</th>
<th>S.E.M.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>729</td>
<td>83.8</td>
</tr>
<tr>
<td>Pursuit IBS 250mL/ha</td>
<td>1127</td>
<td>54.8</td>
</tr>
<tr>
<td>Pursuit PEM 375mL/ha</td>
<td>819</td>
<td>31.4</td>
</tr>
</tbody>
</table>

## Trial 90ME87

**Farmer:** John Bayly, Mukinbudin

<table>
<thead>
<tr>
<th>Treatments</th>
<th>Yield kg/ha</th>
<th>S.E.M.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>847</td>
<td>21.1</td>
</tr>
<tr>
<td>Pursuit IAS 250mL/ha</td>
<td>1174</td>
<td>22.1</td>
</tr>
<tr>
<td>Pursuit PEM 250mL/ha</td>
<td>1160</td>
<td>39.3</td>
</tr>
<tr>
<td>Pursuit PEM 375mL/ha</td>
<td>1127</td>
<td>105.4</td>
</tr>
<tr>
<td>Fusilade 350mL/ha</td>
<td>901</td>
<td>26.5</td>
</tr>
<tr>
<td>Pursuit IAS 250mL/ha + Fusilade 350mL/ha</td>
<td>1054</td>
<td>97.1</td>
</tr>
<tr>
<td>Pursuit PEM 250 mL/ha + Fusilade 350mL/ha</td>
<td>1041</td>
<td>71.5</td>
</tr>
<tr>
<td>Pursuit PEM 375mL/ha + Fusilade 350mL/ha</td>
<td>957</td>
<td>88.5</td>
</tr>
</tbody>
</table>

## Trial 90ME88

**Farmer:** Rod Butcher, Mt. Hampton

<table>
<thead>
<tr>
<th>Treatments</th>
<th>Yield kg/ha</th>
<th>S.E.M.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>675</td>
<td>106.1</td>
</tr>
<tr>
<td>Pursuit IAS 250mL/ha</td>
<td>1097</td>
<td>104.3</td>
</tr>
<tr>
<td>Pursuit IAS 375 mL/ha</td>
<td>1032</td>
<td>60.0</td>
</tr>
<tr>
<td>Pursuit PEM 410 mL/ha</td>
<td>944</td>
<td>105.4</td>
</tr>
<tr>
<td>Diuron IAS 1L/ha</td>
<td>319</td>
<td>53.2</td>
</tr>
<tr>
<td>Fusilade 350mL/ha</td>
<td>582</td>
<td>59.1</td>
</tr>
<tr>
<td>Pursuit IAS 250mL/ha + Fusilade 350mL/ha</td>
<td>1086</td>
<td>110.3</td>
</tr>
<tr>
<td>Pursuit IAS 375mL/ha + Fusilade 350mL/ha</td>
<td>993</td>
<td>77.8</td>
</tr>
<tr>
<td>Pursuit PEM 410mL/ha + Fusilade 350mL/ha</td>
<td>1179</td>
<td>83.8</td>
</tr>
<tr>
<td>Diuron 1L/ha + Fusilade 350mL/ha</td>
<td>929</td>
<td>52.1</td>
</tr>
<tr>
<td>Farmers Paddock</td>
<td>992</td>
<td>34.3</td>
</tr>
</tbody>
</table>

(Verdict 277ml/Brodal 200ml)
### Trial 90ME89

**Farmer:** Greg Rutherford, Narembbeen.

<table>
<thead>
<tr>
<th>Treatments</th>
<th>Yield kg/ha</th>
<th>S.E.M.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>108</td>
<td>14.0</td>
</tr>
<tr>
<td>Pursuit IBS 250mL/ha</td>
<td>867</td>
<td>87.2</td>
</tr>
<tr>
<td>Pursuit IAS 250mL/ha</td>
<td>209</td>
<td>33.7</td>
</tr>
<tr>
<td>Control +Fusilade/Sertin</td>
<td>724</td>
<td>21.3</td>
</tr>
<tr>
<td>Pursuit IBS +Fus/Sert</td>
<td>1057</td>
<td>110.7</td>
</tr>
<tr>
<td>Pursuit IAS +Fus/Sert</td>
<td>970</td>
<td>28.1</td>
</tr>
</tbody>
</table>

### Trial 90ME90

**Farmer:** Kevin Cole, Bruce Rock South.

<table>
<thead>
<tr>
<th>Treatments</th>
<th>Yield kg/ha</th>
<th>S.E.M.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>871</td>
<td>152.9</td>
</tr>
<tr>
<td>Pursuit IBS 250mL/ha</td>
<td>1382</td>
<td>110.5</td>
</tr>
<tr>
<td>Pursuit IAS 250mL/ha</td>
<td>1177</td>
<td>19.4</td>
</tr>
<tr>
<td>Farmers Paddock</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1.51 diuron/125 fusilade+125 sertin/200 brodal)</td>
<td>766</td>
<td>66.5</td>
</tr>
</tbody>
</table>

### Trial 90ME91

**Farmer:** Bronte Shreeve, Burracoppin.

<table>
<thead>
<tr>
<th>Treatments</th>
<th>Yield kg/ha</th>
<th>S.E.M.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>478</td>
<td>54.2</td>
</tr>
<tr>
<td>Pursuit IBS 250mL/ha</td>
<td>1585</td>
<td>69.3</td>
</tr>
<tr>
<td>Pursuit IAS 250mL/ha</td>
<td>1629</td>
<td>73.5</td>
</tr>
<tr>
<td>Pursuit PEM 410mL/ha</td>
<td>1846</td>
<td>64.1</td>
</tr>
<tr>
<td>Farmers Paddock</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Assure 250/Brodal 50)</td>
<td>1612</td>
<td>45.2</td>
</tr>
</tbody>
</table>
Title: Pursuit (AC 263, 499) for Weed Control in Peas.

Trial number: 90ME86 ; Beginning year: 1990 ; Terminating year: 1991

Personnel: S. Curtin, I. Pritchard, G. Croker

Division(s): D.E.R.O. ; Trial location(s): Berwyn Walker, Bencubbin

Related trials: 90ME87;88;89;90;91; ; Fund & A/c: ; File number: 5542 EX

Background and aims:

Pursuit as yet is an unregistered chemical, but has shown promise of good weed control and suppression in both legume pasture and pea crops. Farmers presently have problems controlling some broadleaf weeds with the presently available chemicals. Weeds such as Mustard and Doublegee can cause problems at harvest time if not controlled.

This is one of a series of 6 trials which aim to demonstrate the use of Pursuit under farmer conditions to examine the range of weeds it will control and what timing of application is best.

Pursuit AC 263, 499 is a product of American Cyanamid Company.

Site(s) details:

Medium to heavy red sandy loam (Salmon Gum vegetation).
Site selected as one with a heavy Mustard problem.
Paddock previously in wheat 1989.

Treatments:

1. 250 ml/ha Pursuit IBS (immediately before seeding).
2. Control.
3. 375 ml/ha Pursuit PEM (post emergent).

Measurements:

Weed Counts.
Crop Yield.
Rating of Cereal Crop in following year.
Western Australian Department of Agriculture

TRIAL DETAIL SHEET

TITLE: Pursuit (AC 263,499) for Weed Control in Peas.

TRIAL NUMBER: 90ME86 | FILE NUMBER: 5542 EX

TOTAL TRIAL AREA (including buffers): 60 x 150 = 0.9 ha

NUMBER OF TREATMENTS: 3 | No. OF REPS: 1 | No. OF PLOTS: 3

PLOT SIZE (treated): Width (m) x Length (m) = 20 x 150 = 0.3 ha

BUFFER WIDTH: m

1990 TRIAL DETAILS:

10/5/90 - 250 ml/ha IBS sprayed on plot 1.

19/5/90 - Trial skim ploughed.

30/5/90 - Trial seeded to Dundale Peas (80 kg/ha) by the farmer.
- 40 kg/ha double Super sown.

19/7/90 - 375 ml/ha PEM sprayed on plot 3 (no wetter used) (peas 5 node).
- plots counted.

N.B. - Mustard only just germinating on 26/6/90 when inspected.
- All treatments sprayed at 40 L/ha.
- Soil dry at 10/5/90 spraying.

1. 250 ml/ha IBS
2. Control
3. 375 ml/ha PEM
### Plant Counts - Berwyn Walker

<table>
<thead>
<tr>
<th>No. of Plants/m²</th>
<th>Mustard</th>
<th>Ryegrass</th>
<th>Cereal</th>
<th>Rough Poppy</th>
<th>Doublegee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil</td>
<td>164.5</td>
<td>23.0</td>
<td>9.0</td>
<td>26.4</td>
<td>0.4</td>
</tr>
<tr>
<td>250 ml IBS</td>
<td>0</td>
<td>0.5</td>
<td>1.2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>375 ml PEM</td>
<td>38.0</td>
<td>10.3</td>
<td>7.0</td>
<td>20.0</td>
<td>0.4</td>
</tr>
</tbody>
</table>

Nil - Mustard - 7-9 leaf, 2-3" across, smallest 1" across.
Ryegrass - 2-3 tillers well grown.
Cereal - 5-6 leaf, 4-5 tillers.
Rough Poppy - 3-4 branches, up to 2" across.

250 ml IBS - Cereal - 2½ leaf, dying tips on older leaves.
Rye - 4 leaf, stunted, 1 tiller.

375 ml PEM - Mustard - cotyledon to 4 l, purple red 1", stunted, most are dead (dried up and bleached).
Ryegrass - 2 tillers, 5-6 leaf. Growing okay. Some stunted 5 leaf.
Cereal - 3 leaf to 1 tiller, stunted.
Rough Poppy - Stunted and reddened.
Western Australian Department of Agriculture

RESEARCH INDEX ENTRY SHEET To be completed for all trials, demonstrations and surveys. One copy to be sent to the Adviser, Research Index by the officer doing the work.

Title: Pursuit (AC 263, 499) for Weed Control in Peas.

Trial number: 90ME87 ; Beginning year: 1990 ; Terminating year: 1991

Personnel: S. Curtin, I. Pritchard, G. Croker

Division(s): D.E.R.O. ; Trial location(s): John Bayly, Mukinbudin

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Site(s) details:

Heavy red sandy loam soil.
Site selected for heavy Doublegee and Capeweed problem.

Treatments:

1. 250 ml/ha Pursuit IAS (immediately after seeding).
2. Control.
3. 250 ml/ha Pursuit PEM (post emergent).
4. 375 ml/ha Pursuit PEM.

Measurements:

Weed Counts.
Crop Yield.
Rating of Cereal Crop in following year.
Western Australian Department of Agriculture

TRIAL DETAIL SHEET

TITLE: Pursuit (AC 263,499) for Weed Control in Peas.

TRIAL NUMBER: 90ME87 | FILE NUMBER: 5542 EX

TOTAL TRIAL AREA (including buffers): 80 x 150 = 1.2 ha

NUMBER OF TREATMENTS: 4 | No. OF REPS: 1 | No. OF PLOTS: 4

PLOT SIZE (treated): Width (m) x Length (m) = 20 x 150 = 0.3 ha

1990 TRIAL DETAILS:

7/5/90 - Farmer seeded paddock to Dundale peas - 90 kg/ha.
            - 40 kg/ha DAP.

10/5/90 - 250 ml/ha in 40 L/ha sprayed (soil dry and ground bare).

13/6/90 - 250 ml/ha in 40 L/ha + 0.1% wetter sprayed. Peas at 5 node.
            - 375 ml/ha in 60 L/ha + 0.15% wetter sprayed. Peas at 5 node.

26/6/90 - Trial counted for weeds.

20/7/90 - Fusilade 350 ml + 0.25% wetter on western end (60 m).

22/10/90 - All Doublegee survived and set seed.
            - Fusilade strip completely clean of grass weeds and cereal.
Plant Counts - J. Bayly's

Counted 26/6

<table>
<thead>
<tr>
<th>30 Counts (Plants/m²)</th>
<th>Capeweed</th>
<th>Doublegee</th>
<th>Cereal</th>
<th>Turnip/Radish</th>
<th>Ryegrass</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil</td>
<td>13.8</td>
<td>11.7</td>
<td>2.4</td>
<td>0.7/0.2</td>
<td>.23</td>
</tr>
<tr>
<td>250 ml IAS</td>
<td>1.4</td>
<td>8.4</td>
<td>0.8</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>250 ml PEM</td>
<td>14.0</td>
<td>16.0</td>
<td>1.2</td>
<td>/0.6</td>
<td>-</td>
</tr>
<tr>
<td>375 ml PEM</td>
<td>9.0</td>
<td>14.9</td>
<td>1.6</td>
<td>0.6/1.3</td>
<td>1.8</td>
</tr>
</tbody>
</table>

Nil - Doublegee - 3-6", 4½ leaf.
Capeweed - 3-6", 8-10 leaf.
Cereal - 7 leaf, 2-3 tillers.
Grasses - Generally small and stunted (2-3 tillers).
Turnip - 2-4".
Radish - 3-6".

250 ml IAS - Doublegee - cotyledon 4 leaf - all reddened and not coming away.
- new green leaf on bigger plants seems to be growing.
  Capeweed - 1" new germination - 3 leaf not visibly affected by chemical.
  Cereal - 2 leaf stunted.

250 ml PEM - Doublegee - 2-3 leaf, total reddening.
Capeweed - Plant still strong, smaller than Nils, black/purple colour.
Cereals - Generally healthy - slight weakening of YEB and slight yellowing.
Radish/Turnip - 2-3" and yellowing.

375 ml PEM - Doublegee - same as 250 ml but more reddening darker.
Capeweed - same as 250 ml.
Cereals - same as 250 ml.
Radish/Turnip - same, pale green yellow.
Western Australian Department of Agriculture

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Division(s): D.E.R.O. ; Trial location(s): Rod Butcher, Mt Hampton

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Site(s) details:
Grey sandy loam over clay.
Weed population mainly Capeweed, Wild Oats, Mustard and Doublegee also expected.

Treatments:
1. Nil.
2. 250 ml/ha Pursuit IAS (immediately after seeding).
3. 375 ml/ha Pursuit IAS.
4. 375 ml/ha Pursuit PEM (post emergent).
5. 1 L/ha Diuron IAS.

Measurements:
Weed Counts.
Crop Yield.
Rating of Cereal Crop in following year.

Authorizing officer: Date of approval:
TITLE: Pursuit (AC 263,499) for Weed Control in Peas.

TRIAL NUMBER: 90ME88
FILE NUMBER: 5542 EX

TOTAL TRIAL AREA (including buffers): 100 x 150 = 1.5 ha

NUMBER OF TREATMENTS: 5 | No. OF REPS: 1 | No. OF PLOTS: 5

PLOT SIZE (treated): Width (m) x Length (m) = 20 x 150 = 0.3 ha

1990 TRIAL DETAILS:

3/5/90 - Peas seeded - Dundale at 105 kg/ha.
   Triple super at 50 kg/ha.

10/5/90 - 250 ml Pursuit IAS in 40 L/ha water (soil surface clean and dry).
   375 ml Pursuit IAS in 60 L/ha water.
   1 L/ha Diuron IAS in 40 L/ha.

12/6/90 - 375 ml/ha Pursuit PEM in 60 L/ha water plus 0.1% wetter.
   Peas at the 5 node stage.
   * Actual rate was 410 ml/ha in 66 L/ha water. *

26/6/90 - Weeds counted.

20/7/90 - 350 ml Fusilade plus 0.25% wetter. 60 metres on southern end of strips.

Farmers paddock sprayed with a tankmix of 277 ml/ha Verdict and 100 ml/ha Brodal.
Plant Counts - R. Butcher

Counted 26/6

Counts/m²

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Germinating Capeweed</th>
<th>Big Capweed</th>
<th>Wild Oats</th>
<th>Ryegrass</th>
<th>Turnip</th>
<th>Crasula</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil</td>
<td>51.7</td>
<td>0.3</td>
<td>9.3</td>
<td>3.5</td>
<td>0.5</td>
<td>1.5</td>
</tr>
<tr>
<td>250 ml IAS</td>
<td>0.2</td>
<td>0.4</td>
<td>11.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>375 ml IAS</td>
<td>0.27</td>
<td>1.2</td>
<td>49.2</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>375 ml PEM</td>
<td>25.5</td>
<td>0.8</td>
<td>46.5</td>
<td>0.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.0 L Diuron IAS</td>
<td>17.5</td>
<td>0.46</td>
<td>42.4</td>
<td>0.3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Nil - Big Capeweed - 12-14" large transplant.
Germinating Capeweed - 3-4" 8 leaf.
Wild Oats - Tillering. 7 leaf (4 tillers).
Ryegrass - Tillering.
Crasula - Reddened (Stress?).

Wild Oat outside trial adjacent to 375 ml IAS + PE plots = 113.8 plants/m²

250 ml IAS - Big Capeweed - Spindly 8" across. V. sick, purply black transplants.
Wild Oats - 1 leaf red/yellow tips.

375 ml IAS - As for 250 ml.

375 ml PEM - Germinating Capeweed - 2" up to 5 leaf, reddened black centres.
Big Capeweed - 12-15", red/black on some leaves and discoloured hearts.
Wild Oats - mostly 2 leaf-4½ leaf (4½ leaf has up to 3 tillers).
- larger plants growing but YEB is a bit weak.
- smaller plants, reddening and yellowing on leaf tips.

1 L Diuron IAS - Germinating Capeweed - 1-3", 2 leaf to 6 leaf. Healthy.
Big Capeweed - 8-12" across.
Wild Oats - 2-3 leaf and up to 4 tillers (2 germinations).
Western Australian Department of Agriculture

RESEARCH INDEX ENTRY SHEET

To be completed for all trials, demonstrations and surveys. One copy to be sent to the Adviser, Research Index by the officer doing the work.

Title: Pursuit (AC 263, 499) for Weed Control in Peas.

Trial number: 90ME89
Beginning year: 1990
Terminating year: 1991

Personnel: S. Curtin, I. Pritchard, G. Croker

Division(s): D.E.R.O.
Trial location(s): Greg Rutherford, Narembeen

Related trials: 90ME86;87;88;90;91
Fund & A/c: File number: 5542 EX

Background and aims:

Pursuit as yet is an unregistered chemical, but has shown promise of good weed control and suppression in both legume pasture and pea crops. Farmers presently have problems controlling some broadleaf weeds with the presently available chemicals. Weeds such as Mustard and Doublegee can cause problems at harvest time if not controlled.

This is one of a series of 6 trials which aim to demonstrate the use of Pursuit under farmer conditions to examine the range of weeds it will control and what timing of application is best.

Pursuit AC 263, 499 is a product of American Cyanamid Company.

Site(s) details:

Red clay loam.
Weed population mainly ryegrass.

Treatments:

1. 250 ml/ha Pursuit IBS.
2. Control.
3. 250 ml/ha Pursuit IAS.

Measurements:

Weed Counts.
Crop Yield.
Rating of Cereal Crop in following year.

Authorizing officer: Date of approval:
Western Australian Department of Agriculture

TRIAL DETAIL SHEET

TITLE: Pursuit (AC 263,499) for Weed Control in Peas.

TRIAL NUMBER: 90ME89
FILE NUMBER: 5542 EX

TOTAL TRIAL AREA (including buffers): 60 x 150 = 0.9 ha

NUMBER OF TREATMENTS: 3
No. OF REPS: 1
No. OF PLOTS: 3

PLOT SIZE (treated): Width (m) x Length (m) = 20 x 150 = 0.3 ha

BUFFER WIDTH: m

1990 TRIAL DETAILS:

9/5/90 - 250 ml/ha in 40 L/ha water IBS sprayed on plot 1.
- Trial seeded to Dundale Peas at 80 kg/ha. Super at 100 kg/ha.

25/5/90 - 250 ml/ha in 40 L/ha water sprayed IAS.

14/6/90 - Plants counted - mainly ryegrass and volunteer cereal.

N.B. - Farmers seeded across plots.
- Farmer sprayed 2 boom widths of Fusilade/Sertin mix across plots.

Fusilade at 125 ml/ha, Sertin at 200 ml/ha + 1% Oil + 0.1% Wetter.

1. 250 ml/ha IBS
2. Control
3. 250 ml/ha IAS
Plant Counts - G. Rutherford

Counted 14/6

<table>
<thead>
<tr>
<th>Counts/m²</th>
<th>Treatment</th>
<th>Rye</th>
<th>Volunteer Wheat</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Nil</td>
<td>397</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>250 ml IBS</td>
<td>108</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>250 ml IAS</td>
<td>390</td>
<td>11</td>
</tr>
</tbody>
</table>

Nil - Rye - 2 and 3 leaf - tillering.
Cereal - 2 leaf.

250 IBS - Rye - 1-1½ leaf some stunting and reddening.
Cereal - 1-2 leaf.

250 IAS - Rye - 1 leaf reddening and stunted.
Title: Pursuit (AC 263, 499) for Weed Control in Peas.

Trial number: 90ME90  |  Beginning year: 1990  |  Terminating year: 1991
Personnel: S. Curtin, I. Pritchard, G. Croker
Division(s): D.E.R.O.  |  Trial location(s): Kevin Cole, 5th Bruce Rock
Related trials: 90ME86;87;88;89;91; Fund & A/c:  |  File number: 5542 EX

Background and aims:

Pursuit as yet is an unregistered chemical, but has shown promise of good weed control and suppression in both legume pasture and pea crops. Farmers presently have problems controlling some broadleaf weeds with the presently available chemicals. Weeds such as Mustard and Doublegee can cause problems at harvest time if not controlled.

This is one of a series of 6 trials which aim to demonstrate the use of Pursuit under farmer conditions to examine the range of weeds it will control and what timing of application is best.

Pursuit AC 263, 499 is a product of American Cyanamid Company.

Site(s) details:

Morrelly grey clay.
Expecting Doublegee, Radish, Mustard and Capeweed.

Treatments:

1. 250 ml/ha Pursuit IBS.
2. 250 ml/ha Pursuit IAS.
3. Control.
4. Treatment not sprayed.

Measurements:

Weed Counts.
Crop Yield.
Rating of Cereal Crop in following Year.
Western Australian Department of Agriculture

TRIAL DETAIL SHEET

TITLE: Pursuit (AC 263,499) for Weed Control in Peas.

TRIAL NUMBER: 90ME90    FILE NUMBER: 5542 EX

TOTAL TRIAL AREA (including buffers): 80 x 150 = 1.2 ha

NUMBER OF TREATMENTS: 4   No. OF REPS: 1   No. OF PLOTS: 4

PLOT SIZE (treated):
Width (m) x Length (m) = 20 x 150 = 0.3 ha

1990 TRIAL DETAILS:

9/5/90 - 250 ml/ha in 40 L/ha water (ground bare and dusty).

19/5/90 - Crop seeded with Wirrega Peas at 100 kg/ha / DAP at 50 kg/ha.

25/5/90 - 250 ml/ha in 40 L/ha water sprayed (dry soil surface). Peas germinated but not through the ground yet.

2/6/90 - Whole site windblown and peas taken off at ground level.

14/6/90 - Site inspected and peas just re-emerging.

Farmer sprayed his peas with 1.5 L Diuron.

Post emergent sprays were 125 ml/ha Fusilade + 125 ml/ha Sertin and 200 ml/ha Brodal 1 week later.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>80 m</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>150 m</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. 250 ml/ha IBS
2. 250 ml/ha IAS
3. Control
4. Treatment not sprayed
Western Australian Department of Agriculture

RESEARCH INDEX ENTRY SHEET To be completed for all trials, demonstrations and surveys. One copy to be sent to the Adviser, Research Index by the officer doing the work.

Title: Pursuit (AC 263, 499) for Weed Control in Peas.

Trial number: 90ME91; Beginning year: 1990; Terminating year: 1991

Personnel: S. Curtin, I. Pritchard, G. Croker

Division(s): D.E.R.O.; Trial location(s): Bronte Shreeve, Burracoppin

Related trials: 90ME86;87;88;89;90; Fund & A/c: ; File number: 5542 EX

Background and aims:

Pursuit as yet is an unregistered chemical, but has shown promise of good weed control and suppression in both legume pasture and pea crops. Farmers presently have problems controlling some broadleaf weeds with the presently available chemicals. Weeds such as Mustard and Doublegee can cause problems at harvest time if not controlled.

This is one of a series of 6 trials which aim to demonstrate the use of Pursuit under farmer conditions to examine the range of weeds it will control and what timing of application is best.

Pursuit AC 263, 499 is a product of American Cyanamid Company.

Site(s) details:

Red clay loam. Salmon Gum soil.

Paddock in Peas in 1987. Ripped up in January. Sprayed 500 ml Roundup on 8/5/90. Main weeds expected are Mustard, Turnip, Doublegee, Radish and Marshmallow.

Treatments:

1. 250 ml/ha Pursuit IBS.
2. 250 ml/ha Pursuit IAS.
3. Control.
4. 375 ml/ha Pursuit PEM.

Measurements:

Weed Counts.
Crop Yield.
Rating of Cereal Crop in following year.

Authorizing officer: ___________________________ Date of approval: ____________
Western Australian Department of Agriculture

TRIAL DETAIL SHEET

TITLE: Pursuit (AC 263,499) for Weed Control in Peas.

TRIAL NUMBER: 90ME91 | FILE NUMBER: 5542 EX

TOTAL TRIAL AREA (including buffers): 80 x 150 = 1.2 ha

NUMBER OF TREATMENTS: 4 | No. OF REPS: 1 | No. OF PLOTS: 4

PLOT SIZE (treated): Width (m) x Length (m) = 20 x 150 = 0.3 ha

1990 TRIAL DETAILS:

10/5/90 - 250 ml/ha in 40 L/ha water.

17/5/90 - Peas seeded - Derrimut Peas at 90 kg/ha. DAP at 45 kg/ha.

25/5/90 - 250 ml/ha in 40 L/ha water. Peas not yet emerged (1" shoot below ground).

12/6/90 - 375 ml/ha in 60 L/ha water + 0.1% wetter. Peas at 3 node stage.

26/6/90 - Weeds intended to be counted but not enough germinated.

22/10/90 - Plants counted. Mainly Wild Oats and Mustard. Nil plot overwhelmed by Wild Oats and Mustard.

* 375 ml/ha rate actually applied at 410 ml/ha in 66 L/ha water *

Farmers paddock sprayed with 500 ml/ha Roundup IBS. Then post emergent with Assure 250 ml/ha + Brodal 50 ml/ha.

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1. 250 ml/ha IBS
2. 250 ml/ha IAS
3. Control
4. 375 ml/ha PEM
(*410 ml/ha)

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Plant Counts - B. Shreeve

Counted 22/10/90

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Wild Oats</th>
<th>Mustard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil</td>
<td>53</td>
<td>14</td>
</tr>
<tr>
<td>250 ml IBS</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>250 ml IAS</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>410 ml PEM</td>
<td>6</td>
<td>0</td>
</tr>
</tbody>
</table>

Wild Oat plants in PEM treatment remained stunted all season and at harvest were 1 tiller and about 6" high. They still set viable seed.