



Nudrin® 225

INSECTICIDE

Active Constituent: 225 g/L METHOMYL (an anti-cholinesterase compound)
Solvent: 138 g/L METHANOL

GROUP **1A** INSECTICIDE

For the control of certain insect pests
as per the DIRECTIONS FOR USE table.

FEATURES

Suitable for ULV, LV and high volume applications. Consistent performance due to superior formulation. Provides ovicidal and larvicidal activity. Low withholding periods to harvest.

BENEFITS

Can be applied by air and ground rig. Fast action, kills pests fast.

MODE OF ACTION

NUDRIN 225 is a carbamate insecticide which kills insects by inhibiting an enzyme important in the normal functioning of the insects' nervous system.

PACK SIZES

20 L, 200 L

<i>U.N. Number</i>	<i>Correct Shipping Name</i>	<i>Class</i>	<i>Subsidiary Risk</i>
2758	Carbamate Pesticides, Liquid, Flammable, Toxic (Contains Methomyl & Methanol)	3	6.1
<i>HAZCHEM Code</i>	<i>Poisons Schedule</i>	<i>Emergency Guide</i>	<i>Packaging Group</i>
3WE	7	34	2

DANGEROUS POISON
KEEP OUT OF REACH OF CHILDREN
READ SAFETY DIRECTIONS BEFORE OPENING OR USING



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GENERAL INSTRUCTIONS

USE OF WETTING AGENT

When diluting with water add a non-ionic surfactant at registered label rates.

SPRAY PREPARATION

Quarter to half fill spray tank with water. Start agitation (do NOT use air agitation). Add the required amount of this product to the tank and complete filling with water. Add a non-ionic surfactant as recommended above. Continue agitation for several minutes prior to spraying to fully mix the chemical.

APPLICATION

- a) **Larvicidal:** Apply at the recommended rates when the infestation reaches an economically damaging level and repeat as needed. Apply the lower rates on small larvae and on light infestations of insects. Use the higher rate on large larvae and heavier infestations of insects. Best control is obtained when young insects are treated.
 - b) **Ovicidal/Larvicidal:** Use these rates only where crops are regularly monitored for eggs and larvae. Use the lower rate when only eggs are present. Use the higher rate when heavy egg lays occur and/or when larvae are less than 3 mm long. If larvae are longer than 3 mm use the larvicidal rates. This product may be used at ovicidal/larvicidal rates in conjunction with other recommended larvicides used to control other insects.
1. **Ground Application:** Apply as a fine spray preferably generated by cone nozzles. Do NOT apply as a fog or mist. For effective insect control, proper timing and good coverage are essential. Use sufficient water to obtain thorough uniform coverage. Use 100-400 L/ha spray mixture unless otherwise directed in the Directions for Use section.
 2. **Aerial Application:** FOR ADZUKI BEANS, CANOLA, COTTON, LINSEED, LUCERNE, LUPINS, MUNG BEANS, PASTURE, PEANUTS, PEAS, SORGHUM, SOYBEANS, SUNFLOWERS, TOMATOES AND WINTER CEREALS.

SPRAY VOLUMES

For rates less than 1.5 L/ha:

dilute to any convenient volume no less than 1.5 L/ha.

For rates of 1.5 L/ha and higher:

apply undiluted or diluted to give any convenient volume.

DROPLET SIZES

When applying at ULTRA LOW VOLUMES

(i.e. volumes less than 5 L/ha):

use a spray of 80-120 µm VMD.

When applying at LOW VOLUMES

(i.e. volumes greater than 5 L/ha):

use a fine spray (100-150 µm VMD).

To reduce drift and optimise results, avoid application in calm conditions and apply in light to moderate crosswinds.

INSECTICIDE RESISTANCE WARNING

For insecticide resistance management NUDRIN 225

GROUP 1A INSECTICIDE

Insecticide is a Group 1A Insecticide. Some naturally occurring insect biotypes resistant to NUDRIN 225 and other Group 1A insecticides may exist through normal genetic variability in any insect population. The resistant individuals can eventually dominate the insect population if NUDRIN 225 or other group 1A insecticides are used repeatedly. The effectiveness of NUDRIN 225 on resistant individuals could be significantly reduced.

Since occurrence of resistant individuals is difficult to detect prior to use, BASF Australia Ltd accepts no liability for any losses that may result from the failure of NUDRIN 225 to control resistant insects.

NUDRIN 225 may be subject to specific resistance management strategies. For further information contact your local supplier, BASF Australia Ltd representative or local agriculture department agronomist.

COMPATIBILITY

NUDRIN 225 Insecticide is compatible with a wide range of pesticides in common use, eg HALLMARK® 10 ULV, Endosan+ 240 ULV, Thiodan+ ULV, Endosulfan ULV and Endosulfan ULV240.

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CAUTION

Keep unprotected persons out of operational area during treatment and while there is a danger of drift. Avoid contact with spray residues.

Keep unprotected persons out of treated area for at least 24 hours. Keep container closed when not in use.

PROTECTION OF CROPS, LIVESTOCK, WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT

Keep animals out of operational area during treatment and while there is a danger of drift.

Dangerous to bees. Do NOT spray on any plants in flower while bees are foraging. ENSURE beehives are removed from area to be treated and from adjacent paddocks.

This product is toxic to wildlife. Birds feeding on treated areas may be killed.

Dangerous to fish. Do NOT contaminate fish ponds, dams, rivers or streams with this chemical or the used container.

STORAGE AND DISPOSAL

Store in the closed, original container, in a cool, well-ventilated area. Do NOT store for prolonged periods in direct sunlight. Do NOT dispose of undiluted chemicals on-site.

The method of disposal of the container depends on the container type. Read the "Storage and Disposal" instructions on the label that is attached to the container.

SAFETY DIRECTIONS

Very dangerous, particularly the concentrate. Product and spray are poisonous if absorbed by skin contact or inhaled or swallowed. Attacks eyes. Will irritate the nose, throat and skin. Repeated minor exposure may have a cumulative poisoning effect. Avoid contact with eyes, skin and clothing. Do NOT inhale vapour or spray mist. Protect eyes while using. Obtain an emergency supply of atropine tablets 0.6 mg. When opening the container and preparing spray wear elbow-length PVC gloves and face shield. When using the prepared spray, wear cotton overalls buttoned to the neck and wrist, washable hat, elbow-length PVC gloves, impervious footwear and half facepiece respirator with combined dust and gas cartridge (canister). If clothing becomes contaminated with product or wet with spray remove clothing immediately. If product or spray on skin, immediately wash area with soap and water. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each day's use, wash gloves, face shield, respirator (if rubber, wash with detergent and warm water) and contaminated clothing.

FIRST AID

If poisoning occurs, contact a doctor or Poisons Information Centre. Telephone 131126 Australia-wide.

If swallowed, give one atropine tablet every 5 minutes until dryness of the mouth occurs – if poisoned by skin absorption or through lungs, remove any contaminated clothing, wash skin thoroughly and give atropine tablets as above. Get to a doctor or hospital quickly.

NOTE TO PHYSICIAN

Methomyl produces effects associated with anti-cholinesterase activity. Atropine sulphate should be used for treatment. Administer repeated doses 1.2 to 2.0 mg intravenously every 10-30 minutes until full atropinization is achieved. Do NOT use morphine or 2-PAM. Maintain atropinization until the patient recovers. Artificial respiration or oxygen may be necessary. Allow no further exposure to any cholinesterase inhibitors until recovery is assured.

MSDS

Additional information is listed in the Material Safety Data Sheet.



CONDITIONS OF SALE: All conditions and warranties rights and remedies implied by law or arising in contract or tort whether due to the negligence of BASF Australia Ltd or otherwise are hereby expressly excluded so far as the same may legally be done provided however that any rights of the Buyer pursuant to non excludable conditions or warranties of the Trade Practices Act 1974 or any relevant legislation of any State are expressly preserved but the liability of BASF Australia Ltd or any intermediate Seller pursuant thereto shall be limited if so permitted by the said legislation to the replacement of the goods sold or the supply of equivalent goods and all liability for indirect or consequential loss or damage of whatsoever nature is expressly excluded. This product must be used or applied strictly in accordance with the instructions appearing hereon. This product is solely sold for use in Australia and must not be exported without the prior written consent of BASF Australia Ltd.

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NRA Approval No.: 47470

EMERGENCY INFORMATION PANEL	
CARBAMATE PESTICIDES, LIQUID, FLAMMABLE, TOXIC, N.O.S, flash point less than 23°C (CONTAINS METHOMYL AND METHANOL)	
UN NO. 2758 PG II HAZCHEM 3WE	
	
IN A TRANSPORT EMERGENCY DIAL: 000 POLICE OR FIRE BRIGADE	
FOR SPECIALIST ADVICE IN AN EMERGENCY ONLY PHONE 1 800 033 111 TOLL FREE – ALL HOURS – AUSTRALIA-WIDE	

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Customer Service Fax:	1800 630 005
Product Information Line:	1800 501 940
Fax On Demand:	0500 544 044

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DIRECTIONS FOR USE

CROP	PEST	STATE	RATE	WHP	CRITICAL COMMENTS
BROADACRE CROPS: Beans – broad beans, French beans, navy beans	Beanfly (<i>Ophiomyia phaseoli</i>)	Qld, NT only	100 mL/100 L	1 day (Harvest)	Apply 3 days after seedlings emerge then 4 days later. Repeat at weekly intervals until blossoming.
	<i>Thrips</i> spp.		1.5 L/ha		Apply when infestation reaches an economically damaging level and repeat if necessary. Spray to penetrate blossoms.
	Looper (<i>Chrysodeixis subsidens</i>)				
	Green vegetable bug (<i>Nezara viridula</i>)				
	<i>Helicoverpa</i> spp.	Qld, Tas, WA, NT only	Larvicide: 1.5 to 2 L/ha Ovicide/Larvicide: 500 mL to 1 L/ha		Larvicide: Apply when infestation reaches an economically damaging level and repeat if necessary. Spray to penetrate blossoms. (Refer to Larvicidal Application Instructions for more detail). Ovicide/Larvicide: Refer to Ovicultural/Larvicidal Application Instructions.
	Corn earworm (<i>Helicoverpa armigera</i>)	Qld, NT only			
Beans (see above) and legume seed crops	Bean pod borer (<i>Maruca testulalis</i>)	Qld, NT only	1.5 to 2 L/ha	1 day (Harvest)	Apply when infestation reaches an economically damaging level and repeat if necessary. Spray to penetrate blossoms. (Refer to Larvicidal Application Instructions for more detail).
Canola	<i>Helicoverpa</i> spp.	WA only	1 L/ha	7 days (Harvest)	Larvicide: Apply when infestation reaches an economically damaging level and repeat if necessary. (Refer to Larvicidal Application Instructions for more detail). Ovicide/Larvicide: Refer to Ovicultural/Larvicidal Application Instructions.
		NSW, Vic, Tas, SA only	1.5 to 2 L/ha		
		NSW only	500 mL to 1 L/ha		
Cotton	<i>Helicoverpa</i> spp.	Qld, NSW only	500 mL to 1 L/ha plus a non-ionic surfactant at registered label rates	–	Do NOT graze or feed treated crops to animals. Ovicide/Larvicide: Thorough spray coverage is essential for adequate ovicidal activity. Apply the lower rate when egg numbers are from 1 to 2 times the economic threshold and no larvae are present. Apply the higher rate when egg numbers exceed 2 times the economic threshold and when larvae do not exceed 3 mm in length and they are exposed. Continue applications on this basis at 4-5 day intervals. When larvae longer than 3 mm are present or when larvae are entrenched, add an effective larvicide at recommended rates, or apply the higher rates of this product recommended below.

CROP	PEST	STATE	RATE	WHP	CRITICAL COMMENTS
Cotton (continued)	<i>Helicoverpa</i> spp.	Qld, NSW only	1.8 to 2.4 L/ha	–	Larvicide: Application of these rates may redden cotton foliage depending on the frequency of application and the degree of plant stress. Do NOT apply to stressed plants. If reddening is excessive discontinue use of this product and use other insecticides until the crop has recovered. Apply the lower rate when larvae are small or infestations are light. Apply the higher rate when larvae are large or infestations are heavy.
	Looper (<i>Chrysodeixis subsidents</i>)	Qld only			Apply when infestation reaches an economically damaging level and repeat if necessary.
Lentils	<i>Helicoverpa</i> spp.	NSW only	1.5 to 2 L/ha	1 day (Harvest)	Examine crops at least twice weekly during flowering to podding for larvae and their damage. Use the higher rate if the infestation is heavy.
Linseed	<i>Helicoverpa</i> spp.	Qld only	1.5 to 2 L/ha	7 days (Harvest)	Apply sprays from early flowering. Repeat if necessary. Larvae completely enclosed inside pods at time of spraying may not be killed. (Refer to Larvicidal Application Instructions for more detail).
Lucerne (grazing, hay and seed)	<i>Helicoverpa</i> spp.	WA only	1 to 2 L/ha	3 days (Grazing)	Apply when infestation reaches an economically damaging level and repeat if necessary. (Refer to Larvicidal Application Instructions for more detail).
		Qld, NSW, Vic, Tas, SA, NT only	1.5 to 2 L/ha		
Lupins	<i>Helicoverpa</i> spp.	Vic, Tas only	1.5 L/ha	7 days (Harvest)	Larvicide: Apply when infestation reaches an economically damaging level and repeat if necessary. (Refer to Larvicidal Application Instructions for more detail).
		Qld, NSW, WA only	1.5 to 2 L/ha		
			500 mL to 1 L/ha		
Maize	<i>Helicoverpa</i> spp.	Qld, NSW, NT only	HIGH VOLUME: 150 to 200 mL /100 L or LOW VOLUME: 1.5 to 2 L/ha	14 days (Harvest) 14 days (Grazing)	Larvicide: Apply initial spray at early silking or when eggs are first seen on silks. Repeat at 2-3 day intervals during silking if infestation continues. Use sufficient spray volume to thoroughly cover young developing cobs. NSW only: Control at tasselling stage may also be necessary. Application when 80% of the cobs are at early silking stage is very important. (Refer to Larvicidal Application Instructions for more detail).

CROP	PEST	STATE	RATE	WHP	CRITICAL COMMENTS
Maize (continued)	<i>Helicoverpa</i> spp.	Qld, NSW, NT only	HIGH VOLUME: 100 mL /100 L or Low Volume: 1 L/ha	14 days (Harvest) 14 days (Grazing)	Ovicide: Use this rate only where crops are monitored for eggs and larvae. Apply when only eggs are present. As soon as any larvae are present use larvicidal rates as recommended above.
	Armyworms (<i>Pseudaletia convecta</i> , <i>Persectania ewingii</i> , <i>Persectania dyscrita</i>)	Qld, NSW, SA, WA, NT only	LOW VOLUME: 1.5 L/ha		Apply when infestation reaches an economically damaging level and repeat if necessary. Note: As all armyworms except the dayfeeding armyworm feed mainly during the evening, spraying at dusk is recommended.
Mint, poppies	<i>Helicoverpa punctigera</i>	Tas only	1.5 to 2 L/ha	14 days (Harvest)	Apply when infestation reaches an economically damaging level and repeat if necessary. (Refer to Larvicidal Application Instructions for more detail).
Mung beans (seed production)	<i>Helicoverpa</i> spp.	Qld, NSW, NT only	1.5 to 2 L/ha	7 days (Harvest)	Larvicide: Apply when infestation reaches an economically damaging level and repeat if necessary. (Refer to Larvicidal Application Instructions for more detail).
		Qld only	500 mL to 1 L/ha		Ovicide/Larvicide: Refer to Ovicidal/Larvicidal Application Instructions.
	Green vegetable bug (<i>Nezara viridula</i>)	Qld, NSW, NT only	1.5 L/ha		Apply when infestation reaches an economically damaging level and repeat if necessary. (Refer to Larvicidal Application Instructions for more detail).
	Bean pod borer (<i>Maruca testulalis</i>)	Qld, NT only	1.5 to 2 L/ha		
Native pastures, improved pastures (alone or with legumes)	Common armyworm (<i>Pseudaletia convecta</i>)	Vic only	1.5 to 2 L/ha	3 days (Grazing)	Refer to Larvicidal Application Instructions for more detail. Note: As all armyworms except the dayfeeding armyworm feed mainly during the evening, spraying at dusk is recommended.
	Armyworms (<i>Pseudaletia convecta</i> , <i>Persectania ewingii</i> , <i>Persectania dyscrita</i>)	Qld, NSW, SA, WA only			
	Southern armyworm (<i>Persectania ewingii</i>)	Tas only			
	Buffel grass seed caterpillar (<i>Mamestra rhodoneura</i>)	Qld only	1.75 L/ha		
Peanuts	<i>Helicoverpa</i> spp.	Qld, NT only	1.5 to 2 L/ha	14 days (Harvest)	Apply when infestation reaches an economically damaging level and repeat if necessary. (Refer to Larvicidal Application Instructions for more detail).

CROP	PEST	STATE	RATE	WHP	CRITICAL COMMENTS
Peas (including chickpeas and pigeon peas)	<i>Helicoverpa</i> spp.	Qld, NSW, Vic, WA only	LOW VOLUME: 1.5 to 2 L/ha	Peas: 1 day (Harvest) Chickpeas, pigeon peas: 7 days (Harvest)	Larvicide: Apply when infestation reaches an economically damaging level and repeat if necessary. (Refer to Larvicidal Application Instructions for more detail).
			LOW VOLUME: 500 mL to 1 L/ha		Ovicide/Larvicide: Refer to Ovicidal/Larvicidal Application Instructions.
	LOW VOLUME: 1.5 L/ha		Apply when infestation reaches an economically damaging level and repeat if necessary.		
	HIGH VOLUME: 100 mL/ 100 L or Low Volume: 1 L/ha				
Peas (including cowpeas and adzuki beans)	<i>Helicoverpa</i> spp.	NSW, SA only	1.5 to 2 L/ha	Peas: 1 day (Harvest) Cowpeas, adzuki beans: 7 days (Harvest)	Larvicide: Apply when infestation reaches an economically damaging level and repeat if necessary. (Refer to Larvicidal Application Instructions for more detail).
			500 mL to 1 L/ha		Ovicide/Larvicide: Refer to Ovicidal/Larvicidal Application Instructions.
Pigeon peas, cowpeas, adzuki beans	Green vegetable bug (<i>Nezara viridula</i>)	NSW only	1.5 L/ha	7 days (Harvest)	Apply when infestation reaches an economically damaging level and repeat if necessary.
Sesame seed	Corn earworm (<i>Helicoverpa armigera</i>)	Qld, NT only	1.5 to 2 L/ha	14 days (Harvest)	Apply when infestation reaches an economically damaging level and repeat if necessary. (Refer to Larvicidal Application Instructions for more detail).
	Green vegetable bug (<i>Nezara viridula</i>)		1.5 L/ha		
Sorghum					Crop checking should commence when the head emerges from the boot and continue daily until the end of flowering for midge and at weekly intervals until maturity for <i>Helicoverpa</i> .
	<i>Helicoverpa armigera</i>	Qld, NSW, WA, NT only	1.5 to 2 L/ha	14 days (Harvest) 14 days (Grazing)	Larvicide: Apply when infestation reaches an economically damaging level and repeat if necessary. (Refer to Larvicidal Application Instructions for more detail).
			500 mL to 1 L/ha		Ovicide/Larvicide: Refer to Ovicidal/Larvicidal Application Instructions.
Armyworms		1.5 L/ha		Apply when infestation reaches an economically damaging level and repeat if necessary. Note: As all armyworms except the dayfeeding armyworm feed mainly during the evening, spraying at dusk is recommended.	

CROP	PEST	STATE	RATE	WHP	CRITICAL COMMENTS
Sorghum (continued)	Sorghum midge (<i>Contarinia sorghicola</i>)	Qld, NT only	1 L/ha	14 days (Harvest) 14 days (Grazing)	Apply when there are 1 or more sorghum midge adults per panicle or according to the threshold recommended by local agricultural authorities.
Soybeans	<i>Helicoverpa</i> spp.	Qld, NSW, NT only	1.5 to 2 L/ha	7 days (Harvest)	Larvicide: Apply when infestation reaches an economically damaging level and repeat if necessary. (Refer to Larvicidal Application Instructions for more detail).
			500 mL to 1 L/ha		
	Green vegetable bug (<i>Nezara viridula</i>)	1.5 L/ha	Apply when infestation reaches an economically damaging level and repeat if necessary.		
	Looper (<i>Chrysodeixis subsidens</i>)	Qld, NT only			
Sunflowers	Green vegetable bug (<i>Nezara viridula</i>)	NSW only	1.5 to 2 L/ha	7 days (Harvest)	Larvicide: Apply when infestation reaches an economically damaging level and repeat if necessary. (Refer to Larvicidal Application Instructions for more detail). Note: Spray must be applied before the seed head turn over, to ensure adequate penetration and insect control.
		Qld only	1.5 L/ha		
	<i>Helicoverpa</i> spp.	NSW only	1.5 to 2 L/ha		
		Qld only	1.5 L/ha		
		SA only	2 L/ha		
		Qld, NSW, SA only	500 mL to 1 L/ha		
Wheat, oats, barley	Common armyworm (<i>Pseudaletia convecta</i>), southern armyworm (<i>Persectania ewingii</i>)	NSW, Vic, Tas, SA, WA only	1 to 1.5 L/ha	14 days (Harvest) 14 days (Grazing)	Apply when infestation reaches an economically damaging level and repeat if necessary. Where two rates are recommended, use the lower rate against larvae up to 20 mm long and the higher rate against larger larvae. Note: As all armyworms except the dayfeeding armyworm feed mainly during the evening, spraying at dusk is recommended.
		Qld only	1 L/ha aerial spray only		
	<i>Helicoverpa</i> spp.	Qld, Tas only	1.5 L/ha		
FRUIT: Apples					This product is highly toxic to bees. Do NOT spray while bees are foraging. Spraying is recommended between early evening and dawn when bees are less active.
	<i>Helicoverpa</i> spp.	Tas only	150 to 200 mL/100 L	1 day (Harvest)	Apply at calyx stage and repeat at 14 day intervals or as required depending on infestation. (Refer to Larvicidal Application Instructions for more detail).
	Light brown apple moth (<i>Epiphyas postvittana</i>)	Vic, Tas, SA, WA only			

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CROP	PEST	STATE	RATE	WHP	CRITICAL COMMENTS
FRUIT: Apples (continued)					This product is highly toxic to bees. Do NOT spray while bees are foraging. Spraying is recommended between early evening and dawn when bees are less active.
	Light brown apple moth (<i>Epiphyas postvittana</i>)	NSW only	150 mL/ 100 L	1 day (Harvest)	Apply on a 14 day schedule for late season control of light infestations only. Moderate to heavy infestations of codling moth will not be controlled.
	Codling moth (<i>Cydia pomonella</i>)	NSW, Vic only			
	Plague thrips (<i>Thrips imaginis</i>), dimple bug (<i>Campylomma livida</i>)	Qld only	200 mL/ 100 L		Apply when pest levels reach an economically damaging levels and repeat if necessary.
Blueberries	Monolepta beetle, <i>Helicoverpa</i> spp., plague thrips	NSW only	100 mL/ 100 L	5 days (Harvest)	This product is toxic to bees exposed to direct application. Do NOT apply while bees are actively foraging. Apply when bees have ceased foraging such as late in the afternoon. Monolepta beetle: Apply according to pest incidence. Helicoverpa spp.: Apply when the infestation reaches an economically damaging level. Plague thrips: Apply when numerous on flowers.
Citrus	Spined citrus bug (<i>Biprorulus bibax</i>), bronze orange bug (<i>Musgraveia sulciventris</i>)	Qld, Vic, SA only	HIGH VOLUME: 25 mL/ 100 L or LOW VOLUME: 250 mL/ha	2 days (Harvest)	Apply when the infestation reaches an economically damaging level but before bugs reach the adult winged stage.
	<i>Helicoverpa</i> spp.		HIGH VOLUME: 200 mL/ 100 L or LOW VOLUME: 2 L/ha		Spray only if heavy infestations occur on young foliage and fruit.
	Large citrus butterfly (<i>Papilio aegeus aegeus</i>), small citrus butterfly (<i>Papilio anactus</i>)				In young trees only, apply to cover unhardened leaves from recent growth flushes when infestations are seen.

CROP	PEST	STATE	RATE	WHP	CRITICAL COMMENTS
Grapes	Light brown apple moth (<i>Epiphyas postvittana</i>)	All States	150 mL/ 100 L	7 days (Harvest)	Apply during early shoot growth/ flowering if pest populations indicate. Apply again just before bunches close if L.B.A.M. is seen. Control at later stages if bunching is difficult.
	Vine moth (<i>Phalaenoides glyciniae</i>)				Apply when infestation reaches an economically damaging level and repeat if necessary.
Peaches and nectarines	Green peach aphid (<i>Myzus persicae</i>)	All States	100 mL/ 100 L	1 day (Harvest)	Apply when infestation reaches an economically damaging level and repeat if necessary.
	<i>Helicoverpa</i> spp.	Tas only	150 mL/ 100 L		Do NOT apply to early peach varieties or to stressed trees.
	Monolepta beetle	NSW only	100 mL/ 100 L		Apply to blossoms of affected trees where beetles are feeding. Apply from July to September when infestations occur.
Pears	Light brown apple moth (<i>Epiphyas postvittana</i>)	Vic only	150 to 200 mL/100 L	2 days (Harvest)	Apply at calyx stage from late November onwards and repeat at 14 day intervals or as required depending on infestation.
Strawberries	<i>Helicoverpa</i> spp., cluster caterpillar (<i>Spodoptera litura</i>), looper (<i>Chrysodeixis subsidens</i>)	Qld, NSW, NT only	HIGH VOLUME: 150 mL/ 100 L or LOW VOLUME: 1.5 L/ha	Fresh: 3 days (Harvest) Frozen: 10 days (Harvest)	Apply when infestation reaches an economically damaging level and repeat if necessary. Note: To avoid the possibility of taint in strawberries to be frozen, do NOT apply later than 10 days before harvest.
Tomatoes	<i>Helicoverpa</i> spp.	All States	HIGH VOLUME: 50 to 100 mL/100 L or LOW VOLUME: 500 mL to 1 L/ha	1 day (Harvest)	Ovicidal control only: Incorporate into a larvicide programme when pest pressure indicates. Use a higher rate at peak egg lay and when eggs are mainly laid on flowers and fruit.
		NSW only	HIGH VOLUME: 200 mL/ 100 L or LOW VOLUME: 2 L/ha		Apply when infestation reaches an economically damaging level and repeat if necessary. For optimum results, the spray interval should not exceed 7 days. (Refer to Larvicidal Application Instructions for more detail).
		Qld, Vic, Tas, SA, WA, NT only	HIGH VOLUME: 150 to 200 mL/100 L or LOW VOLUME: 1.5 to 2 L/ha		GROUND APPLICATION Low Volume: Use 150 L/ha spray mixture or higher without producing run off. High Volume: When applying at high volumes use 250 L/ha spray mixture at the start of flowering, increasing to 1000 L/ha on mature plants.

CROP	PEST	STATE	RATE	WHP	CRITICAL COMMENTS
Tomatoes (continued)	Tobacco leaf miner/ potato moth (<i>Phthorimaea operculella</i>)	Qld, NSW, NT only	HIGH VOLUME: 150 to 200 mL/100 L or LOW VOLUME: 1.5 to 2 L/ha	1 day (Harvest)	GROUND APPLICATION Low Volume: Use 150 L/ha spray mixture or higher without producing run off. High Volume: When applying at high volumes use 250 L/ha spray mixture at the start of flowering, increasing to 1000 L/ha on mature plants.
	Green vegetable bug (<i>Nezara viridula</i>)	Qld, NT only	HIGH VOLUME: 150 mL/ 100 L or LOW VOLUME: 1.5 L/ha		AERIAL APPLICATION Ultra Low Volume and Low Volume: Refer to Application Instructions.
	Looper (<i>Chrysodeixis subsidents</i>)	Qld, Tas, NT only	LOW VOLUME: 1.5 L/ha		
VEGETABLES: Brassicas – Brussels sprouts, cauliflower, broccoli, cabbages	Cabbage white butterfly (<i>Pieris rapae</i>)	Qld, NT only	HIGH VOLUME: 100 mL/ 100 L or LOW VOLUME: 1 L/ha	1 day (Harvest)	Apply when infestation reaches an economically damaging level and repeat if necessary. Ensure adequate spray penetration to obtain effective control of the pests.
		NSW, Vic, Tas, SA, WA only	LOW VOLUME: 1 to 2 L/ha		Apply at 5-7 day intervals during the growing season when larvae first appear. Ensure adequate spray penetration to obtain effective control of the pests. (Refer to Larvicidal Application Instructions for more detail).
	<i>Helicoverpa</i> spp.	Qld, Tas, NT only	LOW VOLUME: 1.5 to 2 L/ha		Apply when infestation reaches an economically damaging level and repeat if necessary. Ensure adequate spray penetration to obtain effective control of the pests.
	Cabbage centre grub (<i>Hellula hydralis</i>)	Qld, NT only	LOW VOLUME: 1.5 L/ha		(Refer to Larvicidal Application Instructions for more detail).
	Cluster caterpillar (<i>Spodoptera litura</i>)		LOW VOLUME: 1 L/ha		Apply when infestation reaches an economically damaging level and repeat if necessary. Ensure adequate spray penetration to obtain effective control of the pests.
	Looper (<i>Chrysodeixis subsidents</i>)	Qld, NSW, Vic, Tas, WA, NT only	LOW VOLUME: 1.5 L/ha		
Capsicums (sweet peppers)	<i>Helicoverpa</i> spp.	Qld, NT only	HIGH VOLUME: 150 to 200 mL/100 L or LOW VOLUME: 1.5 to 2 L/ha	1 day (Harvest)	Apply when infestation reaches an economically damaging level and repeat if necessary. For optimum results, the spray interval should not exceed 7 days. Increase spray volume as plants grow larger to ensure coverage. (Refer to Larvicidal Application Instructions for more detail).

BASF

CROP	PEST	STATE	RATE	WHP	CRITICAL COMMENTS
Lettuce	<i>Helicoverpa</i> spp.	Qld, NSW, Tas, NT only	HIGH VOLUME: 200 mL/ 100 L or LOW VOLUME: 2 L/ha	1 day (Harvest)	Apply when infestation reaches an economically damaging level and repeat if necessary. For high volume spraying, use at least 1000 L/ha of spray mixture. Do NOT use chemicals from the same group on consecutive sprays.
	Cluster caterpillar (<i>Spodoptera litura</i>)	Qld, NSW, NT only	HIGH VOLUME: 100 mL/ 100 L or LOW VOLUME: 1 L/ha		
Potatoes	Potato moth (<i>Phthorimaea operculella</i>)	All States	1.5 to 2 L/ha	–	Apply when infestation reaches an economically damaging level and repeat if necessary. (Refer to Larvicidal Application Instructions for more detail).
	Looper (<i>Chrysodeixis subsidens</i>)	Qld only	1.5 L/ha		
Sweetcorn	<i>Helicoverpa</i> spp.	All States	HIGH VOLUME: 150 to 200 mL/100 L or LOW VOLUME: 1.5 to 2 L/ha	1 day (Harvest) 3 days (Grazing)	Larvicide: Apply initial spray at early silking or when eggs are first seen on silks. Repeat at 2-3 day intervals during silking if infestation continues. Use sufficient spray volume to thoroughly cover young developing cobs. (Refer to Larvicide Application Instructions for more detail).
		Qld, Vic, Tas, SA, WA, NT only	HIGH VOLUME: 100 mL/ 100 L or LOW VOLUME: 1 L/ha		
OTHER: Duboisia	Cluster caterpillar (<i>Spodoptera litura</i>)	Qld only	HIGH VOLUME: 100 mL/ 100 L or LOW VOLUME: 1 L/ha	–	Apply when infestation reaches an economically damaging level and repeat if necessary.
Ginger	<i>Helicoverpa</i> spp.	Qld only	HIGH VOLUME: 150 mL/ 100 L or LOW VOLUME: 1.5 L/ha	–	Apply when the pest is evident or damage is seen in young shoots at ground level during early growth.
Guar	Green vegetable bug (<i>Nezara viridula</i>), podsucking bug (<i>Riptortus serripes</i>)	Qld only	2 L/ha	7 days (Harvest)	Apply when infestation reaches an economically damaging level and repeat if necessary.

CROP	PEST	STATE	RATE	WHP	CRITICAL COMMENTS												
Hops	<i>Helicoverpa punctigera</i>	Tas only	2 L/ha	14 days (Harvest)	Do NOT graze treated crops. Apply when infestation reaches an economically damaging level and repeat if necessary.												
Teatree (<i>Melaleuca alternifolia</i>)	Xylorctid caterpillar, psyllid, leafhopper, crysomelid beetle	NSW only	1.5 to 2 L/ha	–	Apply as a thorough foliar spray.												
Tobacco	Tobacco budworm (<i>Helicoverpa armigera</i>)	Qld, Vic only	50 mL/100 L	3 days (Harvest)	Ovicide: Use this rate only where crops are regularly monitored for eggs and larvae. If larvae are present, apply only in combination with a residual larvicide or use alone at the larvicidal rates recommended below.												
	Cluster caterpillar (<i>Spodoptera litura</i>), tobacco looper (<i>Chrysodeixis argentifera</i>), Tobacco leaf miner (<i>Phthorimaea operculella</i>)	Qld, NSW, Vic only	100 mL/100 L		Larvicide: Use this rate if larvae are present. Spray Volumes: Spray volumes should be increased with plant size/age. The following volumes are recommended. Frequency of application will depend upon pest incidence.												
	Tobacco thrip (<i>Hemianaphothrips concinnus</i>), leafhopper, green vegetable bug (<i>Nezara viridula</i>)	Qld only			<table border="1"> <thead> <tr> <th>Plant Age: time after transplanting</th> <th>Recommended Spray Volume L/ha</th> </tr> </thead> <tbody> <tr> <td>1-3 weeks</td> <td>250</td> </tr> <tr> <td>4 weeks</td> <td>300</td> </tr> <tr> <td>5 weeks</td> <td>450</td> </tr> <tr> <td>6 weeks</td> <td>550</td> </tr> <tr> <td>More than 6 weeks</td> <td>900-1100</td> </tr> </tbody> </table>	Plant Age: time after transplanting	Recommended Spray Volume L/ha	1-3 weeks	250	4 weeks	300	5 weeks	450	6 weeks	550	More than 6 weeks	900-1100
	Plant Age: time after transplanting	Recommended Spray Volume L/ha															
	1-3 weeks	250															
	4 weeks	300															
	5 weeks	450															
	6 weeks	550															
	More than 6 weeks	900-1100															
	Stubby root nematode (<i>Trichodorus S.L.</i>)	Vic only	20 L/ha		Spray onto soil and incorporate to a depth of 10 cm just prior to transplanting.												
Tobacco stemborer (<i>Scrobipalpa heliopa</i>)	Qld, NSW only	100 mL/100 L		Apply 10 days after seedlings emerge and repeat at 6 day intervals (7 day intervals NSW only) until transplanting.													
Cutworm (<i>Agrotis spp.</i>)	Qld only	150 mL/100 L		Apply at dusk or late afternoon. In seedbeds, use one knapsack per 30 m length of bed. For field plants, ensure base of stem of each plant is well covered with spray.													
True and false wireworms		200 mL/100 L															
Grasshoppers		1.5 L/ha		Apply to fully grown plants when damaging pest numbers first appear and repeat if necessary.													
Seed harvesting ants (seed bed only) (<i>Pheidole spp.</i>)		200 mL/100 L		Seed Bed Only: Apply by pouring directly down the ant hole.													
Common brown leafhopper (<i>Orosius argentatus</i>) (vector for tobacco yellow dwarf virus)	Vic only	Use 45 mL/100 L in transplant water. Six weeks later apply 450 mL/100 L as an overall spray.															

NOT TO BE USED FOR ANY PURPOSE, OR IN ANY MANNER, CONTRARY TO THIS LABEL UNLESS AUTHORISED UNDER APPROPRIATE LEGISLATION.

IN TASMANIA, THIS PRODUCT MUST NOT BE APPLIED BY AIRCRAFT WITHOUT THE SPECIFIC APPROVAL OF THE REGISTRAR OF PESTICIDES.

WITHHOLDING PERIODS:

HARVEST

APPLES, BEANS, BROCCOLI, BRUSSELS SPROUTS, CABBAGES, CAPSICUMS, CAULIFLOWER, LENTILS, LETTUCE, NECTARINES, PEACHES, PEAS, SWEETCORN, TOMATOES:

DO NOT HARVEST FOR 1 DAY AFTER APPLICATION.

CITRUS, PEARS:

DO NOT HARVEST FOR 2 DAYS AFTER APPLICATION.

STRAWBERRIES (FRESH), TOBACCO:

DO NOT HARVEST FOR 3 DAYS AFTER APPLICATION.

BLUEBERRIES:

DO NOT HARVEST FOR 5 DAYS AFTER APPLICATION.

CANOLA, CHICKPEAS, GRAPES, GUAR, LINSEED, LUPINS, MUNG BEANS, PIGEON PEAS, SOYBEAN,

SUNFLOWERS:

DO NOT HARVEST FOR 7 DAYS AFTER APPLICATION.

STRAWBERRIES (FOR FREEZING):

DO NOT HARVEST FOR 10 DAYS AFTER APPLICATION.

MAIZE, MINT, POPPIES, PEANUTS, SESAME SEED, SORGHUM, WHEAT, OATS, BARLEY, HOPS:

DO NOT HARVEST FOR 14 DAYS AFTER APPLICATION.

GRAZING:

COTTON:

DO NOT GRAZE OR FEED TREATED CROPS TO ANIMALS.

HOPS:

DO NOT GRAZE TREATED CROPS.

LUCERNE, PASTURES, SWEETCORN:
APPLICATION.

DO NOT GRAZE OR CUT FOR STOCKFOOD FOR 3 DAYS AFTER

BARLEY, MAIZE, OATS, SORGHUM, WHEAT:

DO NOT GRAZE OR CUT FOR STOCKFOOD FOR 14 DAYS AFTER
APPLICATION.

BASF

PERMIT DETAILS FOR NUMBER – PERMIT 2649



Nudrin® 225

INSECTICIDE

Active Constituent: 225 g/L METHOMYL (an anti-cholinesterase compound)
Solvent: 138 g/L METHANOL

Registered to: KEITH & MILLIE WILSON
 (TRADING AS K & M CUT FLOWERS)
 34 MANN STREET
 NAMBUCCA HEADS 2448 NSW

FOR MINOR OFF-LABEL-USE OF A REGISTERED AGVET CHEMICAL PRODUCT

PERMIT NUMBER - PER2649

This permit is issued under the Agvet Code, of the relevant jurisdictions, to the person stated above. The holder of the permit must comply with all requirements as specified in the Agvet Code. A summary of the key requirements are that the holder must:

- supply any requested information to the NRA;
- inform the NRA if they become aware of any relevant information concerning the uses dealt with by this permit;
- comply with a lawful direction or requirement of an inspector.

This permit for the reasons given below, allows any person listed in **1. Persons** to use the products listed in **2. Products** for the minor off-label use specified in **3. Directions for Use** in the jurisdictions listed in **4. States**.

If this permit were not issued use of the products as specified in this permit would constitute an offence under the Agvet Codes.

The persons listed in **1. Persons** must comply with all conditions listed in **CONDITIONS OF PERMIT** to be effectively covered by this permit.

THIS PERMIT IS IN FORCE FROM 1 JULY 1999 TO 30 JUNE 2002.

It is in force until it expires or it is cancelled, suspended or surrendered.

REASON FOR ISSUE OF PERMIT

Currently, there are no registered products for the ovicidal control of budworm (*Helicoverpa* spp.) on roses. Larvicidal control may result in excessive damage to rose crops.

1. Persons

Employees of K&M Cut Flowers who are trained or experienced in the handling, mixing and use of agricultural chemicals.

2. Products

NUDRIN 225 INSECTICIDE

Containing: 225 g/L METHOMYL
 as their only active constituent

3. Directions for Use

Crop	Pest	Rate
ROSE	BUDWORM EGGS (<i>Helicoverpa</i> spp.)	Apply at a rate of 500 mL product per hectare, in 100 - 400 L water.

Critical Use Comments:

Spraying is to be conducted according to crop monitoring advice, rather than be based on a weekly schedule.

4. States

NSW ONLY.

CONDITIONS OF PERMIT

General Conditions

Apart from the uses dealt with in this permit users must comply with the instructions on the approved label of the registered product, particularly those instructions relating to protection, precaution, safety directions, first aid and storage and disposal.

The manufacturer of the products included in this permit is not sufficiently confident that under commercial use situations, the desired results can be achieved consistently. The permit has been issued without the support of the manufacturer and in no circumstances should the manufacturer be subject to liability as a result of the use of the product as specified in this permit.

Specific Location:

Boggey Creek Road, Valla, 4 km from Nambucca Heads.

Area Treated:

4 hectares, containing approximately 10,000 bushes.

PERMIT DETAILS FOR NUMBER – PERMIT 2691



Nudrin® 225

INSECTICIDE

Active Constituent: 225 g/L METHOMYL (an anti-cholinesterase compound)

Solvent: 138 g/L METHANOL

Registered to: AUSTRALIAN COFFEE GROWERS ASSOCIATION
PO BOX 1122
MAREEBA 4886 QLD

FOR MINOR OFF-LABEL-USE OF A REGISTERED AGVET CHEMICAL PRODUCT

PERMIT NUMBER - PER2691

This permit is issued under the Agvet Code, of the relevant jurisdictions, to the person stated above. The holder of the permit must comply with all requirements as specified in the Agvet Code. A summary of the key requirements are that the holder must:

- supply any requested information to the NRA;
- inform the NRA if they become aware of any relevant information concerning the uses dealt with by this permit;
- comply with a lawful direction or requirement of an inspector.

This permit for the reasons given below, allows any person listed in **1. Persons** to use the products listed in **2. Products** for the minor off-label use specified in **3. Directions for Use** in the jurisdictions listed in **4. States**.

If this permit were not issued use of the products as specified in this permit would constitute an offence under the Agvet Codes.

The persons listed in **1. Persons** must comply with all conditions listed in **CONDITIONS OF PERMIT** to be effectively covered by this permit.

THIS PERMIT IS IN FORCE FROM 24 SEPTEMBER 1999 TO 1 JUNE 2002.

It is in force until it expires or it is cancelled, suspended or surrendered.

REASON FOR ISSUE OF PERMIT

Coffee is considered to be a minor crop in which few pesticide registrations exist. Loopers cause severe defoliation and thus contribute to yield reduction. Flatids cause sooty mould, reducing photosynthesis and thus yields and the presence of green vegetable bug at the time of processing may contaminate the coffee.

The proposed use covered in this permit is consistent with Good Agricultural Practice and there is a genuine need for the permit.

1. Persons

Persons generally.

2. Products

NUDRIN 225 INSECTICIDE

Containing: 225 g/L METHOMYL
as their only active constituent

3. Directions for Use

Crop	Pest	Rate
COFFEE - ALL GROWTH AREAS	LOOPERS (Geometridae), FLATIDS (Flatidae), GREEN VEGETABLE BUG (Nezara viridula)	200 mL/100 L

Critical Use Comments:

Method Of Application: Air blast sprayer only. Avoid sprays at flowering.

Withholding Period:

DO NOT HARVEST FOR 3 DAYS AFTER APPLICATION
DO NOT GRAZE ANIMALS ON TREATED CROPS FOR 3 DAYS AFTER APPLICATION

4. States

NSW, QLD only

CONDITIONS OF PERMIT

General Conditions

Maximum of 6 sprays per year only.

THIS PERMIT has been granted in response to requests from persons other than the manufacturers of products which have been included in this permit. When assessing the proposed use the NRA will often seek advice from these manufacturers. As these manufacturers have not sought this permit, they should not be held responsible for the use of their products as specified in this permit. THIS PERMIT provides for the use of a product in a manner other than specified on the approved label of the product. Unless otherwise stated in this permit, the use of the product must be in accordance with instructions on its label. IN DECIDING whether or not to issue this permit the NRA must assess the use against many known and uncertain scientific and other factors. The NRA is satisfied that the approved use will not cause an undue hazard to human health and the environment. However, users should undertake the use knowing there is no guarantee that the use will be effective to the extent expected by users, that no crop damage may result, or the use would not jeopardise trade. PERSONS who wish to prepare for use and/or use the products for the purposes specified in this permit must read, or have read to them, the permit particularly the information included in **DETAILS OF PERMIT** and **CONDITIONS OF PERMIT**.

Export of Produce:

Exported produce or animals must have appropriate residue tolerance limits established in the importing countries and any residues must not exceed the tolerance limits.

PERMIT DETAILS FOR NUMBER – PERMIT 3263



Nudrin® 225

INSECTICIDE

Active Constituent: 225 g/L METHOMYL (an anti-cholinesterase compound)
Solvent: 138 g/L METHANOL

Registered to: A & D ROSE FARM
 Lot 1 Mahers Lane
 TERRANORA 2486 NSW

FOR MINOR OFF-LABEL-USE OF A REGISTERED AGVET CHEMICAL PRODUCT

PERMIT NUMBER - PER3263

This permit is issued under the Agvet Code, of the relevant jurisdictions, to the person stated above. The holder of the permit must comply with all requirements as specified in the Agvet Code. A summary of the key requirements are that the holder must:

- supply any requested information to the NRA;
- inform the NRA if they become aware of any relevant information concerning the uses dealt with by this permit;
- comply with a lawful direction or requirement of an inspector.

This permit for the reasons given below, allows any person listed in **1. Persons** to use the products listed in **2. Products** for the minor off-label use specified in **3. Directions for Use** in the jurisdictions listed in **4. States**.

If this permit were not issued use of the products as specified in this permit would constitute an offence under the Agvet Codes.

The persons listed in **1. Persons** must comply with all conditions listed in **CONDITIONS OF PERMIT** to be effectively covered by this permit.

THIS PERMIT IS IN FORCE FROM 21 AUGUST 2000 TO 21 AUGUST 2002.

It is in force until it expires or it is cancelled, suspended or surrendered.

REASON FOR ISSUE OF PERMIT

There are no products registered for ovicidal control of budworm (heliiothis spp.) on roses. Use of registered larvicides is resulting in unacceptable crop damage, hence the need for earlier, ovicidal control.

1. Persons

Persons trained in the use of agricultural chemicals.

2. Products

NUDRIN 225 INSECTICIDE

Containing: 225 g/L METHOMYL
 as their only active constituent

3. Directions for Use

Crop	Pest	Rate
ROSES	BUDWORM EGGS (<i>Helicoverpa</i> spp.)	Apply 100 mL/100 L of water by air assist sprayer (min. 500 mL product per hectare).

Critical Use Comments:

Spraying is to be conducted according to crop monitoring advice, rather than based on a weekly schedule.

4. States

NSW only.

CONDITIONS OF PERMIT

General Conditions

THIS PERMIT provides for the use of a product in a manner other than specified on the approved label of the product. Unless otherwise stated in this permit, the use of the product must be in accordance with instructions on its label.

PERSONS who wish to prepare for use and/or use the products for the purposes specified in this permit must read, or have read to them, the permit particularly the information included in **DETAILS OF PERMIT** and **CONDITIONS OF PERMIT**.

THIS PERMIT has been granted in response to requests from persons other than the manufacturers of products which have been included in this permit. When assessing the proposed use the NRA will often seek advice from these manufacturers. As these manufacturers have not sought this permit, they should not be held responsible for the use of their products as specified in this permit.

PERMIT DETAILS FOR NUMBER – PERMIT 3714



Nudrin® 225

INSECTICIDE

Active Constituent: 225 g/L METHOMYL (an anti-cholinesterase compound)
 Solvent: 138 g/L METHANOL
 Registered to: ORD RIVER DISTRICT CO-OPERATIVE LIMITED

FOR MINOR OFF-LABEL-USE OF A REGISTERED AGVET CHEMICAL PRODUCT

PERMIT NUMBER - PER3714

This permit is issued under the Agvet Code, of the relevant jurisdictions, to the person stated above. The holder of the permit must comply with all requirements as specified in the Agvet Code. A summary of the key requirements are that the holder must:

- supply any requested information to the NRA;
- inform the NRA if they become aware of any relevant information concerning the uses dealt with by this permit;
- comply with a lawful direction or requirement of an inspector.

This permit for the reasons given below, allows any person listed in **1. Persons** to use the products listed in **2. Products** for the minor off-label use specified in **3. Directions for Use** in the jurisdictions listed in **4. States**.

If this permit were not issued use of the products as specified in this permit would constitute an offence under the Agvet Codes.

The persons listed in **1. Persons** must comply with all conditions listed in CONDITIONS OF PERMIT to be effectively covered by this permit.

THIS PERMIT IS IN FORCE FROM 28 AUGUST 2001 TO 30 SEPTEMBER 2002.

It is in force until it expires or it is cancelled, suspended or surrendered.

REASON FOR ISSUE OF PERMIT

Cucurbits in the Ord Irrigation Scheme are subject to attack from many pests, two of the most severe pests being cucumber moth larvae and *Heliothis* spp. Traditionally, endosulfan has been the main choice for control of most insect pests in cucurbits, but with recent restricted use of endosulfan and resistance to other registered products both pests are not adequately controlled. In addition the Resistance Management Strategy developed for *Heliothis* control in the ORIA requires alternation of various chemical sprays from several Insecticidal Mode of Action groups. Two recommended sprays are currently not approved for use in cucurbit crops, those being pyrethroids and carbamates. This permit is issued to allow the off-label use of one pyrethroid (permethrin) and one carbamate (methomyl) to aid in the implementation of more improved Resistance Management Strategies for *Heliothis* spp. in the ORIA.

1. Persons

Persons generally.

2. Products

NUDRIN 225 INSECTICIDE

Containing: 225 g/L METHOMYL
 as their only active constituent

3. Directions for Use

Crop	Pest	Rate
CUCURBITS:	<i>Heliothis</i> spp.	Apply at a rate of 2 L of product per hectare.
ROCKMELONS		
WATERMELONS		
PUMPKIN		
& CUCUMBERS		

Critical Use Comments:

Apply by ground or aerial application.

Heliothis spp. – apply in accordance with the current “Resistance Management Strategy for Helicoverpa in ORIA”.

Withholding Period:

DO NOT APPLY EITHER PRODUCT LATER THAN 3 DAYS BEFORE HARVEST.

4. States

WA ONLY.

CONDITIONS OF PERMIT

THIS PERMIT provides for the use of a product in a manner other than specified on the approved label of the product. Unless otherwise stated in this permit, the use of the product must be in accordance with instructions on its label.

PERSONS who wish to prepare for use and/or use the products for the purposes specified in this permit must read, or have read to them, the permit particularly the information included in DETAILS OF PERMIT and CONDITIONS OF PERMIT.

PERMIT DETAILS FOR NUMBER – PERMIT 3924



Nudrin® 225

INSECTICIDE

Active Constituent: 225 g/L METHOMYL (an anti-cholinesterase compound)
Solvent: 138 g/L METHANOL

Registered to: V & W GIANATTI
 LOT 3 PACIFIC HIGHWAY
 NEWRYBAR 2479 NSW

FOR MINOR OFF-LABEL-USE OF A REGISTERED AGVET CHEMICAL PRODUCT

PERMIT NUMBER - PER3924

This permit is issued under the Agvet Code, of the relevant jurisdictions, to the person stated above. The holder of the permit must comply with all requirements as specified in the Agvet Code. A summary of the key requirements are that the holder must:

- supply any requested information to the NRA;
- inform the NRA if they become aware of any relevant information concerning the uses dealt with by this permit;
- comply with a lawful direction or requirement of an inspector.

This permit for the reasons given below, allows any person listed in **1. Persons** to use the products listed in **2. Products** for the minor off-label use specified in **3. Directions for Use** in the jurisdictions listed in **4. States**.

If this permit were not issued use of the products as specified in this permit would constitute an offence under the Agvet Codes.

The persons listed in **1. Persons** must comply with all conditions listed in **CONDITIONS OF PERMIT** to be effectively covered by this permit.

THIS PERMIT IS IN FORCE FROM 9 AUGUST 2000 TO 31 MARCH 2002.

It is in force until it expires or it is cancelled, suspended or surrendered.

REASON FOR ISSUE OF PERMIT

Use of methomyl with a Withholding period (WHP) of one day is preferable to the only registered alternative, endosulfan, with a WHP of 14 days which makes sale of tray fruit difficult. Methomyl has broad spectrum activity however compensates for this by having a short residual life, which minimises long-term disruption of beneficial insects (providing ground application is used).

This is a renewal of a previously issued NRA permit PER2180.

1. Persons

V and W Gianatti.

2. Products

NUDRIN 225 INSECTICIDE

Containing: 225 g/L METHOMYL
 as their only active constituent

3. Directions for Use

Crop	Pest	Rate
GUAVA	MOTHS, CATERPILLARS, GREEN GRASS HOPPERS, & MONOLEPTA	Apply at the rate of 150 mL of PRODUCT per 100 L water.

Critical Use Comments:

Apply using an air blast sprayer. Make one application per week.

Withholding Period:

DO NOT HARVEST FOR ONE (1) DAY AFTER APPLICATION.

4. States

NSW only.

CONDITIONS OF PERMIT

THIS PERMIT provides for the use of a product in a manner other than specified on the approved label of the product. Unless otherwise stated in this permit, the use of the product must be in accordance with instructions on its label.

PERSONS who wish to prepare for use and/or use the products for the purposes specified in this permit must read, or have read to them, the permit particularly the information included in **DETAILS OF PERMIT** and **CONDITIONS OF PERMIT**.

RESIDUES:

To allow produce from treated plants or animals to be supplied or otherwise made available for human or animal consumption the NRA has established the following temporary maximum residue limits (TMRLs): T0.5mg/kg

THIS TEMPORARY permit will only be renewed for a further period, or extended indefinitely, if appropriate residue data generated in Australia is submitted to the NRA. Contact the NRA to ascertain the appropriate type and extent of residue data required to allow continued use of the permit.

Export of Produce:

Exported produce or animals must have appropriate residue tolerance limits established in the importing countries and any residues must not exceed the tolerance limits.

**FOR A FULL COPY OF THIS PERMIT,
 PLEASE CONTACT BASF AUSTRALIA LTD ON 1800 501 940**

BASF

PERMIT DETAILS FOR NUMBER – PERMIT 4026



Nudrin® 225

INSECTICIDE

Active Constituent: 225 g/L METHOMYL (an anti-cholinesterase compound)

Solvent: 138 g/L METHANOL

Registered to: AUSTRALIAN CULINARY HERB GROWERS ASSOCIATION
 PO Box 737
 Melrose Park BDC
 MELROSE PARK 5039 SA

FOR MINOR OFF-LABEL-USE OF A REGISTERED AGVET CHEMICAL PRODUCT

PERMIT NUMBER - PER4026

This permit is issued under the Agvet Code, of the relevant jurisdictions, to the person stated above. The holder of the permit must comply with all requirements as specified in the Agvet Code. A summary of the key requirements are that the holder must:

- supply any requested information to the NRA;
- inform the NRA if they become aware of any relevant information concerning the uses dealt with by this permit;
- comply with a lawful direction or requirement of an inspector.

This permit for the reasons given below, allows any person listed in **1. Persons** to use the products listed in **2. Products** for the minor off-label use specified in **3. Directions for Use** in the jurisdictions listed in **4. States**.

If this permit were not issued use of the products as specified in this permit would constitute an offence under the Agvet Codes.

The persons listed in **1. Persons** must comply with all conditions listed in CONDITIONS OF PERMIT to be effectively covered by this permit.

THIS PERMIT IS IN FORCE FROM 1 AUGUST 2001 TO 31 JANUARY 2004.

It is in force until it expires or it is cancelled, suspended or surrendered.

REASON FOR ISSUE OF PERMIT

This permit is one of a number of permits that expand the number of agricultural chemical products (pesticides) available for use on culinary herbs, some leafy and root vegetables, a tea, spice and some edible flowers.

1. Persons

Persons generally.

2. Products

NUDRIN 225 INSECTICIDE

Containing: 225 g/L METHOMYL
 as their only active constituent

3. Directions for Use

Crop	Pest	Rate
ALL CULINARY HERBS (BASIL, BAY LEAVES, BORAGE, CHIVES, COREANDER, DILL, FENNEL, LEMON BALM, LEMON GRASS, KAFFIR LIME LEAVES, MARIGOLD FLOWERS, MARJARAM (OREGANO), MINTS, NASTURTIUM LEAVES, PARSLEY, ROSEMARY, SAGE, SALAD BURNETT, SORREL, TARRAGON, THYME, SAVORY.	BUDWORM (<i>Helicoverpa punctigera</i>)	Apply 1.0-1.5L/ha. with 100 L water.
ROOT VEGETABLE:		
GALANGAL		
LEAFY VEGETABLES:		
RUCOLA (ROCKET), CHERVIL, MIZUNA.		
TEAS:		
LEMON VERBENA		
SPICE:		
TUMERIC.		
EDIBLE FLOWERS:		
DIANTHUS, ROSES.		

Critical Use Comments:

SPRAY WHEN INFESTATION REACHES AN ECONOMICALLY DAMAGING LEVEL AND REPEAT IF NECESSARY. ENSURE ADEQUATE SPRAY PENETRATION TO OBTAIN EFFECTIVE CONTROL OF PESTS.

Withholding Period:

GALANGAL, TUMERIC: DO NOT HARVEST FOR AT LEAST 2 DAYS AFTER LAST APPLICATION.

OTHER COMMODITIES: DO NOT HARVEST FOR AT LEAST 7 DAYS AFTER LAST APPLICATION.

4. States

ACT, NSW, QLD, SA, TAS, NT, WA

(Note: Victoria is not included in this permit because their 'control-of-use' legislation means that a permit is not required to legalise this off-label use in VIC).

PERMIT DETAILS FOR NUMBER – PERMIT 4026**CONDITIONS OF PERMIT**

THIS PERMIT provides for the use of a product in a manner other than specified on the approved label of the product. Unless otherwise stated in this permit, the use of the product must be in accordance with instructions on its label.

PERSONS who wish to prepare for use and/or use the products for the purposes specified in this permit must read, or have read to them, the permit particularly the information included in DETAILS OF PERMIT and CONDITIONS OF PERMIT.

Export of Produce:

Exported produce or animals must have appropriate residue tolerance limits established in the importing countries and any residues must not exceed the tolerance limits.

PERMIT DETAILS FOR NUMBER – PERMIT 4077



Nudrin® 225

INSECTICIDE

Active Constituent: 225 g/L METHOMYL (an anti-cholinesterase compound)
Solvent: 138 g/L METHANOL

Registered to: QUEENSLAND FRUIT AND VEGETABLE GROWERS
 Brisbane Market
 Sherwood Road
 ROCKLEA QLD 4106

FOR MINOR OFF-LABEL-USE OF A REGISTERED AGVET CHEMICAL PRODUCT

PERMIT NUMBER - PER4077

This permit is issued under the Agvet Code, of the relevant jurisdictions, to the person stated above. The holder of the permit must comply with all requirements as specified in the Agvet Code. A summary of the key requirements are that the holder must:

- supply any requested information to the NRA;
- inform the NRA if they become aware of any relevant information concerning the uses dealt with by this permit;
- comply with a lawful direction or requirement of an inspector.

This permit for the reasons given below, allows any person listed in **1. Persons** to use the products listed in **2. Products** for the minor off-label use specified in **3. Directions for Use** in the jurisdictions listed in **4. States**.

If this permit were not issued use of the products as specified in this permit would constitute an offence under the Agvet Codes.

The persons listed in **1. Persons** must comply with all conditions listed in **CONDITIONS OF PERMIT** to be effectively covered by this permit.

THIS PERMIT IS IN FORCE FROM 13 DECEMBER 2000 TO 13 DECEMBER 2002.

It is in force until it expires or it is cancelled, suspended or surrendered.

REASON FOR ISSUE OF PERMIT

Ectropis looper (Ectropis sabulosa) is a recurring sporadic pest of avocados. The pest can cause severe fruit loss by scarifying the surface of young or fully developed fruit as well as cause heavy defoliation if left unchecked. This permit is issued to allow the use of methomyl based products in place of the currently registered alternatives, where its use does not have significant residual activity, therefore posing minimal risk to beneficials, as is experienced with the currently registered products.

This permit is a renewal of the previously issued NRA permit PER2423.

1. Persons

Persons generally.

2. Products

NUDRIN 225 INSECTICIDE
 Containing: 225 g/L METHOMYL
 as their only active constituent

3. Directions for Use

Crop	Pest	Rate
AVOCADO	ECTROPIS LOOPER	Apply at a rate of 500-1000 mL product per hectare, OR, apply 50-100 mL product per 100 L water.

Critical Use Comments:

Apply as a cover spray to point of run-off as required.
 Use the higher rate on large loopers or on heavy infestations.

Withholding Period:

DO NOT APPLY LATER THAN 3 DAYS BEFORE HARVEST.

4. States

QLD only.

CONDITIONS OF PERMIT USERS

Persons who wish to prepare for use and/or use the products for the purposes specified in this permit must read, or have read to them, the permit particularly the information included in **DETAILS OF PERMIT** and **CONDITIONS OF PERMIT**.

Apart from the uses dealt with in this permit users must comply with the instructions on the approved label of the registered product, particularly those instructions relating to protection, precaution, safety directions, first aid and storage and disposal.

Produce destined for export must have appropriate residue tolerance limits established in the importing countries and any residues must not exceed the tolerance limits.

PERMIT DETAILS FOR NUMBER – PERMIT 4407



Nudrin® 225

INSECTICIDE

Active Constituent: 225 g/L METHOMYL (an anti-cholinesterase compound)

Solvent: 138 g/L METHANOL

Registered to: NSW AGRICULTURE ELIZABETH MACARTHUR INSTITUTE
WOODBRIDGE ROAD
MENANGLE 2568 NSW

FOR MINOR OFF-LABEL-USE OF A REGISTERED AGVET CHEMICAL PRODUCT

PERMIT NUMBER - PER4407

This permit is issued under the Agvet Code, of the relevant jurisdictions, to the person stated above. The holder of the permit must comply with all requirements as specified in the Agvet Code. A summary of the key requirements are that the holder must:

- supply any requested information to the NRA;
- inform the NRA if they become aware of any relevant information concerning the uses dealt with by this permit;
- comply with a lawful direction or requirement of an inspector.

This permit for the reasons given below, allows any person listed in **1. Persons** to use the products listed in **2. Products** for the minor off-label use specified in **3. Directions for Use** in the jurisdictions listed in **4. States**.

If this permit were not issued use of the products as specified in this permit would constitute an offence under the Agvet Codes.

The persons listed in **1. Persons** must comply with all conditions listed in CONDITIONS OF PERMIT to be effectively covered by this permit.

THIS PERMIT IS IN FORCE FROM 1 JUNE 2001 TO 30 SEPTEMBER 2004.

It is in force until it expires or it is cancelled, suspended or surrendered.

REASON FOR ISSUE OF PERMIT

Western Flower Thrips (WFT) were first identified in WA in 1993. Today they are found in most states and territories. It is a serious problem in ornamentals and horticultural crops including tomatoes, lettuce, cucumber, capsicum and strawberry. WFT cause direct damage through feeding and as a vector of tomato spotted wilt virus. This pest is resistant to a wide range of chemicals. The National WFT research and development group has developed a chemical control (resistance management) strategy involving chemicals from a range of chemical groups in a strategic use pattern for national adoption. This would enable growers to properly manage this pest at least in the short term. A range of chemicals in a number of chemical groups is necessary to enable growers to follow the recommended strategy without placing undue selection pressure on any one chemical or chemical group.

This permit is a renewal of previously issued permits to allow the use of methomyl products as part of the WFT Insecticide Management Plan and for the generation of data to support future product registrations.

1. Persons

Persons generally.

2. Products

NUDRIN 225 INSECTICIDE

Containing: 225 g/L METHOMYL
as their only active constituent

3. Directions for Use

Crop	Pest	Rate
LETTUCE, CAPSICUMS, TOMATOES, ORNAMENTALS	WESTERN FLOWER THRIPS (<i>Frankliniella</i> <i>Helicoverpa</i> spp.) <i>occidentalis</i>)	High Volume: Mix 200 mL product with 100 L water. Low Volume: Apply at a rate of 2 L of product per hectare.
STRAWBERRIES		High Volume: Mix 150mL product with 100 L water. Low Volume: Apply at a rate of 1.5 L of product per hectare.

Critical Use Comments:

Refer to water volumes on the approved labels.

Withholding Period:

Lettuce, Tomatoes, Capsicums: DO NOT harvest crops for 1 day after final application.

Strawberries (for freezing): DO NOT harvest for 10 days after final application.

Strawberries (fresh fruit): DO NOT harvest for 3 days after final application.

WFT Resistance Management Strategy:

Chemicals alone will not control western flower thrips. Effective control can only be achieved with an integrated approach using additional cultural control methods. The most important cultural control method is the removal of all flowering weeds (especially white clover) from within and around the crop. Uncontrolled flowering weeds harbour abundant thrips that reinvest the crop and overwhelm and chemical control. Crop debris may harbour western flower thrips and so should be ploughed in or burned. If the crop is at all sensitive to viruses, such as Tomato Spotted Wilt Virus (TSWV), it is essential to remove the virus infected

**FOR A FULL COPY OF THIS PERMIT,
PLEASE CONTACT BASF AUSTRALIA LTD ON 1800 501 940**

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PERMIT DETAILS FOR NUMBER – PERMIT 4407

plants (burn or bury).

Effective chemical management of WFT is made difficult by resistance to a widerange of insecticides and limited accessibility to life stages during spraying. Only the larval and adult stages of WFT are contacted by insecticide sprays. Eggs are protected in plant tissue, while pupal stages shelter in soil and debris. In order to effectively manage WFT in crop, chemicals should be sprayed at intervals. The intervals are governed by the length of the life-cycle, which is controlled by temperature.

Monitoring allows insecticides to be used only when necessary and so vigilant crop monitoring will reduce insecticide costs, reduce insecticide impact on beneficial insects and lessen the likelihood of resistance development. Sticky traps should be used to monitor thrips numbers at a minimum density of ca. 3-10 ha. A new series of 3 sprays should not be commenced without appropriate monitoring.

Chemical applications should be applied in a series of sprays until population levels have fallen to acceptable levels. To keep resistance levels down, change chemical groups between series of sprays. A series of chemical sprays will be three applications of the one chemical. Apply 3 consecutive sprays of the same chemical and alternate

to a chemical in a different group for the following series of sprays. There must be at least a 3 week break (<20 deg.C) or 2 week break (>20 deg. C) before another series of sprays is applied. If monitoring indicates the need to spray earlier, then insecticide resistance, inappropriate spray application or inadequate cultural control methods should be suspected and expert advice sought.

4. States

ACT, NSW, QLD, SA, TAS, NT & WA ONLY.

(Note: Schedule 7 Poisons are 'specified chemical products' under Victoria's control of use legislation. These products must be used in accordance with the approved label unless a permit has been issued by the Department of Natural Resources and Environment. For further information please contact the Chemical Standards Branch, DNRE).

CONDITIONS OF PERMIT

Apart from the uses dealt with in this permit users must comply with the instructions on the approved label of the registered product, particularly those instructions relating to protection, precaution, safety directions, first aid and storage and disposal.

PERMIT DETAILS FOR NUMBER – PERMIT 4443



Nudrin® 225

INSECTICIDE

Active Constituent: 225 g/L METHOMYL (an anti-cholinesterase compound)

Solvent: 138 g/L METHANOL

Registered to: THORNDON PARK PRODUCE CO PTY LTD
 Lot 6 Waterloo Corner Road
 WATERLOO CORNER 5110 SA

FOR MINOR OFF-LABEL-USE OF A REGISTERED AGVET CHEMICAL PRODUCT

PERMIT NUMBER - PER4443

This permit is issued under the Agvet Code, of the relevant jurisdictions, to the person stated above. The holder of the permit must comply with all requirements as specified in the Agvet Code. A summary of the key requirements are that the holder must:

- supply any requested information to the NRA;
- inform the NRA if they become aware of any relevant information concerning the uses dealt with by this permit;
- comply with a lawful direction or requirement of an inspector.

This permit for the reasons given below, allows any person listed in **1. Persons** to use the products listed in **2. Products** for the minor off-label use specified in **3. Directions for Use** in the jurisdictions listed in **4. States**.

If this permit were not issued use of the products as specified in this permit would constitute an offence under the Agvet Codes.

The persons listed in **1. Persons** must comply with all conditions listed in **CONDITIONS OF PERMIT** to be effectively covered by this permit.

THIS PERMIT IS IN FORCE FROM 1 JUNE 2001 TO 15 MAY 2002.

It is in force until it expires or it is cancelled, suspended or surrendered.

REASON FOR ISSUE OF PERMIT

Western Flower Thrips (WFT) were first identified in WA in 1993. Today they are found in most states and territories. It is a serious problem in many horticultural crops. WFT cause direct damage through feeding and as a vector of tomato spotted wilt virus. This pest is resistant to a wide range of chemicals. The National WFT research and development group has developed a chemical control (resistance management) strategy involving chemicals from a range of chemical groups in a strategic use pattern for national adoption. This would enable growers to properly manage this pest at least in the short term. A range of chemicals in a number of chemical groups is necessary to enable growers to follow the recommended strategy without placing undue selection pressure on any one chemical or chemical group.

This permit is similar to permit PER1627, to allow for the use of methomyl based products on various horticultural crops as part of the WFT Insecticide Management Strategy Plan and for the generation of data to support future product registrations. This permit is a renewal of a previously issued NRA permit PER2186 and PER3442.

1. Persons

Persons generally.

2. Products

NUDRIN 225 INSECTICIDE

Containing: 225 g/L METHOMYL
 as their only active constituent

3. Directions for Use

Crop	Pest	Rate
BOC CHOY, SILVER BEET, SPINACH, ROCKET & CHICORY LEAF, PARSLEY AND CORIANDER.	WESTERN FLOWER THRIPS (<i>Frankliniella occidentalis</i>)	High Volume: Mix 200 mL product with 100 L water. Low Volume: 2 L of product per hectare.

Critical Use Comments:

Refer to water volumes on the approved labels.
 Observe the WFT Insecticide Management Strategy included under **CONDITIONS OF PERMIT**.

Withholding Period:

DO NOT APPLY LATER THAN 2 DAYS BEFORE HARVEST.

4. States

SA only.

CONDITIONS OF PERMIT

WFT Resistance Management Strategy:

Effective chemical management of WFT is made difficult by resistance to a widerange of insecticides and limited accessibility to life stages during spraying. Only the larval and adult stages of WFT are contacted by insecticide sprays. Eggs are protected in plant tissue, while pupal stages shelter in soil and debris. In order to effectively manage WFT in crop, chemicals should be sprayed at

PERMIT DETAILS FOR NUMBER – PERMIT 4443

intervals. The intervals are governed by the length of the life-cycle, which is controlled by temperature.

Chemical applications should be applied in a series of sprays until population levels have fallen to acceptable levels. To keep resistance levels down, change chemical groups between series of sprays. A series of sprays will be three applications of a chemical or chemicals in the same group (organophosphate, carbamate, synthetic pyrethroid, organochlorine) at six-day intervals between sprays when temperatures are less than 20 degrees C, and three-day intervals when temperatures are greater than 20 degrees C.

Plants should be monitored using sticky traps, and by tapping flowers into a white plastic container at least weekly, to determine if chemical treatments have worked. Stop spraying when WFT numbers are low, and start a fresh series of sprays using a different approved chemical from a chemical group when WFT re-appear in the crop.

Apart from the uses dealt with in this permit users must comply with the instructions on the approved label of the registered product, particularly those instructions relating to protection, precaution, safety directions, first aid and storage and disposal.

Acknowledgments:

Collated by HerbiGuide. Phone 08 98444064 for more information.