Desktop Preparation of Vegetable Minor Use Permit Applications - 2009 - Agrisearch

Martin Collett
Agrisearch Services Pty Ltd

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Level 7
179 Elizabeth Street
Sydney NSW 2000
Telephone: (02) 8295 2300
Fax: (02) 8295 2399

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Agrisearch

DIRECTORS M.G. Collett, B.Sc.Agr., M.Sc., C.P.Ag.
L.W. Mitchell, B.Agr.Sc.(Hons.), C.P.Ag.
D.R. Litzow, B.Agr.Sc., C.P.Ag.
I.S. Ridley, B.Rur.Sc.
M.R. Lamond, B.Bus.(Agric.), ADFM

Agrisearch Services Pty Ltd
ABN 85 109 240 333
50 Leewood Drive
PO Box 972
Orange NSW 2800
Australia
E-mail: agrisearch@agrisearch.com.au
Web: www.agrisearch.com.au
Telephone: (02) 6362 4539
Facsimile: (02) 6362 7844

DESKTOP PREPARATION OF PESTICIDE MINOR USE PERMIT APPLICATIONS IN VARIOUS VEGETABLE CROPS 2009

STUDY CONDUCTED BY AGRISEARCH SERVICES PTY LTD, AUSTRALIA, 2009-2010

PUBLIC VERSION

Submitted to:	Horticulture Australia Limited Level 7, 179 Elizabeth Street Sydney NSW 2000
Client Contact:	Melanie Davies
Submitted by:	Agrisearch Services Pty Ltd 50 Leewood Drive Orange NSW 2800
Project Leader:	Martin Collett
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1. MEDIA SUMMARY

In Australia, before an agrochemical product can be sold or used, it first must be registered by the Australian Pesticides and Veterinary Medicines Authority (APVMA). In order for a manufacturer to register a product they are required to submit a comprehensive data package to the APVMA. The costs for generating and collating such data are high and unfortunately many vegetable crops are too small individually for agrochemical manufacturers to bear the high cost of registering products for use in those crops. As a result, vegetable growers are often placed in situations where they risk severe crop losses from insects, weeds and diseases because appropriate pesticides are not available. On the other hand, they risk buyers rejecting their produce and other penalties if they are detected using products that are not registered for that specific use.

The APVMA's National Permit System adds some flexibility to the lengthy registration process and legalises the availability of products for minor-use purposes, not specified on the product label. However, off-label permits issued by the APVMA still must be applied for along with information and data submitted that verifies that the permitted use will be effective and will not have any harmful effects on humans, the crops or the environment. Supporting safety and residue data usually needs to be generated, however permits may be issued based on the collation and submission of existing data after a desktop review.

In this project, nine permit applications have been prepared and submitted to the APVMA for various fungicides, herbicides and insecticides in a range of vegetable crops including beetroot, celery, silverbeet, brassica leafy vegetables, Asian root vegetables, carrots and parsnips.

The methodology involved reviewing current or similar permits and appropriate labels, consulting with agrochemical companies to establish label intentions and data availability, ascertaining local and international maximum residue levels (MRLs), reviewing and compiling existing data on residues, efficacy, crop safety, OH&S and environmental toxicology/fate and preparing draft permit recommendations.

Some APVMA minor-use permits have been issued or renewed subsequent to the permit applications being submitted. However, a condition of a permit renewal may be that additional field research, such as dedicated residue trials, have to be conducted.

The major outcome of this project is that pesticides that could not be legally used by vegetable growers will now be available. This project has been part of a larger programme of research that has been conducted over the past few years. Although the outcomes of this project have been met there is an ongoing need for growers to have access to newer and better pesticides and so similar projects should be planned and conducted in the future.

2. TECHNICAL SUMMARY

Nine permit applications have been prepared and submitted to the APVMA for various fungicides, insecticides and herbicides in a range of vegetable crops including beetroot, celery, silverbeet, brassica leafy vegetables, Asian root vegetables, carrots and parsnips. The permits relate to the following HAL studies;

Item Code	Crop	Problem	Active Constituent	Application Rate
HAL1788	Cucumber & beetroot	Looper, plague thrips, vegetable weevil	alpha-cypermethrin, 100 g/L	130-400 mL/ha (depending on pest)
HAL1702	Celery	Early blight, anthracnose, sclerotinia rot	azoxystrobin, 250 g/L	50-60 mL/100 L
HAL1787	Silverbeet	Damping off	azoxystrobin, 250 g/L	5-10 mL/100 m row as seedling drench
HAL1789	Brassica leafy vegetables, chicory, radicchio	Downy mildew, alternaria spot, grey mould	chlorothalonil, 720 g/L	1.6-2.5 L/ha
AVG1058	Asian root vegetables	Downy mildew, late blight	copper hydroxide, 500 g/kg. copper oxychloride, 500 g/kg. tribasic copper sulphate, 200 g/kg	200 g/100 L 250 g/100 L 250 g/100 L
HAL1793	Spinach, silverbeet	Weeds	ethofumesate, 500 g/L	4 or 6 L/ha
HAL340	Onions	Broadleaf weeds and grasses	ethofumesate, 500 g/L	0.6-1.2 L/ha
HAL1792	Brassica leafy vegetables, radish	Diamondback moth	emamectin, 44 g/kg	250-300 g/ha
HAL1695	Beetroot	Heliothis, looper, vegetable weevil, Rutherglen bug	indoxacarb, 300 g/kg	170 g/ha
HAL1649	Beetroot, carrot and parsnip	Phytophthora (damping off)	phosphorous acid, 400 g/L, 600 g/L, 620 g/L	3.9- 6.0 L/ha
HAL1799	Brassica leafy vegetables	Downy mildew, Phytophthora (damping off)	phosphorous acid, 400 g/L, 600 g/L, 620 g/L	2.9- 6.0 L/ha
HAL1800	Brassica leafy vegetables, chicory, endive, radicchio	Cercospora leaf spot, rust, septoria leaf spot	propiconazole, 250 g/L, 435 g/L, 500 g/L	250-500 mL/ha

The methodology involved reviewing current or similar permits and appropriate labels, consulting with agrochemical companies to establish label intentions and data availability, ascertaining local and international maximum residue levels (MRLs), reviewing and compiling existing data on residues, efficacy, crop safety, OH&S and environmental toxicology/fate and preparing draft permit recommendations.

3. INTRODUCTION

Nine permit applications have been prepared and submitted to the APVMA for various fungicides, insecticides and herbicides in a range of vegetable crops including beetroot, celery, silverbeet, brassica leafy vegetables, Asian root vegetables, carrots and parsnips. The permit applications were prepared after a desktop review of all available data.

This report contains details of the methods used and presents the results obtained.

The project was conducted under Horticulture Australia Limited project VG08164 and Agrisearch Project HAL/09/04.

4. MATERIALS AND METHODS

4.1 Study Details

Data relating to the following HAL studies were used in the preparation of the permit applications to the APVMA.

Item Code	Crop	Problem	Active Constituent	Application Rate
HAL1788	Cucumber & beetroot	Looper, plague thrips, vegetable weevil	alpha-cypermethrin, 100 g/L	130-400 mL/ha (depending on pest)
HAL1702	Celery	Early blight, anthracnose, sclerotinia rot	azoxystrobin, 250 g/L	50-60 mL/100 L
HAL1787	Silverbeet	Damping off	azoxystrobin, 250 g/L	5-10 mL/100 m row as seedling drench
HAL1789	Brassica leafy vegetables, chicory, radicchio	Downy mildew, alternaria spot, grey mould	chlorothalonil, 720 g/L	1.6-2.5 L/ha
AVG1058	Asian root vegetables	Downy mildew, late blight	copper hydroxide, 500 g/kg. copper oxychloride, 500 g/kg. tribasic copper sulphate, 200 g/kg	200 g/100 L 250 g/100 L 250 g/100 L
HAL1793	Spinach, silverbeet	Weeds	ethofumesate, 500 g/L	4 or 6 L/ha
HAL340	Onions	Broadleaf weeds and grasses	ethofumesate, 500 g/L	0.6-1.2 L/ha
HAL1792	Brassica leafy vegetables, radish	Diamondback moth	emamectin, 44 g/kg	250-300 g/ha
HAL1695	Beetroot	Heliothis, looper, vegetable weevil, Rutherglen bug	indoxacarb, 300 g/kg	170 g/ha
HAL1649	Beetroot, carrot and parsnip	Phytophthora (damping off)	phosphorous acid, 400 g/L, 600 g/L, 620 g/L	3.9- 6.0 L/ha
HAL1799	Brassica leafy vegetables	Downy mildew, Phytophthora (damping off)	phosphorous acid, 400 g/L, 600 g/L, 620 g/L	2.9- 6.0 L/ha
HAL1800	Brassica leafy vegetables, chicory, endive, radicchio	Cercospora leaf spot, rust, septoria leaf spot	propiconazole, 250 g/L, 435 g/L, 500 g/L	250-500 mL/ha

4.2 Desktop Data Reviewed

The following data were reviewed and the following tasks conducted in the preparation of the permit applications.

- Review current labels
- Review current or similar APVMA permits and other appropriate labels
- Consult with respective chemical companies to establish intentions
- Ascertain Australian, New Zealand and international MRLs
- Review residue data available to support the application
- Review efficacy and crop safety data to support the application
- Review OH&S data to support the application
- Review environmental toxicology and fate data to support the application
- Review industry guidelines with regard to resistance management strategies
- Prepare draft permit recommendations
- Consult with key staff in HAL and AusVeg on recommendations
- Consult with APVMA on proposals
- Follow up with APVMA and HAL on proposals and provide updates
- Respond to queries from APVMA and HAL

5. RESULTS AND DISCUSSION

The following permit applications were submitted to the APVMA

Active Ingredient	Crop	Problem – Common Name	Application Rate	Maximum Number of Applications and Frequency
alpha-cypermethrin, 100 g/L	Cucumber & beetroot	Looper, plague thrips, vegetable weevil	130-400 mL/ha (depending on pest)	2 at 7 days
azoxystrobin, 250 g/L	Celery	Early blight, anthracnose, sclerotinia rot	500-600 mL/ha or 50-60 mL/100 L	3 at 7 days
	Silverbeet	Damping-off	5-10 mL/100 metre of row	Seedling drench
chlorothalonil, 720 g/L	Brassica leafy vegetables, chicory, radicchio	Downy mildew, alternaria spot, grey mould	1.6-2.5 L/ha	2 at 7-14 days
copper as hydroxide at 500 g/kg, copper oxychloride at 500 g/kg, tribasic copper sulphate at 200 g/kg	Asian root vegetables	Downy mildew, late blight	200 g/100 L or 2 kg/ha for copper hydroxide products 250 g/100 L of copper oxychloride and tribasic copper sulphate products	Unlimited sprays at minimum of 10 days
ethofumesate, 500 g/L	Spinach/ silverbeet	Weeds	4 or 6 L/ha	Pre-emergence
	Onions	Broadleaf weeds and grasses	0.6-1.2 L/ha	1
emamectin, 44 g/kg	Brassica leafy vegetables, radish	Diamondback moth	250-300 g/ha	4 at 7 days
indoxacarb, 300 g/kg	Beetroot	Heliothis, looper, vegetable weevil, Rutherglen bug	170 g/ha	2 at 7 days
phosphorous acid, 400 g/L or 600 g/L or 620 g/L	Beetroot, carrot and parsnip	Phytophthora (damping off)	4.5 L/ha or 3.0 L/ha or 2.9 L/ha	4 at 7 days
	Brassica leafy vegetables	Downy mildew, Phytophthora (Damping off)	6.0 L/ha or 4.0 L/ha or 3.9 L/ha	4 at 7 days
propiconazole, 250 g/L or 435 g/L or 500 g/L	Brassica leafy vegetables, chicory, endive, radicchio	Cercospora leaf spot, rust, septoria leaf spot	500 mL/ha or 290 mL/ha or 250 mL/ha	2 at 7 days

6. TECHNOLOGY TRANSFER

The data generated from the studies reported on here have been included or will be included in submissions to the Australian Pesticides and Veterinary Medicines Authority. These submissions are for permit applications. The results of the applications are disseminated on the APVMA website, the Government Gazette and by industry publications. There is also an ongoing rationalisation of pesticide permits and the transfer of permits to current pesticide labels.

7. RECOMMENDATIONS

The major outcome of this project is that pesticides that could not be legally used by vegetable growers will now be available, thus providing growers with a broader range of options in the control of diseases and insect pests from which their crops suffer.

This project has been part of a larger programme of research that has been conducted over the past few years. Although the outcomes of this project have been met there is an ongoing need for growers to have access to newer and better pesticides and so similar projects should be planned and conducted in the future.