

Preparing desktop minor use applications for vegetables

Peter Dal Santo
AgAware Consulting Pty Ltd

Project Number: VG04084

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AUSVEG

Preparing desktop minor-use applications
for vegetable

Horticulture Australia Ltd

Project No: VG04084

AgAware Consulting

July 2007

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VG04048

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Purpose of the report:

This project was funded by Horticulture Australia Ltd to complete the minor-use permit application work initiated by Crop Protection Approvals in 2000. The project involved liaising with the contracted field researchers and analytical laboratories to ensure that they complete the designated tasks allotted to them with respect to data generation and then prepare minor-use permit applications to submit to the Australian Pesticides & Veterinary Medicines Authority for approval.

This report summarises the applications that have been prepared as part of this project and their status as of July 2007.

Funding sources:

- Horticulture Australia Ltd
- AUSVEG

Date of report:

18 July 2007

Disclaimer:

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Table of Contents

| | |
|--|---|
| Media summary | 4 |
| Background | 5 |
| Minor-use permit applications | 5 |
| Communication | 6 |
| Organisational meetings | 7 |
| Recommendations | 8 |
| Acknowledgement | 8 |
| Appendices | 9 |

Media Summary

Between April 2005 and June 2007, AgAware Consulting Pty Ltd managed the data generation, database management, permit applications process and communications for 80 projects that were still on-going relating to minor-use permits requests for the vegetable industry.

These projects were a carryover from the work initiated by Crop Protection Approvals between 2000 and 2003. Due to delays in data being made available from some field researchers and analytical laboratories, it was not completed until May 2007.

In all, 117 permit applications (new and renewals) were submitted to APVMA for minor-use permits in various vegetable crops, made up of:

- 80 new permit applications
- 1 new permit application that was also renewed
- 4 new permit applications were resubmitted after with additional data
- 6 emergency permit applications
- 26 permit renewals

The vegetable crops included in the minor-use permit work were:

- Brassica vegetables – brassicas, broccoli, Brussels sprout, cabbage, cauliflower
- Bulb vegetables – Alliums, garlic, leek, onion, shallot, spring onion
- Cucurbit vegetables – cucumber, cucurbits
- Fruiting vegetables – Asian fruiting vegetables, capsicums, eggplant, peppers, sweet corn tomato
- Herbs – coriander, parsley
- Leafy vegetables – brassica leafy vegetables, chicory, endive, lettuce, radicchio, silverbeet, spinach
- Legumes vegetables – beans, peas, snow peas, sugar snap peas
- Mushrooms
- Root vegetables – beetroot, carrot, parsnip, potato, radish, swede, turnip, sweet potato, taro
- Stem & stalk vegetables – artichoke, celery, rhubarb

As at 1 July 2007:

- 63 have had minor-use permits issued
- 44 are still under assessment
- To date no minor-use permit application has been rejected

This information has been circulated by email to all of my vegetable industry contacts. Promotional material on the project and information on permits has been prepared for regional magazines and newsletters, Vegetables Australia and the AUSVEG website.

The project will continue to liaise with APVMA and industry until all minor-use permits are issued.

Background

In early 2004, AgAware Consulting P/L was awarded a project by Horticulture Australia Ltd (HAL) to complete the vegetable data generation trial work, residue analysis and permit application process that was initiated and managed by Crop Protection Approvals after its collapse in November 2003. The project 'VG03108 - Improve the access of pesticides for the vegetable industry via minor-use permits' ran from January to September 2004.

Due to some significant delays in the research providers completing the allocated trial work; all the vegetable minor-use permit applications were unable to be completed by September 2004, with some 80 projects still outstanding.

HAL and AUSVEG were committed to having all the projects completed and commissioned a new project to complete the work. 'VG04048 - Preparing desktop minor-use applications for vegetable'. This project began in April 2005 and would be completed when all vegetable minor-use permit applications were submitted to the Australian Pesticides and Veterinary Medicines Authority (APVMA).

The last laboratory report was received in May 2007.

The process involved:

- Ensuring that the field researchers and analytical laboratories completed all projects according to the conditions initially set down in contracts.
- Collect all vegetable data generated was collected by AgAware Consulting P/L.
- Prepare minor-use permit applications using the data generated as well as overseas information and submit to APVMA for assessment.
- Renew any minor-use permit permits that expired during this period.
- Monitor progress of all permit applications and keep the vegetable industry informed.
- Provide APVMA with any additional information required in relation to any permit application.
- Once the permit is issued, notify the vegetable industry by email and handouts.
- Provide the vegetable IDO's with the necessary information on permits.
- Maintain the HAL database on projects.

Minor-use permit applications

Between 2005 and early 2007, 117 permit applications were submitted to APVMA for minor-use permits in various vegetable crops.

These are listed in Table 1 of the Appendices.

There applications were made up of the following categories:

- 80 new permit applications
- 1 new permit application that was also renewed
- 4 new permit applications were resubmitted after with additional data
- 6 emergency permit applications
- 26 permit renewals

The vegetable crops covered were:

- Brassica vegetables – brassicas, broccoli, Brussels sprout, cabbage, cauliflower
- Bulb vegetables – Alliums, garlic, leek, onion, shallot, spring onion
- Cucurbit vegetables – cucumber, cucurbits
- Fruiting vegetables – Asian fruiting vegetables, capsicums, eggplant, peppers, sweet corn tomato
- Herbs – coriander, parsley
- Leafy vegetables – brassica leafy vegetables, chicory, endive, lettuce, radicchio, silverbeet, spinach
- Legumes vegetables – beans, peas, snow peas, sugar snap peas
- Mushrooms
- Root vegetables – beetroot, carrot, parsnip, potato, radish, swede, turnip, sweet potato, taro
- Stem & stalk vegetables – artichoke, celery, rhubarb

The situations covered were:

- Field grown crops
- Greenhouse/Shadehouse crops
- Hydroponic grown crops
- Greenhouse/hydroponic grown crops

Some permits were not renewed for technical reasons. These are listed in Table 2 of the Appendices.

Of the 117 minor-use permit applications submitted to APVMA:

- 63 have had minor-use permits issued
- 44 are still under assessment
- To date no minor-use permit application has been rejected

The minor-use permits issued by APVMA are listed in Table 3 of the Appendices.

The 44 minor-use permit applications still with the APVMA are in various stages of assessment and are expected to be issued in the next six months. Most of these applications have had issues raised, such as; correct identification of the pest, area to be treated, resistance management strategies, Good Agricultural Practice, etc.

Communication

Once AgAware is notified that a permit has been issued by APVMA, the information is circulated by email to the following people in the vegetable industry:

- Industry Development Officers
- AUSVEG
- Consultants
- Retail network
- State Departments of Primary Industries
- Agchem manufacturers

It is them up to these contacts to circulate this information to growers.

With the assistance of APVMA, every 3 months a list of all minor-use permits in vegetables is produced. This includes HAL/ AUSVEG permits and others. This list is circulated to the above industry contacts, but is also placed on the AUSVEG website and included in the “Vegetables Australia” magazine.

Any requests for minor-use permit and general pesticide information received from the vegetable industry contacts is generated and circulated. Information requested is:

- Pesticides available (registered and permits) per specific crop
- Pesticides available (registered and permits) per state
- Pesticides available (registered and permits) per specific pest
- Pest management strategies
- Pesticide residue information per specific crop
- Minor-use requests per specific pesticide (manufacturers)

On request, media articles are prepared on specific topics for inclusion in:

- Briefing papers
- Industry magazines
- Newsletters
- e-newsletters
- Websites

Organisation meetings

Many meetings were attended during the life of the project to provide information and outcomes of the project. Several grower and industry meetings were held in each state for this purpose.

Meetings were also held with the major agchem manufacturers to:

- Discuss the minor-use program in vegetable
- Seek data to support minor-use permit application
- Seek support to convert the minor-use permits to label registrations

The agchem manufacturers that have been contacted are:

- Agrichem
- Animal Control Technologies
- Bayer
- Chemtura
- Crop Care
- Dow
- Dupont
- Farmoz
- FMC
- Jaegar
- Nuchem
- Nufarm/BASF
- Organic Crop Protectants
- Syngenta
- Sumitomo
- United Phosphorus

The process of communicating with the agchem manufacturers with the purpose of converting the minor-use permits to label registrations will be on-going as manufacturers do not see this process as a vital part of their business that demands financial and staff resources.

This process continued under the project, ‘AH04009 - Coordination of minor use permits for horticulture’, with ‘MT07029 - Managing pesticide access in horticulture’, following on after AH04009.

Recommendations

Although all the minor-use permit applications have been submitted to APVMA, not all associated permits have been issued. Therefore future activities are:

- Monitor the permit application process with APVMA until all permits are issued.
- Provide permit information to vegetable industry as needed.
- Provide pesticide and technical support to the vegetable industry at meetings, field days, seminars and publications.

This will be supported by the project; ‘MT07029 - Managing pesticide access in horticulture’.

The process has been very successful in providing legal access to pesticides for the vegetable industry. But the process that operated for pesticide access at this time was always reactionary, i.e. it was seeking permits for products and uses that were not in a planned approach with an overall aim.

The issue of a strategic approach to pesticide access was addressed by the ‘Strategic Agrichemical Review Process’ conducted in the project, ‘AH04009 - Coordination of minor use permits for horticulture’. SARP continuing with ‘MT07029 - Managing pesticide access in horticulture’.

Acknowledgement

| | |
|---------------------------------|---|
| Field researchers: | Agrisearch Services, ServeAg Research |
| Analytical Laboratories: | Agrisearch Analytical, Agrisolutions, OMIC, NMI, DPIR Vic |
| Permit application preparation: | Eileen Dal Santo, Peter Dal Santo |
| APVMA: | Alan Norden |

APPENDICES

Table 1 – New and renewal application made for vegetable minor-use permits

| Crop | Problem | Active Constituent | States | Issues |
|--|--------------------------------|----------------------|--------------------------------------|---|
| Alliums (other than onions) | Sclerotinia rot | Boscalid | all states | New application due to procymidone withdrawal |
| Alliums (other than onions) | Various diseases | Mancozeb | all states | New & renewal |
| Artichoke | Weeds | Propyzamide | all states | New |
| Artichoke | Various insects | Chlorpyrifos | all states | New |
| Asian fruiting vegetables | Various diseases | Mancozeb | all states | New |
| Beans & lettuce | Sclerotinia | azoxystrobin | all states | Emergency |
| Beans | Sclerotinia | iprodione | Cooloola & surrounding shires in Qld | Emergency |
| Beans (green & navy) | weeds | Metolachlor | all states | Renewal |
| Beetroot | selected weeds | Ethofumesate | WA | Renewal |
| Beetroot | Various Insects | Lambda cyhalothrin | all states | Renewal |
| Beetroot | Various Insects | Alpha-cypermethrin | all states | New |
| Beetroot | Various diseases | Chlorothalonil | all states | Renewal |
| Brassicas | White blister | Azoxystrobin | all states | New urgent application |
| Brassicas | White blister | Azoxystrobin | Tas | New – removed from consolidated application as an emergency |
| Brassicas | Various diseases | Mancozeb | all states | New |
| Brassicas | Various diseases | chlorothalonil | all states | New |
| Brassicas | Weeds | Phenmediphan | all states | New |
| Brassicas | Weeds | Oxyfluorfen | all states | New |
| Brassicas | Western flower thrips | abamectin | all states | New |
| Brassica seedlings | Downy mildew | Phosphorous acid | all states | Renewal |
| Brassicas & BLV | Sclerotinia rot | Boscalid | all states | New application due to procymidone withdrawal |
| Brassica leafy vegetables and Brussels sprouts | White blister and Downy Mildew | metalaxyl + mancozeb | all states | New - added crops, states and pests to PER8032 |
| Brassica leafy vegetables | Weeds | Propachlor | all states | New |
| Brassica leafy vegetables | Grass weeds | Fluazifop | All states | New |

Table 1 – New and renewal application made for vegetable minor-use permits (cont)

| Crop | Problem | Active Constituent | States | Issues |
|---|-----------------------|------------------------|------------------|--|
| Brassica leafy vegetables | weeds | Chlorthal-dimethyl | All states | New |
| Broccoli & cauliflower | White Blister | metalaxyl + mancozeb | Tas | Renewal of Harvest Moon permit to AUSVEG |
| Capsicum | Various diseases | Mancozeb | all states | New |
| Capsicum | Greenhouse whitefly | Beta-cyfluthrin | all states | New |
| Carrots | Black Rot | iprodione | SA, Vic, Tas, WA | New - resubmitted using SARDI efficacy data and Cavallaro residue data for support |
| Carrots | Damping off | Phosphorous acid | all states | New - add to AUSVEG PER6174 for root vegetables |
| Carrots | Weeds | Propachlor | All states | New |
| Carrots | Nematodes | Carbofuran | WA | New |
| Cauliflower | Leaf spots | Dimethomorph | WA | New |
| Cauliflower | Weeds | Clethodim | WA | New |
| Celery | Lightbrown apple moth | tebufenozide | all states | New |
| Celery | Aphids | Pymetrozine | all states | New |
| Celery | Aphids | Pirimicarb | all states | New |
| Cucumber, eggplant, herbs, ornamentals, lettuce, tomatoes, mushrooms (GH & hydro) | Fungus gnats | Bacillus thuringiensis | all states | New - urgently needed in greenhouses & hydroponics |
| Cucumber, eggplant, ornamentals, peppers, strawberries, tomatoes | WFT | Endosulfan | all states | New - application based on Herron data |
| Cucurbits | Powdery mildew | bupirimate | all states | Renewal |
| Cucurbits | Various insects | Methomyl | all states | New |
| Cucurbits | Western flower thrips | abamectin | all states | New |
| Eggplant | Heliothis | Methomyl | All states | Renewal |
| Eggplant | Western flower thrips | abamectin | all states | New |

Table 1 – New and renewal application made for vegetable minor-use permits (cont)

| Crop | Problem | Active Constituent | States | Issues |
|---|----------------------------|--------------------|------------|---|
| Eggplant, peppers, ornamental strawberries and tomatoes | Western Flower Thrips | Fipronil | all states | Renewal |
| Endive | Downy mildew | Metalaxyl + copper | all states | New |
| Garlic | Grass and broad leaf weeds | pendamethalin | all states | New - add to Aust Garlic Producers permit, PER5520 |
| Herbs including parsley | Various Insects | permethrin | all states | Renewal |
| Leafy vegetables | Downy Mildew | Phosphorous acid | all states | Renewal |
| Leafy vegetables | Various insects | Methomyl | all states | New |
| Leafy vegetables | Various diseases | Mancozeb | all states | New |
| Leafy vegetables | Various diseases | chlorothalonil | all states | New |
| Leeks | Onion fly | Diazinon | all states | Renewal |
| Leeks | weeds | Linuron | all states | Renewal |
| Leeks | Onion thrips | Abamectin | all states | New - resubmit application due to age and GAP changes |
| Leeks | Onion thrips | Maldison | all states | New - resubmit application due to age and GAP changes |
| Leeks | Grass weeds | Fluazifop | All states | New |
| Leeks | Weeds | Ioxynil | All states | Renewal |
| Leeks | Weeds | Methabenzathiauron | All states | Renewal |
| Lettuce | Sclerotinia rot | tebuconazole | all states | Renewal |
| Lettuce | Weeds | Phenmediphane | all states | New |
| Lettuce | WFT | chlорfenапyr | all states | New |
| Lettuce | Western flower thrips | abamectin | all states | New |
| Lettuce - all types, chicory, endive & radicchio | Lettuce aphid | pymetrozine | all states | New |
| Onions | Onion thrips | alpha-cypermethrin | Tas | Emergency permit - Residue info from Field Fresh Tas |
| Parsley | Leaf spots | Propiconazole | All states | New |
| Parsley | Leaf spots | Dimethomorph | All states | New |
| Parsnip | Sclerotinia rot | Procymidone | All states | New |
| Parsnip | Grass weeds | Fluazifop | All states | New |
| Peas - green | Broadleaf weeds | bentazone | Tas only | Renewal |
| Peas - green | Pod blight | Carbendazim | All states | New |

Table 1 – New and renewal application made for vegetable minor-use permits (cont)

| Crop | Problem | Active Constituent | States | Issues |
|---------------------------------|--|--------------------------|-----------------------------|---|
| Peas - processing | Downy Mildew | Phosphorous acid | N & T | Renewal |
| Peas (snow, sugar snap) | Chocolate spot | Azoxystrobin | Qld | Emergency application – information from Growcom |
| Peas (snow, sugar snap) | Downy Mildew and botrytis | chlorothalonil | all states | Renewal |
| Peas (snow, sugar snap) | Mites | Oxythioquinox | all states | New |
| Peas (snow, sugar snap) | Powdery mildew | fenarimol | all states | New |
| Peas (garden, snow, sugar snap) | Botrytis & Sclerotinia | Boscalid | Qld | Emergency application – information from Growcom |
| Peas (garden, snow, sugar snap) | Botrytis & Sclerotinia | Cyprodinil + fludioxonil | Qld | Emergency application – information from Growcom |
| Peas (garden, snow, sugar snap) | Sclerotinia | iprodione | All states | New - resubmit application due to significant changes |
| Peas (snow, sugar snap) | Various insects | Methomyl | all states | New |
| Pepper & eggplant | Two spotted mites | bifenthrin | all states | Renewal as residue data not available yet |
| Potato | Silverleaf whitefly | imidacloprid | NSW, Qld, NT, WA | New - information supplied by Brendan Nolan QDPIF |
| Potato | Wingless grasshoppers and Redlegged Earth Mite | chlorpyrifos | all states | New - add to WA Potato Growers Association PER 6585 |
| Potato | Target spot (Alternaria) | cyproconazole | Atherton Tableland Qld only | Emergency permit |
| Radish | White Blister | azoxystrobin | all states | Renewal |
| Radish | Various insects | Methomyl | all states | New |
| Radish | White blister | Dimethomorph | All states | New |
| Radish | White blister | Metalaxyl + mancozeb | all states | New |
| Radish, swede & turnip | Various diseases | Mancozeb | all states | New |
| Rhubarb | Various insects | Permethrin | All states | Renewal |
| Rhubarb | Grass weeds | Fluazifop | All states | New |

Table 1 – New and renewal application made for vegetable minor-use permits (cont)

| Crop | Problem | Active Constituent | States | Issues |
|----------------------------|---------------------------------|---------------------|------------------|-----------------------|
| Rocket | White blister | Dimethomorph | All states | New |
| Rocket | White blister | azoxystrobin | all states | New |
| Shallots | Weeds | Clopyralid | all states | New |
| Silverbeet | Various Insects | lambda cyhalothrin | all states | Renewal |
| Silverbeet | Weeds | Ethofumesate | all states | New |
| Silverbeet & spinach | Weeds | Phenmediphan | all states | New |
| Spinach | Western flower thrips | abamectin | all states | New |
| Spring onions and shallots | Thrips and onion seeding maggot | Diazinon | all states | Renewal |
| Spring onions and shallots | Downy mildew and Purple Blotch | dimethomorph | all states | Renewal |
| Spring onions and shallots | Weeds | Propachlor | all states | New |
| Spring onions & shallots | Various insects | Methomyl | all states | New |
| Swede | Various insects | Fipronil | all states | New |
| Sweet corn | Aphids | imidacloprid | all states | New - issues with IPM |
| Sweet potato | Weevil | Fipronil | NSW, NT, Qld, WA | New |
| Sweet potato | Various diseases | Thiabendazole | NSW, NT, Qld, WA | New |
| Sweet potato | Various diseases | Thiabendazole | NSW, NT, Qld, WA | Renewal |
| Sweet potato | Weeds | Oryzalin + simazine | All states | New |
| Taro | Weeds | Metolachlor | All states | New |
| Taro | Weeds | Prometryn | All states | New |
| Taro | Weeds | Atrazine | All states | New |
| Taro | Various insects | Dimethoate | All states | New |
| Taro | Various insects | chloryrifos | All states | New |
| Tomato | Silverleaf whitefly | pymetrozine | all states | New |
| Tomato | Western flower thrips | endosulfan | all states | New |
| Turnips & swedes | Grass weeds | Fluazifop | All states | New |
| Turnips & swedes | Weeds | trifluralin | All states | New |

Table 2 – Existing permits that were not renewed

| Crop | Problem | Active Constituent | States | Issues |
|-----------|--------------------|--------------------|------------|--|
| Melons | Pre-emergent weeds | S-metolachlor | All states | Cancelled permit due to crop phyto problems in Qld. Requested by Syngenta. |
| Potatoes | Target spot | Cypronaazole | Qld | Cancelled permit application due to insufficient data from Growcom |
| Capsicums | Various insects | Thiodicarb | All states | Cancelled permit due to poor IPM fit and data requirements |

Table 3 - Minor-use permit granted

| Crop | Problem | Active Constituent | PERMIT NUMBER | Expiry Date |
|--|--|------------------------|---------------|-------------|
| Alliums (bulb vegetables) | Purple blotch | mancozeb | 6309 | 30-Dec-05 |
| alliums (not onions) & carrots | Sclerotinia | boscalid | 8231 | 30-Jun-09 |
| Asian fruiting vegetables | Downy Mildew, Fusarium, Anthracnose, Alternaria | mancozeb | 8767 | 31-Mar-08 |
| Beans | General Weeds | metolachlor-S | 8206 | 31-Mar-08 |
| Beans | Sclerotinia | iprodione | 8653 | 20-Mar-08 |
| Beans, lettuce | Sclerotinia | azoxystrobin | 9845 | 30-Sep-07 |
| beetroot | looper, webworm and Helicoverpa spp. | methomyl | 6136 | 31-Mar-07 |
| Beetroot | Jassids and aphids | pymetrozine | 7530 | 31-Mar-10 |
| Beetroot | weeds | ethofumesate | 8305 | 02-Apr-09 |
| Beetroot | Heliothis, Looper, Vege Weevil, Thrips, Rutherglen | lambda-cyhalothrin | 8572 | 01-Sep-10 |
| Beetroot | Botrytis, Alternaria, Cercospora & Phoma | chlorothalonil | 8607 | 07-Jul-07 |
| Brassica & brassica leafy vegetables | Sclerotinia | boscalid | 8819 | 31-Oct-07 |
| Brassica leafy vegetables | Downy Mildew & White Blister | metalaxyl-M + mancozeb | 8792 | 31-Mar-08 |
| Brassica leafy vegetables | Alternaria | azoxystrobin | 9633 | 30-Jun-09 |
| Brassica seedlings | Downy mildew | phosphorous acid | 8254 | 30-Sep-07 |
| Broccoli, Brussels sprout, cauliflower | White Blister & Downy Mildew | metalaxyl-M + mancozeb | 8792 | 31-Mar-08 |
| Capsicums | Greenhouse whitefly | beta cyfluthrin | 7356 | 31-Jul-08 |
| Capsicums | Anthracnose & Alternaria | mancozeb | 7646 | 31-Dec-05 |
| Chicory, endive, silverbeet, spinach & radicchio | Downy mildew | phosphorous acid | 8186 | 24-Jan-10 |
| Cucumber, eggplant & peppers | Western Flower Thrips | endosulfan | 8321 | 30-Sep-08 |
| Cucumber, zucchini & squash | Twospotted mite & melon thrips | abamectin | 7355 | 31-Mar-07 |
| Cucurbits | Helicoverpa, Cucumber Moth larvae & WFT | methomyl | 8790 | 31-Mar-11 |

Table 3 - Minor-use permit granted (cont)

| Crop | Problem | Active Constituent | PERMIT NUMBER | Expiry Date: |
|---|---|--------------------------|---------------|--------------|
| Cucurbits | Powdery mildew | bupirimate | 8604 | 30-Jul-07 |
| Eggplant | Heliothis | methomyl | 4873 | 02-Dec-05 |
| Herbs | various insects | permethrin | 8605 | 31-Mar-09 |
| Leeks | grass weeds | fluazifop-p | 6784 | 31-Dec-07 |
| Leeks | Onion Fly | diazinon | 8051 | 31-Dec-07 |
| Leeks | Weeds | linuron | 8606 | 17-Nov-06 |
| Leeks | Weeds | methabenzthiazuron | 9066 | 31-Jul-07 |
| Leeks | Weeds | ioxynil octanoate | 9067 | 31-Jul-07 |
| Lettuce | Broadleaf weeds (Potato weed/Nettles) | phenmedipham | 6935 | 31-Dec-07 |
| Lettuce | Lettuce aphid | pymetrozine | 8523 | 01-Aug-08 |
| Lettuce | Sclerotinia | tebuconazole | 9841 | 31-Dec-08 |
| Lettuce - hydroponic | Two-spotted mite | abamectin | 9318 | 04-Jan-10 |
| Lettuce (field only) | Helicoverpa, Cluster Caterpillar, WFT | methomyl | 9932 | 29-Feb-08 |
| Lettuce (leafy & hydroponic) | Downy mildew | phosphorous acid | 7905 | 30-Sep-12 |
| Lettuce, peppers, cucumber, ornamentals, eggplant, tomatoes | Western Flower Thrips | methomyl | 9832 | 30-Sep-08 |
| Onions | onion thrips | alpha-cypermethrin | 8432 | 05-Feb-11 |
| Parsnip | Sclerotinia rot | procymidone | 7816 | 31-Dec-06 |
| Parsnip | ryegrass, barley grass & wild oats | fluazifop-p-butyl | 8960 | 31-Mar-09 |
| Parsnip, radish, swede, turnip | Downy mildew, Pythium & Phytophthora | phosphorous acid | 6174 | 02-Nov-07 |
| Peas | General broadleaf weeds | bentazone-sodium | 8602 | 04-Nov-10 |
| Peas - processing | Downy mildew | phosphorous acid | 8187 | 24-Jan-10 |
| Peas - snow, sugar snap and garden | Botrytis & Sclerotinia | cyprodinil + fludioxonil | 9289 | 31-Dec-08 |
| Peas (garden) | Black Spot (Phoma spot) | chlorothalonil | 7359 | 30-Sep-09 |
| Peas (garden) | Sclerotinia & Botrytis (Chocolate spot) | boscalid | 9288 | 31-Dec-08 |
| Potato | Silverleaf whitefly, jassids & thrips | imidacloprid | 9242 | 31-Mar-08 |
| Radish | White Blister | azoxystrobin | 8694 | 30-Sep-08 |

Table 3 - Minor-use permit granted (cont)

| Crop | Problem | Active Constituent | PERMIT NUMBER | Expiry Date: |
|--|---|--------------------|---------------|--------------|
| Radish, swede, turnip | Alternaria & Cercospora & WBR | mancozeb | 7389 | 01-Jul-06 |
| Rhubarb | GPA, Green looper, LBAM, Budworm | permethrin | 9325 | 31-Mar-12 |
| Silverbeet | Heliothis, Rutherglen bug, Thrips, Looper | lambda-cyhalothrin | 5734 | 30-Jun-05 |
| Snow & Sugar Snap peas | Western Flower Thrips | methomyl | 8790 | 31-Mar-11 |
| Snow Peas (greenhouse) | Downy Mildew & botrytis | chlorothalonil | 8608 | 31-Dec-10 |
| Snow peas and sugar snap peas | Sclerotinia & Botrytis (Chocolate spot) | boscalid | 9288 | 31-Dec-08 |
| Snow peas, Sugar snap peas & Garden peas | Stemphyllium & Botrytis cinerea | azoxystrobin | 9290 | 31-Dec-08 |
| Spring onions & shallots | Thrips and onion seedling maggot | diazinon | 8570 | 30-Jun-08 |
| Spring onions & shallots | Downy Mildew & Purple Blotch | dimethomorph | 8585 | 31-Oct-08 |
| Swedes & Turnips | Diamond back moth | fipronil | 6665 | 31-Mar-07 |
| Sweet potato | White Fringed Weevil | fipronil | 9063 | 01-Dec-11 |
| Sweet potato | Field and seed rots | thiabendazole | 9228 | 31-Oct-08 |
| Taro | African Black Beetle | chlorpyrifos | 9694 | 05-Mar-12 |
| Tomato | Silverleaf whitefly | pymetrozine | 9244 | 31-Mar-08 |
| Tomatoes | Western Flower Thrips | endosulfan | 8321 | 30-Sep-08 |