

- Minor-use permit registration
- Agronomic program to encourage uniform crop maturity

## Minor-use permit registration

The selective use of pesticides to control pests, weeds and disease plays an important role in increasing production, improving the quality of Australia's vegetable crops and enabling growers to earn reasonable returns on their investments. Today's health-conscious society is also extremely aware of chemical use and it's essential consumers be protected by adequate regulations governing the use of pesticides. This requires a thorough permit registration process.

### The bottom line

- ▶ Pesticides should be part of an overall IPM strategy rather than the only method of control.
- ▶ Growers need to be aware of the current processes for approval and how to access this information, as there are consequences for using pesticides that are not approved.
- ▶ Growers should have a good understanding of their crop and its problems, and always obtain more information and industry assistance where necessary.



In Australia, before a pesticide product can be sold or used, the Australian Pesticides and Veterinary Medicines Authority (APVMA) must register it first. Manufacturers needing to register a product 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 for manufacturers to justify the cost of registering products and associated liability for those crops. These situations are commonly referred to as 'minor uses'.

### Minor-use pesticides

The APVMA's National Permit System adds some flexibility to the approval of uses required for minor uses and emergency use situations. The permit system allows for approval to be sought for uses not specified on the product label. However, in doing so the APVMA must assess the new use to verify if the minor or emergency use will be effective and will not have any harmful effects on humans, crops, the environment or trade. Permit assessments undertaken by APVMA may be supported by existing information already available or may require industry to generate further data beforehand.

Growers can consult the APVMA website for two databases containing lists of available minor use permits ([www.apvma.gov.au/permits/permits.shtml](http://www.apvma.gov.au/permits/permits.shtml)) and registered products (<http://services.apvma.gov.au/PubcrisWebClient>) (including copies of most product labels). Further information may also be obtained through the AUSVEG website ([www.ausveg.com.au](http://www.ausveg.com.au)).

### What should growers consider if they have a pest or disease problem that may not be included on a product label or in a permit?

If growers perceive they have a problem that needs addressing by using an alternative control method, they should first try to define the problem by knowing:

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

Growers are advised to refer the situation to their state primary industry personnel or a horticultural consultant for further assessment and advice. In addition to seeking a pesticide solution, growers should also consider alternative methods. Alternate strategies include Integrated Pest Management (IPM) or cultural/mechanical control where as a last resort pesticides are required, growers should select 'softer' products that do not adversely affect beneficial tactics. More information on IPM systems is available from the IPM section of the AUSVEG website [www.ausveg.com.au/ipm.cfm](http://www.ausveg.com.au/ipm.cfm), and the websites of various state government agricultural departments.

### Obtaining a minor-use pesticide permit

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

To assist vegetable growers in solving minor use problems and to help them gain legal access via permits and registrations, a minor use program coordinated by AgAware Consulting Pty Ltd (AgAware) was established through the Levies Revenue Services (LRS) and Horticulture Australia Ltd (HAL). The main functions of AgAware are to coordinate minor use applications with growers and APVMA, collate supporting information, and initiate data generation if required.

The steps to obtaining a minor-use permit are:

1. Define your situation outlining information on: type of crop, target pest and 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. You may contact your local state department or consultant to assist in generating this information and determining if existing research has already been undertaken.
2. Forward your request and any supporting information to AgAware, at AgAware Consulting Pty Ltd, 21 Rosella Avenue, Strathfieldsaye, Vic, Australia 3551. AgAware will prioritise the proposal according to industry guidelines, Good Agriculture Practice (GAP) and APVMA requirements. This includes determining if the use may be supported through the use of existing data or if new data needs to be generated before an application can be made.
3. If the use can be supported based upon existing information and no new data is required, AgAware will forward the request to APVMA for assessment. If insufficient data exists and new data is required AgAware will initiate trials and when completed forward the request and data to APVMA for assessment.
4. The APVMA will assess the application and any relevant data and determine if a permit is supported and advise AgAware of the outcome.

### Is data required for every crop and pest/disease combination?

NO. Residue, efficacy and crop safety data from a number of key representative crops and pests/diseases (that may already be registered on label) can be used as support for other related minor crops or pests/diseases.

## For what period is a permit issued for?

The duration granted by the APVMA for a permit can vary from one season up to 10 years. The duration is determined by the quality and quantity of the data submitted with the application, and if additional confirmatory data may need to be generated during the life of the permit.

## If data needs to be generated for a permit how long will this take and who is responsible for doing it?

It is the responsibility of the applicant to provide this data to APVMA. Data generation may be undertaken through an association between the permit holder and the manufacturer.

For permits applied for under the LRS and HAL minor use program, AgAware will coordinate the data generation for new applications and existing permits where confirmatory data may be required. It can take six to 24 months to generate this data following prioritisation according to industry guidelines under the minor use program and where data may be required from one to two seasons and over a number of growing regions.

## How long does it take to get a minor use permit approved by APVMA?

The permit assessment timeframes depends on the complexity of the application. Generally, emergency permits can be issued in one to three weeks and minor use permits in three to eight months depending on the information required. [vN](#)

# Agronomic program to encourage uniform crop maturity

Multiple hand-harvesting of cauliflower and broccoli crops could soon be a thing of the past thanks to agronomic techniques developed by the WA Department of Agriculture and Food, which have been designed to reduce the number of harvests.

## The bottom line

- ▶ Agronomic methods can influence the spread of crop maturity.
- ▶ The new agronomic program focuses on plant nutrition, fertiliser application and irrigation methods for loam soils, allowing the crop to be removed in one or two harvests if desired.
- ▶ The program reduces the amount of water needed to produce a crop.

## Agronomic packages for reduced pass harvesting of cauliflower and broccoli

Experiments conducted on loam soils prior to this project found the incorporation of fertiliser in a narrow strip surrounding the transplanted seedling led to a slight increase in yield, a reduced growing time and a reduction in the number of harvests.

This project examined the impact on plant growth of post-transplant applications of nitrogen, potassium and phosphorus. A controlled irrigation regime that influenced crop maturity and reduced the amount of water required was also investigated.

## Reduced pass harvest demonstration crop

The new agronomic program for cauliflower and broccoli was compared to a current agronomic program on a loam soil. The crops were either selectively harvested or removed in one harvest. The basal fertiliser for all the plants was applied in an incorporated strip. Plants which had the new agronomic program received post transplant fertiliser, particularly nitrogen, in smaller amounts at reduced intervals compared to the current agronomic program.

There was little difference for the broccoli between the current agronomic program and the new agronomic program as both crops had a similar yield and were removed in one harvest (*Table 1*). *Continued page 4.*

## The hands-on nature of brassicas

Up to six passes are needed to harvest an entire crop of cauliflower or broccoli, with each curd or head individually assessed for maturity before being removed. A reduction in the labour component is essential if growers are to improve cost competitiveness in domestic and export markets. An agronomic program has been developed to achieve this goal, by reducing the spread of crop maturity so that a crop can be removed in one or two harvests.

**Table 1.** Cauliflower and broccoli harvest data comparing current and new agronomic programs.

Treatment	Total cauliflower yield (t/ha)	Marketable cauliflower yield (t/ha)*	Average cauliflower curd weight (g)	Total broccoli yield (t/ha)	Marketable broccoli yield (t/ha)*	Average broccoli head weight (g)
Current agronomic program (selective harvest)	33.2	32.4	1007.3	12.8	10.9	330.5
New agronomic program (one pass harvest)	41.9	34.7	1285.8	13.9	12.6	363.7

\* The marketable yield is the total yield after all curds/heads not acceptable for the fresh market are discarded as waste.

For cauliflower, the new agronomic program, combined with a one pass harvest, gave a greater total yield and took 45 per cent less time to harvest compared to the current agronomic program using a selective harvest. The marketable yield was reduced when curds not suitable for the fresh market were removed.

The cauliflower grown using the new agronomic program took 11 per cent less time to harvest compared to plants grown using the current agronomic program, when both were selectively harvested.

An added benefit was that the controlled irrigation regime increased the water use efficiency of cauliflower by up to 30 per cent and broccoli by up to 17 per cent.

## Suggested agronomic techniques to reduce the spread of crop maturity

- Source seedlings that are uniform in age and size.
- Try to maintain single plantings on a similar soil type
- On loam soils, apply basal fertiliser in an incorporated strip, rather than as narrow bands off-set beneath the plant.
- Apply irrigation water to newly transplanted seedlings, particularly if no adequate rainfall is imminent.
- Apply nitrogen-based fertiliser in small, regular amounts throughout the life of the crop to encourage consistency plant growth rate (the first application should be within one week of transplanting).
- Practice controlled irrigation on loam soils by monitoring the water available to the plant with tensiometers. Less water is used and the slight water stress experienced by the plants may promote crop uniformity.
- Ensure full irrigation (100 per cent evaporation replacement) is provided once curd or head formation has commenced to maintain high quality product.
- Closely monitor the crops as they approach the expected harvest date. Assess a small sample of plants to determine when at least 80 per cent of the crop is mature.

## In summary

Using the new agronomic program, single harvests were achieved based on a sample of plants within a crop to assess maturity of the crop. It was not possible to get

100 per cent uniform crop maturity due to the influence of both genetic and uncontrolled environmental factors, however the removal of the entire crop when 80 per cent of the crop sample plants were mature gave a satisfactory yield and economic return, particularly if processing facilities were available.

Growers should test the agronomic program on their own soil type prior to large scale implementation of the program. **vn**

## Further reading

### For the permit registration story:

Dal Santo, P. *Coordination of Minor Use Permits for Horticulture*, Project Number AH04009, AgAware Consulting, [www.ausveg.com.au/levy-payers/login.cfm](http://www.ausveg.com.au/levy-payers/login.cfm)

[www.apvma.gov.au/minor\\_use/subpage\\_minor.shtml](http://www.apvma.gov.au/minor_use/subpage_minor.shtml)

State Departments of Primary Industries websites:

[www.dpiw.tas.gov.au](http://www.dpiw.tas.gov.au)

[www.dpi.qld.gov.au](http://www.dpi.qld.gov.au)

[www.dpi.vic.gov.au](http://www.dpi.vic.gov.au)

[www.dpi.nsw.gov.au](http://www.dpi.nsw.gov.au)

[www.nt.gov.au/d/](http://www.nt.gov.au/d/)

[www.agric.wa.gov.au/](http://www.agric.wa.gov.au/)

[www.sardi.sa.gov.au/](http://www.sardi.sa.gov.au/)

[www.ausveg.com.au/ipm.cfm](http://www.ausveg.com.au/ipm.cfm)

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### For the uniform crop maturity story:

Agronomic packages for reduced pass harvesting

of export cauliflower, Project Number VG02051

<http://www.ausveg.com.au/levy-payers/login.cfm>

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[wa.gov.au](http://www.wa.gov.au)

## Images

Cover page: Brassica Stem Canker. Page two: Chemical spray.

Page three: Irrigation trial no2, Cauliflower crop being watered using agronomic program's irrigation regime. This page: Cauliflower crop grown using the agronomic program at Manjimup Horticultural Research Institute.

**Vegetables 14 correction:** Apologies to Dr Jenny Ekman, whose images were mistakenly credited to Scholefield Robinson Horticulture Services.

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