

# NURSERY PAPERS

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## MINOR USE PERMIT PESTICIDE PROGRAM

The Minor Use Permit (MUP) Pesticide program allows for pesticides (insecticides, fungicides, herbicides, plant growth regulators, etc), that do not have a legally approved label registration, to be applied in a non-registered cropping system under an authorised APVMA permit. In this Nursery Paper, National Biosecurity Manager John McDonald explains how managing the National MUP Pesticide program delivers new chemistry to support on-farm plant protection management activities.

### Summary

- The MUP Pesticide program is embedded in the nursery industry national biosecurity program to deliver new chemistry for plant protection in Australia.
- MUPs provide access to chemical use in situations not otherwise covered by the standard label applications.
- 35 individual pesticide MUPs have been issued for Nursery Stock (non-food) since 2008-09
- A key reason for pursuing additional MUPs is to introduce new chemistry into plant protection programs that are safer to use, target specific pests and have a lower impact on the environment.
- MUPs are important for the nursery industry to secure better market access and safeguard the industry from the potential effects of plant pest incursions.
- All current MUPs (1 November 2016) are listed on the [back page of this Nursery Paper](#).

### Minor Use Permits

Minor Use Permits (MUPs) allow industries that apply small volumes of a particular pesticide to legally access the product when the manufacturer/importer decides not to register the pesticide for that specific crop/cropping system. MUPs can only be sought for pesticide products already present in Australia and registered for use with the APVMA.

Pesticide manufacturers/importers apply several parameters when choosing to register a product, including cost/return ratios, risk profile, usage pattern and technical issues such as resistance management and protecting a crop/pest relationship that is a high-volume user. Furthermore, they view the cost of registration, usually in the millions of dollars, against the financial return from an industry (crop/pest combination) in assessing its viability as a registered plant protection product. Unfortunately, most of the numbers do not stack up financially in favour of nursery production in Australia, hence the need for MUPs.

Developing new chemistry for plant protection products costs tens of millions of dollars due to the many years of research required to understand the product's efficacy, toxicity, environmental fate, phytotoxicity and general limitations. With the registration of pesticides required in Australia, costs increase further as information must be supplied on worker exposure, residues and human health. Seeking registration of pesticides for use in food and non-



FIGURE 1 – Pesticide application method and crop situation must comply with label or Minor Use Permit directions

### INTRODUCTION

Currently in Australia, **excluding Victoria**, if a pesticide does not have a specific crop or cropping system (e.g. nursery stock – non-food) registered on the label, it is illegal to use that product unless a Minor Use or Emergency Permit has been issued by the Australian Pesticide and Veterinary Medicines Authority (APVMA). It is illegal to use a pesticide with the same active ingredient as that of a product that is registered, if that pesticide does not have a label registration or an APVMA permit.



FIGURE 2 – With large variation in nursery crops there is a need for a diverse range of options for pest management

food based crops requires extensive scientific data that can increase the cost of delivering a product to market by millions of dollars.

### Background

Before the establishment of an industry MUP program, these permits were issued by a state (usually the state Department of Primary Industries) for use within that jurisdiction under the specific state controlled registration laws. In 1993, the National Registration Authority (NRA) was created by commonwealth, state and territory agreement, to undertake pesticide registrations nationally and remove individual state registration processes. The NRA eliminated state board approvals, transferring them to the relevant industry or cancelling them completely. The NRA was changed to the APVMA in 2004, and at that time the nursery industry fell outside the official parameters of a “Minor Use Industry” and was prevented from applying for MUPs.

The industry worked through state peak bodies (IDO Network) and with the assistance of NGIA, to convince the APVMA that the nursery industry does fall into the category of a “Minor

Use Industry”. This was based on the types of cropping systems (protected, shade, open, etc) plus a great diversity of crops grown (over 10,000 cultivars) throughout Australia. Furthermore, the industry demonstrated that while it needs a large range of different plant protection products due to crop types and target pests, considering the overall use of pesticides in agriculture, it applies a minimal amount in comparison.

Based on the evidence presented, the nursery industry was reinstated as a “Minor Use” crop by the APVMA in 2008 and since then has applied for a range of MUPs, primarily for insecticides and fungicides.

Once a permit for a product has been issued, it fundamentally becomes an extension of the approved label. Therefore, if using the product, the business **must**, by law, have a copy of the permit with the product (preferably at the chemical store). Having the MUP on-hand is vital as it has all the applicable use instructions, critical comments for that use pattern, worker safety and application rates listed relevant to the pest/crop combination the permit applies. NGIA now hosts all MUPs at [www.nurseryproductionfms.com.au](http://www.nurseryproductionfms.com.au)

### Funding MUP Applications

The national nursery products levy (pot levy) has funded the application and registration of MUPs with the APVMA over the past eight years. This funding has been provided in the past based on project applications developed under the industry national R&D program and submitted to Hort Innovation through Nursery & Garden Industry Australia (NGIA). The new industry MUP program is embedded within the National Nursery Industry Biosecurity Program (NY15004) managed by NGIA for the period 2016-20.

Thirty-five (35) individual pesticide MUPs have been issued for Nursery Stock (non-food) since 2008-09 and all current MUPs are listed on the [back page of this Nursery Paper](#). A further four products have had applications drafted and submitted to the APVMA in 2016; however, their approval is still pending and at present can only be applied as per the existing label.

If you have a suggestion/request for a MUP please email [biosecure@ngia.com.au](mailto:biosecure@ngia.com.au) detailing the crop and pest combination and the active and trade name of the product seeking consideration.



FIGURE 3 – Minor Use Permits provide access to chemical use in situations not otherwise covered by the standard label applications





## INSECT AND PEST ROTATIONS

A key reason for pursuing additional MUPs is to introduce new chemistry (in **RED** in Table 1) into plant protection programs that have a different mode of action to those currently registered and, in most cases, are: safer to use, target specific pests (reduced impact on beneficial pests) and have a lower impact on the environment.

The **Mode of Action** group, identified in brackets in Table 1, relates to the manner in which the active ingredient targets the pest (e.g. nervous system, stomach, reproduction, etc) and is a highly important piece of information for growers to use in the selection of pesticides for a specific pest management program requiring rotation of different actives.

In a rotation program the aim is to apply pesticides that are appropriate for the target pest in a manner that reduces the potential for the pest to establish a population resistant to any single pesticide. The more chemical actives used in a rotation program (that belong to different Mode of Action groups), the more robust the program will be, with a general rule of thumb being a rotation program should have at least three actives from different Mode of Action groups. The Mode of Action group a specific product (insecticide, fungicide, herbicide) belongs to is clearly identified on the product label directly under the trade name and active constituent on the front (panel) of the chemical container.

### Phytotoxicity

As NGIA has progressed the applications for MUPs, the need for various new chemistries and Mode of Action groups has been key criteria as has the need to provide industry with diversity of product.

With more than 10,000 cultivars in plant production across Australia the issue of phytotoxicity (crop damage) caused by pesticides is important, but is difficult to address. The cost of testing

TABLE 1: Example of pesticide rotations

INSECTICIDE/PEST COMBINATIONS			
Pest	Pesticide	Pesticide	Pesticide
<b>Mealybugs</b>	CONFIDOR (4A)	PROCIDE (3A)	SABOTEUR (1B)
	<b>APPLAUD (16)</b>	<b>SuSCon MAXI (4A)</b>	NATRASOAP
<b>Mites</b>	PYRANICA (21A)	TORQUE/CALIBRE (12B/10A)	VERTIMEC (6)
	<b>PEGASUS (12A)</b>	<b>ACRAMITE (2D)</b>	NATRASOAP
<b>Scales</b>	BUGMASTER (1A)	SABOTEUR (1B)	SABOTEUR (1B)
	<b>APPLAUD (16)</b>	<b>SuSCon MAXI (4A)</b>	D-C-TRON Plus
<b>Thrips</b>	BUGMASTER (1A)	SABOTEUR (1B)	CONFIDOR (4A)
	<b>VERTIMEC (6)</b>	PROCIDE (3A)	SUCCESS NEO (5)
<b>Whitefly</b>	PROCIDE (3A)	AZAMAX (22A)	CONFIDOR (4A)
	<b>CHES (9B)</b>	<b>SuSCon MAXI (4A)</b>	<b>PEGASUS (12A)</b>
	<b>APPLAUD (16)</b>	<b>ADMIRAL (7C)</b>	

each cultivar for a potential phytotoxic reaction due to a specific pesticide is clearly prohibitive and will not be financially viable. Therefore, the use of a specific product, under a MUP, for "Nursery Stock" or some other broad based title is at the grower's own risk. When introducing a new insecticide, fungicide, herbicide, etc into the production system, NGIA strongly advises undertaking sample testing to avoid potentially spraying a crop that is reactive to the product and causing complete crop damage or death.

### Consolidation of insecticides and fungicides

NGIA has recently consolidated many insecticides onto one MUP (**PER81707**) and fungicides onto another consolidated MUP (**PER81419**). The rationale behind this strategy is that the investment required in renewing permits goes from approximately 30 individual permits at a minimum of \$10,500 to 2 MUPs at \$700 plus a further five individual MUPs at about \$1750.00 for renewal. This allows NGIA to invest the extra funds into new MUPs as opposed to using the bulk of allocated funds to renew MUPs.

### IMPLICATIONS FOR THE NURSERY INDUSTRY

Nursery managers have a vital role to play in building resilience and the on-farm biosecurity capacity of the Australian production nursery industry.

By understanding MUPs, nursery managers can manage plant pests effectively, minimise losses and unnecessary costs, and enhance on-farm biosecurity.

MUPs are important for the nursery industry to secure better market access and safeguard the industry from the potential effects of plant pest incursions.

A key reason for pursuing additional MUPs is to introduce new chemistry into plant protection programs that are safer to use, target specific pests and have a lower impact on the environment.



TABLE 2: NGIA Minor Use Permits – Nursery Stock (1 November 2016)

Permit number	Permit description	Mode or Action Group	Permit number	Permit description	Mode or Action Group
PER81419	Acrobat/Mancozeb (DIMETHOMORPH & MANCOZEB) / Nursery stock (non-food) / Alternaria, Anthracnose, Downey mildew & Phytophthora	Group 40/M3	PER81707	Movento Insecticide (SPIROTETRAMAT) / Nursery stock (non-food) / Aphids, Silverleaf whitefly & Scale insects	Group 23
PER81707	07Amistar (AZOXYSTROBIN) / Nursery stock (non-food) / Downy mildew, powdery mildew, grey mould, rusts and leaf spots	Group 11	PER81707	Dominex Duo Insecticide (ALPHA-CYPERMETHERIN) Nursery stock (non-food) / Aphids, Cutworms, Grasshoppers, Locust, Rutherglen bug & Thrips	Group 3A
PER81707	Applaud Insecticide (BUPROFEZIN) / Nursery stock (non-food) / Mealybug, Leafhoppers, Scale and Whitefly	Group 16	PER81707	Regent 200SC Insecticide plus Instar Granular (FIPRONIL) Nursery stock (non-food) / Ants, Cutworms / Wireworms, Earwigs, Fungus gnats / Sciarid flies, Root mealybug, Scarab beetles, Sugar cane weevil borer, Symphylids, Termites and Thrips	Group 2B
PER81707	suSCon Maxi Controlled Release Insecticide (IMIDACLOPRID) / Nursery stock (non-food) / Various insects	Group 4A	PER81707	Pest Oil (PETROLEUM OIL) Nursery stock (non-food)/ Aphids, Leafhoppers, Mites, Scale and Thrips	N/A
PER81707	Confidor 200 SC (IMIDACLOPRID) / Propagation Nursery stock (non-food) / Silverleaf Whitefly	Group 4A	PER14399	Barricade Turf Herbicide (PRODIAMINE) Nursery stock (non-food) pre-emergent for grass and broad leaf weeds	Group D Herbicide
PER81707	Pegasus Insecticide (DIAFENTHIURON) / Nursery stock / Aphids, mites and whitefly	Group 12A	PER81707	PyGanic Organic Insecticide (PYRETHRINS) Nursery stock (non-stock) / Greenhouse Thrips, Diamondback moth, Cluster caterpillar, Heliothis & Lightbrown apple moth	Group 3A Insecticide
PER81707	Acramite Miticide (BIFENAZATE) / Nursery stock (non-food)/ Mites	Group 2D	PER81419	MANCOZEB / Nursery stock (non-food) / Alternaria, Anthracnose, Cercospora, Downy mildew, Grey mould, Leaf spot, Phoma, Rhizoctonia, Rust	Group M3 Fungicide
PER81707	Chess Insecticide & Fulfill Insecticide (PYMETROZINE) / Nursery stock (non-food) / Aphids and whitefly	Group 9B	PER81707	Proclaim Insecticide (EMAMECTIN) / Nursery stock (non-food) / Diamondback moth, loopers, green mirid, mites, cluster caterpillar, Heliothis, lightbrown apple moth	Group 6A Insecticide
PER81707	Coragen Insecticide (CHLORANTRANILIPROLE) / Nursery stock (non-food) / Heliothis, Lightbrown apple moth, Apple looper and Soybean looper.	Group 28	PER80688	DIMETHOATE / Nursery stock (non-food), cut flowers & ornamentals / Spiraling Whitefly	Group 1B Insecticide
PER81419	Ridomil Gold MZ – (MANCOZEB + METALAXYL) / Nursery stock (non-food) / Alternaria, Anthracnose, Septoria leaf spot & Phytophthora	Group 4/M3	PER80699	DIDECYLDIMETHYL AMMONIUM CHLORIDE, COPPER OXYCHLORIDE, COPPER SULFATE & METHYLATED SPIRITS / Production Nursery surfaces / general plant pathogens	various
PER81707	Avatar Insecticide (INDOXACARB) / Nursery stock (non-food) / European earwig, Heliothis, Lightbrown apple moth & weevils.	Group 22A	PER81707	Orthene & Lancer Insecticide (ACERPHATE) Nursery stock (non- food) Western Flower Thrips	Group 1B
PER81419	TRIADIMENOL, TRIFORINE, MANCOZEB, AZOXYSTROBIN, COPPER OXYCHLORIDE, OXYCARBOXIN AND PROPICONAZOLE / Nursery stock (non-food), ornamentals and cut flowers / Myrtle Rust (Uredo rangeli)ii	Various	PER81707	Paramite Insecticide (ETOXAZOLE) Nursery stock (non-food) Spider mites	Group 10B
PER81707	Admiral Insect Growth Regulator Insecticide (PYRIPROXYFEN) / Nursery stock (non-food) / Whiteflies and Fungus gnats	Group 7C	PER81448	Octave [Fungicide (PROCHLORAZ) / Nursery stock (non-food) / Anthracnose	Group C Fungicide
PER81419	Nimrod Fungicide (BUPIRIMATE) / Nursery stock (non-food) / Powdery Mildew	Group 8	PER81707	Insegar Insecticide (FENOXYCARB) / Nursery stock (non-food) / Lepidoptera pests and San Jose scale	Group 7B
PER81419	Switch Fungicide (CYPRODINIL + FLUDIOXONIL) / Nursery s stock (non-food) / Rhizoctonia, Sclerotinia, Botrytis, Colletotrichum, Aspergillus	Group 12/9	PER82643	Revus Fungicide (MANIPROPAMID) / Nursery stock (non-food) / Downey mildew and Phytophthora	Group 40 Fungicide
PER81419	Blue Shield DF Copper Fungicide (COPPER HYDROXIDE) Nursery stock (non-food)/Alternaria, Colletotrichum, Downy mildew, Myrtle rust	Group M2			
PER81419	Prstine Fungicide (BOSCALID + PYRACLOSTROBIN) / Nursery stock (non-food)/Anthracnose, Botrytis, Leaf spot, Powdery mildew	Group 11/7			
PER81707	Durivo Insecticide (THIAMETHOXAM / CHLORANTRANILIPROLE) / Nursery s stock (non-food) / Lepidoptera including Diamonback Moth, Cabbage White Butterfly, Helicoverpa, Caterpillars, Loopers, Leafhoppers, Aphids, Whitefly, Bugs, Thrips & Leafrollers	Group 4A/28			
PER81290	Ecocarb Fungicide (POTASSIUM BICARBONATE) / Nursery stock (non-food) / Powdery mildew	Group M2			
PER81263	Aero Fungicide (METIRAM / PYROCLOSTROBIN) / Nursery stock (non-food) / Alternaria, Phytophthora, Colletotrichum, Powdery mildew & Downy mildew	Group M3/11			

## NGIA MINOR USE PERMITS – NURSERY STOCK

Table 2 identifies the MUPs that are currently in place and industry is advised to make sure they download the appropriate MUP, before applying the pesticide, from the NGIA website [www.nurseryproductionfms.com.au](http://www.nurseryproductionfms.com.au) (click onto the **Technical Information** button and go to the **Minor Use Permits** tab). Alternatively go to the APVMA website at [www.apvma.gov.au](http://www.apvma.gov.au) – click onto **Permits** and then **Search Permits** and type in the permit number, from the following, table at the **'PER'** window.

The Minor Use Permit Pesticide Program is part of the 'National Nursery Industry Biosecurity Program' (NY15004) funded by Horticulture Innovation Australia Limited using the Australian Nursery Industry levy and funds from the Australian Government. The program is led by National Biosecurity Manager John McDonald for the period 2016-20.

## LINKS TO RESOURCES

1. APVMA – [www.apvma.gov.au](http://www.apvma.gov.au)
2. [www.nurseryproductionfms.com.au](http://www.nurseryproductionfms.com.au)