Ant pests in Western Australia

Clee Francis Howard Jenkins

Follow this and additional works at: http://researchlibrary.agric.wa.gov.au/journal_agriculture4

Recommended Citation
Jenkins, Clee Francis Howard (1963) "Ant pests in Western Australia," Journal of the Department of Agriculture, Western Australia, Series 4: Vol. 4 : No. 5 , Article 6.
IMPORTANT DISCLAIMER

This document has been obtained from DAFWA’s research library website (researchlibrary.agric.wa.gov.au) which hosts DAFWA’s archival research publications. Although reasonable care was taken to make the information in the document accurate at the time it was first published, DAFWA does not make any representations or warranties about its accuracy, reliability, currency, completeness or suitability for any particular purpose. It may be out of date, inaccurate or misleading or conflict with current laws, polices or practices. DAFWA has not reviewed or revised the information before making the document available from its research library website. Before using the information, you should carefully evaluate its accuracy, currency, completeness and relevance for your purposes. We recommend you also search for more recent information on DAFWA’s research library website, DAFWA’s main website (https://www.agric.wa.gov.au) and other appropriate websites and sources.

Information in, or referred to in, documents on DAFWA’s research library website is not tailored to the circumstances of individual farms, people or businesses, and does not constitute legal, business, scientific, agricultural or farm management advice. We recommend before making any significant decisions, you obtain advice from appropriate professionals who have taken into account your individual circumstances and objectives.

The Chief Executive Officer of the Department of Agriculture and Food and the State of Western Australia and their employees and agents (collectively and individually referred to below as DAFWA) accept no liability whatsoever, by reason of negligence or otherwise, arising from any use or release of information in, or referred to in, this document, or any error, inaccuracy or omission in the information.
Control of Weeds in Processing Peas

By J. G. PATERSON, B.Sc. (Agric.)

A summary of the results of trials carried out in 1962 to test recent developments in the chemical war against weeds in crops of processing peas.

Growers of processing peas face many problems not the least of which is the control of weeds. Crops which are to be harvested for canning or freezing must be practically weed free if good returns are to be obtained.

Much of the land potentially suitable for growing peas in Western Australia is heavily infested with weeds such as cape-weed, doublegees, wild turnip and annual grasses. Both cultural and chemical control methods may be needed to produce weed-free crops on this land.

Chemical weed control should always be regarded as supplementary to correctly timed and thorough cultural methods. With the advent of the modern herbicides this fact is sometimes overlooked and preplanting cultivation is neglected. A properly prepared and selected seedbed will generally give sufficient control to enable a comparatively weed free crop to be grown in most districts without the use of weedicides.

If the crop is kept weed free until it is 8 inches high it is unlikely that later weed growth will cause a marked reduction in yield. On the other hand, experience has shown that a weedy crop may return less than one quarter of the yield of a clean crop grown under the same conditions.

Details of the cultural aspects of pea growing are given in Department of Agriculture Bulletin 2997.

A means of controlling weeds when cultural methods fail would enable many acres of otherwise unsuitable ground to be brought into production. With this in mind a series of trials was commenced in the winter of 1962 to test the most promising of the newer weedicides.

METHODS OF APPLICATION

Two types of weed control can be effectively used in peas—pre-emergence and post-emergence application.

The following figures show the value of processed peas imported into Western Australia from both Eastern States and overseas sources. They indicate a definite and increasing demand for more locally grown peas.

<table>
<thead>
<tr>
<th>Year</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1959-60</td>
<td>£221,406</td>
</tr>
<tr>
<td>1960-61</td>
<td>£227,163</td>
</tr>
<tr>
<td>1961-62</td>
<td>£345,097</td>
</tr>
</tbody>
</table>

316
A well established, clean crop offers good competition to later germinations of weed seeds. Weed control up to this stage of growth is important.

**PRE-EMERGENCE**

In pre-emergence weed control a layer of chemical is placed on the soil surface after the crop is planted but before it emerges. Shallow rooted weed seeds then absorb the chemical as they germinate and are killed. Deeper rooted crop seeds remain unaffected and later grow through the toxic chemical layer.

Pre-emergence weed control should be considered where, even after a good seedbed has been prepared, it is felt that weeds could still be a problem. The crop should be sown at a depth of not less than 1½ inches for successful results.

**Results of Trials**

The three most satisfactory treatments were 1 lb. Diuron, 2 lb. Prometone or 2 lb.
Prometryne per acre. Relative yields from these are illustrated in Fig. 1.

When net returns were calculated allowance was made for the cost of the chemical and its application. An additional allowance was made for losses involved in harvesting and processing. On this basis 1 lb. Diuron gave an increase in net return of approximately £20 per acre. The other two chemicals gave lower increases.

Good control of capeweed, subterranean clover, annual grasses and wild turnip was obtained with these three chemicals.

**Technical Details**

The following 15 treatments were applied in replicated blocks three days after planting, each in 50 gallons of water per acre:

1. 1 lb. Diuron (80 per cent.).
2. 2 lb. Diuron (80 per cent.).
5. 2½ lb. Amiben (active ingredient).
6. 5 lb. Amiben (active ingredient).
7. 2 lb. Atratone (50 per cent.).
8. 4 lb. Atratone (50 per cent.).
9. 2 lb. Prometone (50 per cent.).
10. 4 lb. Prometone (50 per cent.).
11. 2 lb. Prometryne (50 per cent.).
12. 4 lb. Prometryne (50 per cent.).
13. 2 lb. Propazine (50 per cent.).
14. 4 lb. Propazine (50 per cent.).

Monarch 39 nozzles spaced 14 inches apart were used to deliver 50 gallons per acre at 60 p.s.i. and 2 m.p.h.

**POST-EMERGENCE**

In post-emergence weed control the weedicide is applied after either the crop or the weeds, or both, have appeared above the ground.
DALGETY-N.Z.L.
are W.A. DISTRIBUTORS for
Sunbeam

MACHINERY

and therefore offer you without obligation the services of a specialised representative to call on your property to discuss the trade-in value of your plants

For your—

OVERHEAD SHEARING GEAR
ELECTRIC SHEARING GEAR
"ROUNDABOUT" SHEEP-SHOWERS
"RACE TYPE" SHEEP-SHOWERS
GRINDERS
ENGINES
WOOLPRESSES, etc.,
and
ALL SHEARING SUNDRIES

contact our Branches or Agents

DALGETY-N.Z.L.
Now... the world's top-selling tractor comes with a

**41 B.H.P. DIESEL ENGINE**

Always the power, economy and performance leader in its class, the Ferguson System MF35 now goes even further ahead!

*6.8% More Power.* Output of the famous 3-cylinder diesel engine has been stepped-up to 41 B.H.P. without any increase in fuel consumption.

*Increased Torque Backup.* Immense "torque backup" over a range of nearly 1,000 r.p.m. is an outstanding advantage of the 35X engine.

*Same Low Price — Same Exclusive Massey-Ferguson Features.* Crankshaft supported on 4 main bearings — highly sensitive mechanical governor — built-in precise distributor-type fuel pump — twin fuel filters — combined direct and indirect injection for sure starting — Ferguson System complete control hydraulics — diff. lock optional extra. Test drive the MF35X today. See your local dealer now!

**MASSEY FERGUSON 35X**

The largest manufacturers of tractors in the world

Please mention the "Journal of Agriculture of W.A.," when writing to advertisers.
Post-emergence treatments should be considered when cultural control has been unsatisfactory and pre-emergence treatment was not carried out. In this case the chemical must be toxic to the weeds present, but not to the crop.

Results of Trials

The chemicals giving the greatest yield increases were Diuron, DNBP and MCPA. This is illustrated in Fig. 2.

Calculations of net returns in this case indicated that an increase of approximately £12 per acre had been obtained from the use of 1 lb. of Diuron per acre.

As the post-emergence trials were carried out at a different site to the pre-emergence trials, yields following the two methods of treatment cannot be compared.

Technical Details

Twelve treatments were applied in replicated blocks when the peas were 3 to 4 inches high. At this stage the weeds were between one half inch and 3 inches in diameter. The crop contained a dense stand of wild turnip and capeweed even though the area was given several pre-planting cultivations. This was undoubtedly due to the high weed seed content in the soil.

The treatments tested were—

1. 1 lb. DNBP per acre.
2. 1½ lb. DNBP per acre.
3. 2 lb. DNBP per acre.
4. 5 oz. Barban per acre.
5. 10 oz. Barban per acre.
6. 1½ lb. Diuron per acre.
7. 3 lb. Prometryne per acre.
8. 7½ fluid ounces Diquat per acre.
9. 19 fluid ounces Diquat per acre.
10. 4 oz. M.C.P.A. per acre.
11. 8 oz. M.C.P.A. per acre.

DISCUSSION

The results of the 1962 tests indicate that a high degree of control can be expected from the use of appropriate chemical herbicides. Seasonal and soil factors can have a marked influence on
The density of the wild radish can be seen in the crop on the right. Correctly timed spraying gave excellent control resulting in a weed free crop of peas on the left.

The efficiency of any weedicide, however, and further testing is required before definite recommendations can be made. Meanwhile three general principles give a guide to weed control in peas:

- Pre-planting cultural treatments remain the most important method of weed control available to the grower.
- If it is anticipated that weeds will subsequently be a problem a pre-emergence treatment should be considered.
- If weeds appear after the crop has emerged a post-emergence treatment may be possible.

As the present series of trials has so far been limited to one season growers contemplating chemical weed control for the first time should contact the Department of Agriculture before starting operations.

ACKNOWLEDGMENTS

These trials were carried out on the properties of Mr. J. Payne, of Bindoon and Mr. J. Harper, of Gingin, whose cooperation is greatly appreciated.
STOCK ENCLOSURES
made easy with
DOWNEE
PRESSED STEEL RAIL FITTINGS

Cut costs by specifying DOWNEE pressed steel fittings for the erection of: cowshed and milking stalls, cattle pens, abattoirs, warehouse and storage sheds, workshop fittings, etc. Downee does away with the old fashioned and unsatisfactory method of screw joints and welding, which are more subject to corrosion.

Downee fittings are manufactured from high quality steel to standard gas and water pipe sizes. Being galvanised they are suitable for permanent outdoor use. Structures made with Downee can be dismantled and the pipes and fittings re-used for other purposes. For full details contact McPherson's.

From your local storekeeper or

McPherson's LTD.
SUPPLIERS TO INDUSTRY SINCE 1860

532 MURRAY ST., PERTH. PHONE 21 9711.