

Minor-use Pesticides

Vegetable growers must comply with Australian legal requirements for the use of pesticides in crop production. There are stringent regulations and standards governing the level of pesticides used in the production of Australian food.

It is essential that pesticides used and administered to protect vegetable crops do not adversely affect consumers, crops and the environment. To avoid incurring fines and possible state and federal penalties, growers need to be aware of the current and changing restrictions on pesticide use and how to access this information.

The bottom line

- ▶ Pesticide use to control pests, weeds and disease should be part of an overall IPM strategy, and shouldn't be seen as the only method of control.
- ▶ Growers need to be aware of the current and changing restrictions on pesticide use, as there are consequences for using pesticides that are not registered or are not approved for the intended use.
- ▶ Growers should have a good understanding of the crop and the pesticide problem/s that they are trying to address, and always seek more information when necessary.



Minor-use pesticides

Growers can access a range of pesticide products that need to be used in accordance with label instructions. But there are instances when some vegetable crops need additional treatment against insects, disease or weeds when there are no suitable registered products for the task. In this situation, growers or industries wanting to use or access alternative pesticides to what is registered, need to apply for a minor-use permit. Permits for the use of pesticides need to be registered by the Australian Pesticides and Veterinary Medicines Authority (APVMA). A minor-use permit enables minor use in a major crop, such as stinging nettle control in lettuce; or use in a minor crop such as spring onions or silverbeet.

The APVMA's permits scheme enables access to pesticides for situations where the costs of gaining registration would be inhibitive to manufacturers.

The scheme enables the following permits:

- Off-label permits (OLP) – these are the most common permits obtained by the vegetable industry, where pesticides are used in ways that are not specified on the product's labelling.
- Emergency use permits (EP) – these are only obtained by industry for the control of genuine emergency situations, such as a new disease, insect or weed.

Horticulture Australia Limited (HAL) contracted AgAware Consulting Pty Ltd in 2004 to work for horticultural industries to generate the data that is necessary to support a registration or permit. AgAware has acted on behalf of vegetable and potato levy payers by applying for permits with APVMA, completing project AH04009 to coordinate the minor use permits for horticulture.

Available minor-use permits

If growers perceive they have a problem that needs to be addressed by using an alternative control method to what they already have in place, they should first try to define the problem by knowing:

- The issue about the crop that gives rise to the problem
- The type/s of disease, insects or weeds that are present

However, qualifying and quantifying the problem can be complex, and in many cases growers are advised to refer the situation to their state Vegetable Industry Development Officer (IDO) or a professional consultant to conduct further assessment.

If growers are uncertain as to whether or not the pesticide they wish to use is already registered or

available via a permit, they can consult suppliers and note closely the label's directions for use and the product's applicability to the target disease, insect or weed.

If still uncertain they can access the APVMA website <www.apvma.gov.au/permits/permits.shtml> to get a list of available permits. This site provides at-a-glance information about all permits. The permit document (example below) displays precise details about the authorised minor-use pesticide and its uses.

Alternative methods of pest control

If no pesticide is available for the intended use, growers should ideally seek other viable options, such as the use of alternate management strategies including IPM or cultural/mechanical control. Growers can benefit greatly from only using conventional pesticides as a last resort and placing more reliance on viable alternative approaches such as IPM, and reduced risk products such as *Bacillus thuringiensis* (Bt), where necessary.

Many people focus on which pesticides 'work best' for managing plant pest problems. Studies have shown that reliable control is not solely dependant on pesticides because no pesticide can take the place of fundamental, good practice. Many pesticides that were once very effective against key problems like Western Flower Thrips are now considered 'off the list' because of the development of resistant pest populations. This can happen to new pesticides.

An integrated management strategy, that includes appropriate pesticide use, can provide effective management of problems and reduce unintended consequences of pesticides, such as the build up of resistant populations, the removal of beneficial organisms and the impact on trade from residues.



Australian Pesticides & Veterinary Medicines Authority

**PERMIT TO ALLOW EMERGENCY USE
OF A REGISTERED AGVET CHEMICAL PRODUCT**

PERMIT NUMBER – PER7416

This permit is issued to the Permit Holder in response to an application granted by the APVMA under section 112 of the Agvet Codes of the jurisdictions set out below. This permit allows a person, as stipulated below, to use the product in the manner specified in this permit in the designated jurisdictions. This permit also allows any person to claim that the product can be used in the manner specified in this permit.

THIS PERMIT IS IN FORCE FROM 24 MARCH 2004 TO 31 DECEMBER 2008.

Permit Holder:
AUSVEG - CO AGAWARE CONSULTING PTY LTD
21 Roselle Avenue
STRATHFIELDSAYE VIC 3551

Persons who can use the product under this permit:
Persons generally.

CONDITIONS OF USE

Product to be used:
CONFIDOR 200 SC INSECTICIDE
PLUS OTHER REGISTERED PRODUCTS
Containing: 200 g/L IMIDACLOPRID as their only active constituent.

Directions for Use:
DO NOT apply more than one application of imidacloprid per crop.

FIELD GROWN CROPS ONLY		
Situation/Crop	Pest	Rate
FIELD LETTUCE, CHICORY, ENDIVE & RADICCHIO (PRIOR TO TRANSPLANTING)	LETTUCE APHID (<i>Nasonovia ribis-nigris</i>)	Apply as a seedling drench to cell trays at a rate of 15-55mL product per 1000 plants.

HYDROPONICALLY GROWN CROPS ONLY		
Situation/Crop	Pest	Rate
HYDROPONIC LETTUCE, CHICORY, ENDIVE & RADICCHIO (PRIOR TO TRANSPLANTING)	LETTUCE APHID (<i>Nasonovia ribis-nigris</i>)	Apply as a seedling drench to cell trays at a rate of 12.5-35mL product per 1000 plants.

Withholding Period: DO NOT HARVEST FOR 4 WEEKS AFTER APPLICATION.

Critical Use Comments:

- Apply only one application via a spray or foliar drenching equipment in a sufficient volume of water to ensure complete coverage/drenching of the cell (seedling and soil). Ensure even distribution of the drench across all seedlings by foliar application only.
- The higher rate may be more effective under conditions highly favourable to aphid infestation and may give a longer period of control. Use the lower rate in short season crops.
- To ensure even and accurate application to every seedling treated, Confidor 200 SC should be professionally applied through dedicated nursery spray equipment, such as a calibrated hydraulic boom. The use of water carts and impact sprinklers to apply Confidor 200 SC is discouraged as this frequently results in uneven distribution of the product and potential for undesirable run-off.
- Application should occur close to the time of planting out, as watering of seedling trays following application may wash chemical from the cells. If watering is required between application and planting, care should be taken to avoid or minimise leaching from the cells.
- Users must take care during application to minimise any potential run-off either during or following application. This should include only applying sufficient volumes of prepared solution to fill the cell thereby avoiding excessive application volumes that may result in run-off. If run-off should occur action should be taken to retain and dispose of that run-off in an appropriate manner.
- Delaying planting beyond 24 hours after treatment (that is, retaining seedlings in trays for more than 1 day after treatment) may result in some unacceptable crop burn. This is thought

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Tony Burfield, IPM extension facilitator for the South Australian Research and Development Institute (SARDI), supports the use of integrated management strategies, which use an array of targeted methods. "Growers are advised to implement a program for sustainable crop protection, one that will enable various pesticides and possibly biological agents to work more cost-effectively and within a broader, more targeted and timely management strategy," Tony said.

According to Tony, many growers have had success from the following expert practices:

- Monitoring their crop regularly
- Making control decisions based on insect and disease levels and trends
- Using pesticides according to a resistance management, and beneficial insect conservation program
- Understanding the mode of action and effective use of each pesticide on insect life stage, as well as the impact on beneficial insects and UV sensitivity for the crop
- Where possible, encouraging or releasing beneficial insects into the crop at key times
- Striving to reduce the risk of insects and diseases entering and building up in the crop

More information on IPM systems is available from the IPM section of the AUSVEG website <www.ausveg.com.au/ipm.cfm>, and the websites of various state government agricultural departments.

Obtaining a minor-use pesticide permit

If the above strategies are not sufficient to address the immediate or future needs of growers, they may consider the value of obtaining a minor-use permit. However, growers should be mindful that obtaining a permit may take several months, therefore careful forward planning is essential.

The consequences of using pesticides that are not registered or approved for the intended use of the grower can include legal prosecution, produce that is unacceptable for consumption because of residues, exclusion from local and export markets, and jeopardising the reputation of Australia's produce internationally.

The steps to obtaining a minor-use permit are:

1. The grower should try to determine and define their particular situation to the best of their ability. The information required is: type of crop, plant pest, pest impact, crop stage at impact, registered alternatives, proposed new pesticide, the area to be treated, and whether it is a local, regional or state problem.
2. Contact an IDO to assist in generating the information.
3. The IDO will advance the request to AgAware for further processing.



4. AgAware will prioritise the proposal according to industry guidelines or Good Agriculture Practice (GAP). GAP takes into consideration many factors, such as how rapidly the chemical may be processed by the crop, how frequently and at what intervals the chemical is used and the acceptable dietary exposure to low levels of chemicals in the crop.
5. AgAware will generate data about: the crop, suitability of pesticides, human health, environmental impacts, pesticide residues, maximum residue limits (MRLs), efficacy (including application, resistance management, IPM) and exports.
6. The APVMA will consider the data before deciding whether to issue permits for new use of the pesticide.

AgAware also consult with horticultural industries, consultants, government agencies, and pesticide manufacturers to discuss and develop current and future directions for minor-use pesticides, good agricultural practices, data availability and registration. This enables further streamlining of the registration/permit process for growers.

The 'Directions for Use' on permits depend on AgAware finding the necessary data. As such, permits for the same pesticide may differ between horticultural industries because of:

- Climatic and/or seasonal variances
- Differences in crop, pests, beneficials and disease issues
- Location (varying from state to state)
- Whether the crops are intended for export
- Whether the pesticide is used in conjunction with other methods of control, such as IPM
- Application rates, treatment technique and equipment
- Withholding period (WHP) - the time between the last application of the pesticide to the crop and the crop's harvest

Maximum residue limits (MRLs)

One of the significant issues surrounding the regulation of pesticides is the extent of residue on produce that is ready for consumption. The Australian Government, the broader community and the horticultural industry are at pains to reduce the impact of pesticides on human and environmental health. Even minor-use pesticide use can result in high residual levels on produce if the treatment has not been correctly applied in accordance with the label or permit.

The APVMA establishes MRLs for pesticides used in food production, and these are adopted by the Food Standards Australia New Zealand (FSANZ).

Growers must adhere to all label/permit recommendations, as any deviation can lead to residue non-compliance and entail a violation of state 'Control-of-use' legislation.

Growers can also access information about pesticide use regulations by accessing the APVMA website, checking with suppliers, consulting with IDOs and/or contacting relevant state government agricultural departments.

Basic safety measures for using pesticides on farm

To progress on-farm health, safety practices, minimising residue issues and environmental impact, all industries and growers should be vigilant about their handling and use of pesticides. Strategies for managing risk can include:

- Having a good understanding of the uses of the pesticide and its application. Instructions on the label should always be adhered to, and the person using the pesticides should also have a sound understanding as to what the label says, its restrictions and cautions. If the user is unable to read, someone else needs to explain these details to them and ensure they have a sound understanding of the ways in which to use the pesticide. If using pesticides via permits, the same conditions apply.

- Decontaminating all equipment after and between use by ensuring filters, nozzles and tanks are thoroughly cleaned and waste is properly dealt with, by following decontamination recommendations on the label.
- Using experienced and well-trained workers and ensuring they have all the relevant, updated information they need to perform their duties.
- Using only recommended equipment that is in good condition.
- Having good and appropriate storage areas for pesticides.

Further reading and information

Dal Santo, P. *Coordination of Minor Use Permits for Horticulture*, Project Number AH04009, AgAware Consulting, <www.ausveg.com.au/levy-payers/login.cfm>

<www.apvma.gov.au/minor_use/subpage_minor.shtml>

State Departments of Primary Industries websites:

<www.dpiw.tas.gov.au>

<www.dpi.qld.gov.au>

<www.dpi.vic.gov.au>

<www.dpi.nsw.gov.au>

<www.nt.gov.au/d/>

<www.agric.wa.gov.au/>

<www.sardi.sa.gov.au/>

<www.ausveg.com.au/ipm.cfm>

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Tomato spotted wilt virus in capsicums caused by thrips. Cover image, A beneficial predatory mite in capsicum flower eats thrips larvae; p.3 Four pest thrips.

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