



# POISON

KEEP OUT OF REACH OF CHILDREN  
READ SAFETY DIRECTIONS BEFORE OPENING OR

<b>EW</b>	FORMULATION TYPE
	<b>Emulsion, Oil-in-Water</b>

## USING

ACTIVE CONSTITUENT:  
36 g/L ABAMECTIN

CONTENTS:  
1 L – 1000 L



<b>GROUP 3</b>	<b>INSECTICIDE</b>
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For the control of certain mites and insect pests on Adzuki beans, Mung beans, Navy beans, Almonds, Apples, Avocado, Capsicums, Citrus, Custard apple, Cotton, Hops, Lychees, Mushrooms, Ornamentals, Pears, Papaya, Passionfruit, Rhubarb, Tomatoes, Strawberries and Vegetables as specified in the directions for use.

## SAFETY DIRECTIONS

Harmful if swallowed. Will irritate the eyes and skin. Avoid contact with eyes and skin. If product is on skin, immediately wash area with soap and water. If product is in the eyes, wash it out immediately with water. When opening the container and preparing the product for use and using the product, wear cotton overalls buttoned to the neck and wrist (or equivalent clothing) and elbow-length chemical resistant gloves, goggles and half-facepiece respirator. If applying by spray equipment carried on the back of the user wear cotton overalls over normal clothing buttoned to the neck and wrist (or equivalent clothing), a washable hat, elbow-length chemical resistant gloves, impervious footwear, goggles and half-facepiece respirator. Wash hands after use. After each day's use, wash gloves, respirator and if rubber wash with detergent and warm water and face shield or goggles and contaminated clothing.

## FIRST AID

If poisoning occurs, contact a doctor or Poisons Information Centre. Phone Australia 13 11 26. New Zealand 0800 764 766.

## SAFETY DATA SHEET

Additional information is listed in the Safety Data Sheet that can be obtained from [www.fmcrop.com.au](http://www.fmcrop.com.au)

## GENERAL INSTRUCTIONS

### INSECTICIDE RESISTANCE WARNING

<b>GROUP 6</b>	<b>INSECTICIDE</b>
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For insecticide resistance management Vantal® Upgrade is a Group 6 insecticide. Some naturally occurring insect biotypes resistant to Vantal® Upgrade and other Group 6 insecticides may exist through normal genetic variability in any insect population. The resistant individuals can eventually dominate the insect population if Vantal® Upgrade and other Group 6 insecticides are used repeatedly. The effectiveness of Vantal® Upgrade on resistant individuals could be significantly reduced. Since occurrence of resistant individuals is difficult to detect prior to use, FMC accepts no liability for any losses that may result from failure of Vantal® Upgrade to control resistant insects. Vantal® Upgrade may be subject to specific resistance management strategies. For further information contact your supplier, FMC representative or local agricultural department agronomist.

### 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 plants (burn or bury). Effective chemical management of WFT is made difficult by resistance to a wide range 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 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 (NOTE THE MAXIMUM NUMBER OF ABAMECTIN APPLICATIONS IS TWO PER SEASON). There must be at least a 3 week break (<20°C) or 2 week break (>20°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.

**Crop Specific Strategy:** Vantal® Upgrade should not be applied more than the following number of times: *Apples, Capsicums, Citrus, Hops, Pears, Papaya and Custard apple*: One spray per season

*All other crops*: Two sprays per season.

In addition, Vantal® Upgrade should not be applied in two consecutive seasons or crops without an unrelated chemical being used in between. Alternate Vantal® Upgrade with approved miticides from other chemical groups. Consult your chemical supplier or technical consultant for advice on chemical groups.

## CROP MONITORING

Effective control depends upon regular monitoring of crops. Check crops regularly (every 3 to 5 days) during the season.

### To Avoid Crop Damage

**Cut flowers:** This product has been used on a wide range of ornamental plant species without damage. However, some species and varieties are particularly sensitive to chemical sprays and this is often related to local conditions. It is advisable to treat only a small number of plants first, in order to ascertain their reaction before treating larger quantities.

## MIXING

Measure the required amount of Vantal® Upgrade, add to the partly filled spray tank, and then add the remainder of the water. If oil is recommended, add this after the Vantal® Upgrade is well mixed. Wetting agent is not required.

## APPLICATION TO COTTON

Apply by ground spraying equipment or by fixed wing aircraft in a minimum volume of 20 L/ha. Vantal® Upgrade is not systemic making good coverage essential.

**Air:** Apply by air when there is a reliable cross-wind to assist with good penetration into the crop canopy. Application should be carried out in the cooler parts of the day or night.

Preferably use aircraft fitted with Micronair atomisers.

**Ground:** Use inter-row droppers fitted with nozzles spraying towards the cotton rows. Inter-row nozzles should be level with or just below the canopy.

## APPLICATION TO APPLES, PEARS AND CITRUS

### *Mixing instructions for Apple and Pear*

**applications:** To achieve 375 mL Vantal® Upgrade + 5 L Summer oil/ha apply spray at the following mixing rates:

	<b>Vantal® Upgrade</b>	<b>Summer Oil</b>
1000 L/ha (minimum)	37.5 mL	500 mL
1500 L/ha	25 mL	335 mL
2000 L/ha	18.75 mL	250 mL
2500 L/ha	15 mL	200 mL

**Crop Safety:** Vantal® Upgrade plus summer oil has very occasionally caused slight fruit russetting on some Pear varieties particularly Anjou and other sensitive varieties when used alone or when other products are applied sequentially. A very small amount of temporary apple fruit blemishing has been associated with low water volume applications. **DO NOT** apply Vantal® Upgrade to apples or pears before or after applications of Delan<sup>®</sup> or captan. The Directions for Use and Precautions on summer oil labels should be followed carefully. Certain conditions may play a part in the occurrence of this damage. **DO NOT** make applications:

- when temperatures exceed 28°C or are expected to exceed 28°C within 48 hours after application,
- under poor or slow drying conditions, or
- with equipment that may leave large droplets on fruit after application.

### **APPLICATION BY DILUTE SPRAYING**

- Use a sprayer designed to apply high volumes of water up to the point of runoff and matched to the crop being sprayed.
- Set up and operate the sprayer to achieve even coverage throughout the crop canopy. Apply sufficient water to cover the crop to the point of run-off. Avoid excessive run-off.
- The required water volume may be determined by applying different test volumes, using different settings on the sprayer, from industry guidelines or expert advice.
- Add the amount of product specified in the Directions for Use table for each 100 L of water. Spray to the point of run-off.
- The required dilute spray volume will change and the sprayer set up and operation may also need to be changed, as the crop grows.

## APPLICATION BY CONCENTRATE SPRAYING

- Use a sprayer designed and set up for concentrate spraying (that is a sprayer which applies water volumes less than those required to reach the point of run-off) and matched to the crop being sprayed.
- Set up and operate the sprayer to achieve even coverage throughout the crop canopy using your chosen water volume.
- Determine an appropriate dilute spray volume (See Dilute Spraying above) for the crop canopy. This is needed to calculate the concentrate mixing rate.
- The mixing rate for concentrate spraying can then be calculated in the following way:

### EXAMPLE ONLY

1. Dilute spray volume as determined above: For example 1500 L/ha
  2. Your chosen concentrate spray volume: For example 500 L/ha
  3. The concentration factor in this example is:  $3 \times$  (i.e.  $1500 \text{ L} \div 500 \text{ L} = 3$ )
  4. If the dilute label rate is 15 mL/100 L, then the concentrate rate becomes  $3 \times 15$  that is 45 mL/100 L of concentrate spray.
- The chosen spray volume, amount of product per 100 L of water, and the sprayer set up and operation may need to be changed as the crop grows.
  - For further information on concentrate spraying, users are advised to consult relevant industry guidelines, undertake appropriate competency training and follow industry Best Practices.

## COMPATIBILITY

Vantal® Upgrade is compatible with Summer Spray Oils, Vegetable oils, thiodicarb, methomyl, amitraz and with most commonly used insecticides and fungicides. **DO NOT** apply with ULV formulations. Mixtures with more than one of the above are not recommended. As formulations of other manufacturers' products are beyond the control of FMC and the quality of water may vary with location, all mixtures should be tested prior to mixing commercial quantities.

## PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT

**DO NOT** apply under weather conditions, or from spraying equipment, that may cause spray to drift from the target area.

**Dangerous to fish and other aquatic organisms. DO NOT** contaminate streams, rivers or waterways with the chemical or used containers. Studies indicate that when abamectin comes into contact with soil it readily and tightly binds to the soil and becomes inactive over time.

## PROTECTION – BEES

Dangerous to bees. **DO NOT** spray any plants in flower whilst bees are foraging.

## PRECAUTIONS - RE-ENTRY PERIOD

Under field conditions the spray should be allowed to dry on the foliage before re-entry into treated areas. **DO NOT** allow re-entry into treated areas on glasshouses for 24 hours after treatment. When prior entry is necessary, wear cotton overalls buttoned to the neck and wrist and elbow-length gloves.

## GENERAL SAFETY PRECAUTIONS

**DO NOT** use human flaggers/markers unless they are protected by engineering controls such as enclosed cabs.

## STORAGE AND DISPOSAL

Store in the closed, original container in a cool, well-ventilated area. **DO NOT** store for prolonged periods in direct sunlight. Triple rinse containers before disposal. Add rinsings to the spray tank. **DO NOT** dispose of undiluted chemicals on site. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush or puncture and deliver empty packaging to an approved waste management facility. If an approved waste management facility is not available bury the empty packaging 500 mm below the surface in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots in compliance with relevant Local, State or Territory government regulations. **DO NOT** burn empty containers or product.

Disposal of waste dipping solution: Dispose of spent treatment solutions in a waste pit at least 50 metres away from streams, drains, ponds, channels, wells, boreholes or watercourses. Ensure it is disposed of at least two metres above any groundwater, in a location that is not affected by erosion or flooding. For light soil areas it is recommended to add compost, sawdust or peat to the disposed liquid.

## DIRECTIONS FOR USE

### RESTRAINTS:

**DO NOT** use if rainfall is expected before spray has dried as reduced efficacy may result.

**DO NOT** overhead irrigate within 24 hours of application.

**DO NOT** apply to cotton under visible stress.

**DO NOT** make more than two applications to cotton in any one season. Refer to the Insecticide Resistance Warning.

Crop	Pest	Rate	WHP (days)	Critical Comments
<b>Cotton</b>				
<b>Cotton</b> (Qld, NSW, WA only)	Two-spotted Mite ( <i>Tetranychus urticae</i> ), Carmine Spider Mite ( <i>Tetranychus cinnabarinus</i> )	150 mL/ha	Harvest 20 Grazing 20	Monitor crops regularly and apply as soon as the threshold mite number for your area has been reached. Best results will be obtained when applied to low mite populations. Application to high populations may not give satisfactory control. Under these conditions a second miticide application 7 to 10 days later may be needed. <b>DO NOT</b> use more than twice in one season for mite control.
	Native Budworm ( <i>Helicoverpa punctigera</i> ) Bollworm ( <i>Helicoverpa armigera</i> )	150 mL/ha or 300 mL/ha		Apply to actively growing crops. Thorough coverage is essential. Apply when larvae threshold levels warrant treatment. Use the low rate only when Lepton test kit results indicate no greater than 10% <i>Helicoverpa armigera</i> are present. Use the higher rate alone or the lower rate with a suitable mixing partner. Larvae feeding within bolls may not be controlled. Applications should be targeted at brown eggs and newly emerged larvae (neonates). Mixed sized larval populations should be avoided. <b>DO NOT</b> use more than twice in one season for <i>Helicoverpa</i> control.
<b>Fruit and Vegetable Crops</b>				
<b>Almond</b>	Two-Spotted Mite ( <i>Tetranychus urticae</i> ), Brown Almond Mite ( <i>Bryobia rubrioculus</i> )	375 mL/ha plus 5 L/ha summer oil	Harvest 28	Apply spray treatment if monitoring shows high numbers of pest mites and if pest pressure exceeds local thresholds. Apply via orchard airblast/mister sprayer applying sufficient water to obtain thorough and uniform coverage of foliage and branches. May be applied in dilute or concentrate sprays but in not less than 1,000 L/ha. Make no more than 1 spray application per season. Vantal® should not be applied in 2 consecutive seasons without a chemical from a different Mode of Action Group being used in between. Use in accordance with existing insecticide resistance management strategies and in accordance with best practice.
<b>Apples, Pears</b>	European Red Mite ( <i>Panonychus ulmi</i> ), Two-Spotted Mite ( <i>Tetranychus urticae</i> )	375 mL/ha plus 5 L/ha Summer oil See General Instructions for mixing rates	Harvest 14 Grazing 14	Apply as dilute or concentrate sprays but in no less than 1000L/ha. Good coverage is essential. Use a high quality summer spraying oil only and follow label instructions. <b>DO NOT</b> apply Vantal® Upgrade before or after applications of Delan* or Captan. In apples, apply Vantal® Upgrade from 2 to 6 An weeks after petal fall if monitoring shows high numbers of over-wintering European red mite eggs are present, or if mites are a problem early in the season. In pears, timing is not as critical, and the application should be made soon after mite numbers have reached the threshold for your area. Generally, Vantal® Upgrade takes about 7 days to reach maximum mite control. Vantal® Upgrade will control moderate to high mite populations, but in the absence of predatory mites (see Integrated Pest Control below), re-treatment with another miticide may be necessary. If retreatment is required, use an approved miticide from a different chemical group. Refer to notes on Resistance and Crop Safety under General Instructions section of this label. <b>Integrated Pest Control:</b> The effects of Vantal® Upgrade on parasitic wasps and other beneficial insects in Australian orchards are not fully known. Studies have shown that after application of Vantal® Upgrade, predatory mite populations may not increase for a number of weeks, due to a lack of suitable pest mite prey. Predatory mite numbers will increase with any increase in pest mite numbers allowing the continuation of biological mite control. <b>DO NOT</b> use in IPM programs unless the pest mite threshold has been reached and predators are unlikely to achieve effective control.

Crop	Pest	Rate	WHP (days)	Critical Comments
Avocados	Tea red spider mite ( <i>Olygonychus coffeae</i> )	18.75 mL / 100 L water with 500 mL Summer Oil per 100 L water	Harvest 14	Apply at the first signs of infection and before severe infestation. For good control apply in early spring. Apply by foliar application with ground equipment only (air-blast or equivalent). Spray in sufficient volume to ensure thorough coverage. Apply in the range of 1000 –1500 L/ha. <b>DO NOT</b> apply more than 2 applications per crop. Applications should be applied 14 - 28 days apart. Apply in accordance with the Resistance Management Strategy. To avoid resistance build up, the product should be rotated with other approved miticides and insecticides from different chemical groups.
Blackcurrants	Two-spotted mite ( <i>Tetranychus urticae</i> )	150 or 225 mL/ha or 30-45 mL/ 100 L	Harvest 21	Apply using spray volume of 1000 L/ha. Spray to point of runoff. <b>DO NOT</b> exceed 1200 L/ha. <b>DO NOT</b> apply more than one application per season. When applying 60 – 90 mL/100L application, <b>DO NOT</b> exceed 500 L/ha spray volume. Apply when mites appear but before numbers exceed 3 mites/leaf. Apply using high volume ground spray application using an air blast sprayer. <b>DO NOT</b> use in an IPM program unless the pest mite threshold has been reached and predatory mites are unlikely to provide effective control.
Blackberries and Raspberries	Two spotted mite ( <i>Tetranychus urticae</i> )	150 or 225 mL/ha or 30 – 45 mL/ 100 L	Harvest 7	Apply using ground application equipment (boom spray/knapsack) to the point of runoff. Ensure thorough coverage by increasing water volume in accordance with crop growth. Thorough coverage and penetration into bushes is essential. When applying 60 – 90 mL/100L application, <b>DO NOT</b> exceed 500 L/ha spray volume. <b>DO NOT</b> use more than 2 applications per crop, with a minimum retreatment interval of 28 days between consecutive applications. Apply in accordance with the Two-spotted mite Resistance Management Strategy.
	Queensland fruit fly (QFF) ( <i>Bactrocera tryoni</i> )	<b>Spot Treatment:</b> To prepare diluent, add 12.5 mL product /100 L, plus yeast autolysate. To be applied at 125 spots / ha, with 20 mL diluent applied per spot. <b>Strip Spray Treatment:</b> To prepare diluent, add 12.5 mL product / 100 L, plus yeast autolysate. To be applied at 15 L diluent / ha.		Apply with ground equipment (spray gun, knapsack sprayer, or equivalent) only. Direct spray towards the base of bushes where fruit bearing is sparse. Apply on a weekly basis starting from a month prior to harvest (i.e. green berry stage) through to the end of the berry harvest. Add yeast autolysate as an attractant at the recommended label rate. Allow approximately 7 days between consecutive spray applications. <b>DO NOT</b> make more than 12 applications to any fruit crop in any one season. <b>DO NOT</b> apply when conditions are unsuitable for water based sprays (i.e. high temperatures, strong winds, inversion conditions, imminent rain). Apply no more than four (4) sequential spray applications of abamectin before switching to another registered Fruit fly insecticide from another chemical group for at least two (2) applications. Abamectin only has contact residual activity against QFF (i.e. has no systemic action).
Custard apple	Two spotted mite ( <i>Tetranychus urticae</i> ) Banana spotted mite ( <i>Tetranychus lambi</i> )	30 – 45 mL/100L or 150 – 225 mL/ha	Harvest 14	Apply when mites first appear during Spring/Summer. Best results are obtained when applied to low pest populations. Apply by air blast sprayer or equivalent using a sufficient water volume to obtain thorough coverage. Thorough coverage is essential to achieve effective control. <b>DO NOT</b> apply more than one application per season.
Papaya / pawpaw	Two spotted mite ( <i>Tetranychus urticae</i> )	150 or 225 mL/ha or 30 – 45 mL/ 100 L	Harvest 7	Apply when pest first appears. Ensure adequate spray penetration to obtain effective control of pest. <b>DO NOT</b> make more than one application per season. To avoid resistance, sprays should be rotated with products from different chemical classes.

Crop	Pest	Rate	WHP (days)	Critical Comments
Passionfruit	Passionvine mite ( <i>Brevipalpus phoenicis</i> Geijskes) Two spotted mite ( <i>Tetranychus urticae</i> )	25 mL / 100 L water	Harvest 1	Apply with a properly calibrated boom sprayer or similar equipment in sufficient volume to penetrate the plant canopy and evenly cover the plant surfaces. Apply in the range of 1200 – 1500 L/ha. Apply before pest populations reach economic damaging levels. If conditions continue to favour mite development, a second application may be required 14 - 20 days later. <b>DO NOT</b> apply more than two sprays per season. To avoid resistance build up, the product should be rotated with other approved miticides and insecticides from different chemical groups.
Lychees	Two spotted mite ( <i>Tetranychus urticae</i> ) Litchi erineose mite ( <i>Aceria litchii</i> )	25 – 50 mL/100 L water	Harvest 7	Apply foliar spray when mites first appear during Spring/Summer. Use calibrated air-blast sprayer or similar equipment. Apply in spray volume of 1,000 to 1,500 L water per hectare. Thorough coverage of foliage is essential to achieve effective control. Apply a maximum of two (2) foliar applications per season, with a minimum re-treatment interval of 28 days. Add wetter: 0.2% horticultural spray oil (i.e. 200 mL product/100 L). Use in accordance with existing insecticide resistance management strategies.
Citrus	Broad mite ( <i>Polyphagotarsonemus latus</i> ), Brown citrus rust mite ( <i>Tegolophus australis</i> ), Citrus rust mite ( <i>Phyllocoptruta oleivora</i> )	<b>Dilute spray:</b> 7.5 mL/100 L or 12.5 mL/100 L plus 250 mL/100 L summer oil <b>Concentrate spray:</b> Refer to the application section - Citrus	Harvest 7	Apply as pest pressure indicates as a dilute spray in 3000 to 6000 L water/ha. Apply by dilute or concentrate spraying equipment. Apply the same amount of product to the target crop whether applying by dilute or concentrate spraying methods. Use the higher rate under conditions of high pest pressure. Make no more than one application per season.
	Queensland fruit fly (QFF)	12.5 mL/100L		Apply in a spray volume of 15 – 20 L/ha in combination with suitable protein based lure product. Apply treatment when fruit fly activity is initially observed, as determined by regular monitoring and fruit fly trapping. Apply as a coarse spray in a 1 m wide band spray to tree skirt using a spray gun, knapsack sprayer or equivalent. Apply to one side of every row or every second row of trees. Apply a maximum of 6 applications in a season with a minimum retreatment interval of 7 days Abamectin should be used in conjunction with other registered QFF control methods.
Citrus (bare rooted and potted nursery stock only)	Citrus red mite	12.5 mL/ 100 L Plus either: 30mL clofentezine (500 g/L) product / 100 L or 5 mL amitraz (200 g/L) product / 100 L	Harvest 7	Apply as a two minute dip for budwood and thoroughly treat with a drenching spray or dip to all the above ground parts of bare-rooted or potted plants.
Cucumber	Western flower thrips ( <i>Frankliniella occidentalis</i> )	45 mL product per 100 L (high volume) OR 225 mL product per hectare (low volume)	Harvest 3 Grazing 3	Spray to wet foliage to near the point run-off. Through coverage and penetration into bushes is essential. <b>DO NOT</b> use more than 2 Vantal® Upgrade sprays per crop. Refer to notes on resistance under General Instructions section of this label.
Cucumber, Squash and Zucchini	Two spotted mite ( <i>Tetranychus urticae</i> )	150 - 225 mL/ha	Harvest 3 Grazing 3	Apply with a properly calibrated boom sprayer (or equivalent) in sufficient volume to penetrate the plant canopy and evenly cover the plant surfaces. Apply before pest populations reach economic damaging levels. Re-apply if monitoring shows moderate numbers of pest mites re-infest plants.
Spring onions and shallots (field only)			Harvest 1 Grazing 2	Allow at least 28 days between applications. <b>DO NOT</b> apply more than 2 applications per crop. Abamectin should not be applied in two consecutive seasons without a chemical from a different MOA group being used in between.
Snow peas and sugar snap peas	Two spotted mite ( <i>Tetranychus urticae</i> )		Harvest 21 Grazing 21	
Sweet corn (field only)	Tomato red spider mite ( <i>Tetranychus evansi</i> )			

Crop	Pest	Rate	WHP (days)	Critical Comments
Fruiting vegetables other than cucurbits. Including Tomatoes, Peppers (sweet and chilli), and Eggplant	Two spotted mite ( <i>Tetranychus urticae</i> )	150 – 225 mL/ha (high volume spraying 30 mL / 100 L or 45 mL/100 L)	Harvest 3 Grazing 3	Thorough coverage and penetration into the plant canopy is essential. Preferably apply before the build-up of mite numbers. Use higher rate in situations of greater pest pressure (in tomatoes this is when mite numbers exceed 5-6 mites per compound leaf). Re-apply when pest numbers indicate. For staked/trellised tomatoes use high volume spraying. For non-trellised/staked tomatoes use droppers to direct the spray onto plants and away from the inter-row. Alternate with other chemical groups. Allow at least 28 days between applications. Do not use more than 2 applications per crop. <b>DO NOT</b> apply more than 2 consecutive sprays before changing to an approved insecticide from a different chemical group. Refer to notes on resistance under General Instructions section of label.
	Tomato Red Spider Mite ( <i>Tetranychus evansi</i> )			Apply as for Two Spotted Mite. The lower rate will control Tomato Russet Mite not apparent at spraying. Use the higher rate when Tomato Russet Mite is present at spraying or is the main pest.
	Tomato Russet Mite ( <i>Aculops lycopersici</i> )	Thorough coverage and penetration into the plant canopy is essential. Preferably apply before the build-up of pest numbers. Re- apply when pest numbers indicate. Alternate with other chemical groups. Allow at least 28 days between applications. <b>DO NOT</b> use more than 2 applications per crop. Refer to notes on resistance under General Instructions section of label.		
	Tomato potato psyllid ( <i>Bactericera cockerelli</i> )	225 mL / ha plus 500 mL summer spray oil (or 45 mL / 100L)		Apply in sufficient volume to obtain even coverage and penetration of plants. Apply on the first sign of pests. Re-apply as pest numbers indication, or every 7 – 10 days with a maximum of 5 applications to the crop. If mites are also a project, do not use more than 2 abamectin sprays per crop. For staked/trellised tomatoes use high volume spraying. For non-trellised/staked tomatoes use droppers to direct the spray onto plants and away from the inter-row. Refer to notes on resistance under General Instructions section of label.
	Tobacco leafminer (Potato moth) ( <i>Phthorimaea operculella</i> )	300 mL/ ha (for high volume spraying use 60 ml /100 L)		
Lettuce	Two spotted mite ( <i>Tetranychus urticae</i> )	150 – 225 mL/ha or 30 - 45 mL / 100 L water	Harvest 3	Apply sufficient volume for even coverage and adequate spray penetration of plants using a knapsack or boom spray. Use the higher rate for high pest pressure. <b>DO NOT</b> apply more than one (1) application per crop to avoid potential development of resistance. Where more frequent control of two spotted mite is required other approved chemicals with a different MoA Group should be rotated to avoid resistance development.
Hops	Two-spotted mite ( <i>Tetranychus urticae</i> )	500 mL/ha	Harvest 4 weeks Grazing 4 weeks	Apply as pest pressure indicates as a dilute spray in 1000 to 2000 L water/ha, depending on crop size. Make no more than one application per season.
Mushrooms	Red pepper mites ( <i>Siteroptes mesembrinae</i> ) Mushroom pygmy mites ( <i>Microdispus lambi</i> ) Soil borne nematodes of the family Rhabditidae	3 mL / 50 L of casing material 1.5 mL in 1.5 L of water/m <sup>2</sup> of growing medium	Harvest 3	Apply when pests first appear using a water cart or knapsack spray. Repeat depending upon infestation. Apply as a casing drench or if in crop over beds. <b>DO NOT</b> apply more than 2 applications per crop with a minimum retreatment interval of 14 days. Application of abamectin should be made at casing material preparation stage or 2 applications watered onto casing layer as split applications. Include cultural control methods as part of an integrated pest management strategy in addition to chemical control.



Crop	Pest	Rate	WHP (days)	Critical Comments
Leafy vegetables including Beetroot, leaves Brassica leafy vegetables, Chicory, Endive, Lettuce (field grown), Silver beet spinach	Western flower thrips ( <i>Frankliniella occidentalis</i> )	150 or 225 mL/ha	Harvest 3	Commence control program before build-up of Mites. It is essential to apply sufficient volume for even coverage and better penetration of plants. Use the higher rate for high pest pressure. <b>DO NOT</b> use more than 2 sprays per crop and not closer than 28 days apart.
Rhubarb	Broad mite ( <i>Polyphagotarsonemus latus</i> )	150 or 225 mL/ha or 30 – 45 mL/ 100 L	Harvest 7	Apply using an airblast sprayer or boom sprayer. The water rate may need to increase as the crop size increases. Mature crops may require 500 L/ha and the rate per 100 L should be used. <b>DO NOT</b> make more than two applications per season with a minimum retreatment interval of 14 days. Abamectin (Group 6) should not be applied in 2 consecutive crops without alternating with miticides from different chemical groups.
Soybeans	Two-Spotted Mite ( <i>Tetranychus urticae</i> )	150 mL/ha	Harvest 4 weeks Grazing 4 weeks	Apply to actively growing crops. Thorough coverage is essential. Monitor crops regularly and apply as soon as there are 10 mites per leaf. Best results will be obtained when applied to low mite populations. Application to high populations may not give satisfactory control. Under these conditions a second miticide application 7-10 days later may be needed. <b>DO NOT</b> apply more than 2 sprays per season.
Strawberries	Two-Spotted Mite ( <i>Tetranychus urticae</i> ) Western flower thrips ( <i>Frankliniella occidentalis</i> )	50 mL/100 L If spray volume is less than 600 L/ha, use a minimum of 300 mL Vantal® Upgrade/ha DO NOT exceed 600 mL Vantal® Upgrade/ha	Harvest 3	Spray to wet foliage to near the point of run-off. Thorough coverage and penetration into plants is essential. Preferably apply on first appearance of mites. When applied early, one application may be sufficient to give effective control, however, if mite numbers exceed 3 to 5 mites per leaflet, apply 2 applications spaced 7 to 10 days apart. Re-apply as pest numbers indicate to a maximum of 2 sprays with Vantal® Upgrade per season. If re-treatment is required after 2 consecutive sprays with Vantal® Upgrade, use an approved miticide from a different chemical group. <b>Integrated Pest Control:</b> see comments in the apple and pear section. Refer to notes on Resistance under General Instruction section of this label.
Adzuki beans, Mung beans and Navy beans	Two spotted mite ( <i>Tetranychus urticae</i> ) Bean or onion thrips ( <i>Thrips tabaci</i> )	150 mL/ha	Harvest 4 weeks Grazing 4 weeks	Monitor crops regularly and apply as soon as threshold mite or thrips numbers have been reached. Best results will be achieved when spray is applied to low mite or thrips populations. Application to high populations may not give satisfactory control. Thorough coverage of foliage is essential. For aerial spraying, apply in a minimum water volume of 20 L/ha. Preferably use aircraft fitted with Micronair equipment using settings to produce a medium droplet size. For ground application, apply using a boom spray with inter-row droppers in a minimum water volume of 100 L/ha. Apply a maximum two (2) foliar applications per crop, with a minimum re-treatment interval of 7 – 10 days between applications.

Crop	Pest	Rate	WHP (days)	Critical Comments
<b>Nursery stock (non. food)</b>				
<b>Ornamentals including: Roses, Chrysanthemums, Carnations and Indoor foliage plants</b>	Two-spotted mite ( <i>Tetranychus urticae</i> )  Western flower thrips ( <i>Frankliniella occidentalis</i> )	25 mL/100 L to a maximum of 750 mL/ha	Nil	Spray to wet foliage to near the point of run-off using at least 2,000 L water/ha (100 L/ 500 square metres). Thorough coverage and penetration into plants is essential. Preferably apply on first appearance of mites. When applied when pest numbers are low to moderate, one application will be sufficient to give effective control, however if mites are numerous, apply a second application 7 to 10 days later. <b>DO NOT</b> use overhead irrigation within 24 hours after application. <b>DO NOT</b> use on ferns or Shasta. For ornamentals not listed on this label, small test applications to assess unexpected phytotoxicity should be made before spraying the whole crop. <b>DO NOT</b> use more than 2 times per season. Refer to notes on resistance in the General Instructions section of this label.
<b>Ornamental plants: Only for purposes of interstate quarantine requirements</b>	Melon thrips ( <i>Thrips palmi</i> )	25 mL per 100L water		<b>DO NOT</b> use more than 2 times per season per crop. Refer to notes on resistance in the General Instructions section of this label.
<b>Duboisia</b>	Red spider mite ( <i>Tetranychus urticae</i> )	375 mL/ ha plus 5 L/ha of summer oil.		Apply to point of run off. Thorough coverage is essential. Monitor crops regularly and apply as soon as the threshold mite number for your area has been reached. Best results will be obtained when applied to low mite populations. Application under high populations may not give satisfactory control, in this case a second application 7 - 10 days later may be needed.
<b>NURSERY STOCK (NON. FOOD)</b>				
<b>Nursery stock (non-food)</b>	Tomato potato psyllid ( <i>Bactericera cockerelli</i> )	225 mL / ha plus 500 mL summer spray oil Or 45 mL / 100L		Thorough coverage and penetration into the plant canopy is essential. Apply before pest populations reach economic damaging levels. Re-apply if monitoring shows moderate numbers of pests re-infest plants. <b>DO NOT</b> apply more than 2 applications per crop. Allow at least 7 days between applications. <b>DO NOT</b> apply more than 2 consecutive sprays before changing to an approved insecticide from a different chemical group.
<b>Cut flowers</b>	Tomato potato psyllid ( <i>Bactericera cockerelli</i> )	45 mL/100L water or 225 mL/ha		Use as a pre-harvest spray or post-harvest dip. Ensure adequate penetration and coverage when applying pre-harvest. For dipping, flowers must be totally immersed in the diluted solution for not less than one minute and left to air dry naturally for two hours.

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

**WITHHOLDING PERIODS:**

APPLES, PEARS, AVOCADO, CUSTARD APPLE: **DO NOT** HARVEST FOR 14 DAYS AFTER APPLICATION.

APPLES, PEARS: **DO NOT** FEED TREATED PRODUCE TO LIVESTOCK FOR 14 DAYS AFTER APPLICATION.

AVOCADO, CUSTARD APPLE, PAPAYA, RHUBARB: **DO NOT** GRAZE TREATED AREA OR CUT FOR STOCK FOOD.

CITRUS, LYCHEES, PAPAYA, RHUBARB, RASPBERRIES, BLACKBERRIES AND BLUEBERRIES: **DO NOT** HARVEST FOR 7 DAYS AFTER APPLICATION.

COTTON:

Harvest: **DO NOT** HARVEST FOR 20 DAYS AFTER APPLICATION.

Grazing: **DO NOT** GRAZE OR CUT FOR STOCK FOOD FOR 20 DAYS AFTER APPLICATION.

ALMONDS: **DO NOT** HARVEST FOR 4 WEEKS AFTER APPLICATION.

BLACKCURRANTS: **DO NOT** HARVEST FOR 21 DAYS AFTER APPLICATION.

PASSIONFRUIT:

Harvest: **DO NOT** HARVEST FOR 1 DAY AFTER APPLICATION.

Grazing: NOT REQUIRED WHEN USED AS DIRECTED

HOPS, SOYBEANS:

Harvests: **DO NOT** HARVEST FOR 4 WEEKS AFTER APPLICATION.

Grazing: **DO NOT** GRAZE OR CUT FOR STOCK FOOD FOR 4 WEEKS AFTER APPLICATION.

CUCUMBER, SQUASH AND ZUCCHINI, SPRING ONION, SHALLOTS, STRAWBERRIES, LETTUCE, MUSHROOMS, FRUITING VEGETABLES OTHER THAN CUCURBITS, LEAFY VEGETABLES: **DO NOT** HARVEST FOR 3 DAYS AFTER APPLICATION.

CUCUMBER, SQUASH AND ZUCCHINI, STRAWBERRIES, FRUITING VEGETABLES OTHER THAN CUCURBITS: GRAZING: **DO NOT** FEED TREATED PRODUCE TO LIVESTOCK FOR 3 DAYS AFTER APPLICATION.

SNOW PEAS AND SUGAR SNAP PEAS:

Harvest: **DO NOT** HARVEST FOR 1 DAY AFTER APPLICATION.

Grazing: **DO NOT** GRAZE OR CUT FOR STOCK FOOD FOR 2 DAYS AFTER APPLICATION.

SWEET CORN:

Harvest: **DO NOT** HARVEST FOR 21 DAYS AFTER APPLICATION.

Grazing: **DO NOT** GRAZE OR CUT FOR STOCK FOOD FOR 21 DAYS AFTER APPLICATION.

ADZUKI BEANS, MUNG BEANS AND NAVY BEANS:

Harvest: **DO NOT** HARVEST FOR 4 WEEKS AFTER APPLICATION

Grazing: **DO NOT** GRAZE FOR 4 WEEKS AFTER APPLICATION

ORNAMENTALS: WITHHOLDING PERIOD NOT REQUIRED WHEN USED AS DIRECTED.

**DO NOT** GRAZE OR CUT FOR STOCK FOOD.

NURSERY STOCK: WITHHOLDING PERIOD NOT REQUIRED WHEN USED AS DIRECTED.

DUBOISIA: **DO NOT** GRAZE PLANTATIONS OR CUT GRASS FOR STOCK FOOD.

#### **EXPORT OF TREATED PRODUCE:**

Growers should note that maximum residue limits (MRLs) or import tolerances may not exist in all markets for all edible produce treated with abamectin. If you are growing edible produce for export, please check with FMC Australia representative or local agricultural department agronomist for the latest information on MRLs and import tolerances before using abamectin.

#### **NOTICE TO BUYER**

To the extent permitted by the Competition and Consumer Act (2010) or any relevant legislation of any State or Territory (the "Legislation") all conditions and warranties and statutory or other rights of action, whether arising in contract or tort or whether due to the negligence of FMC or Seller, which buyer or any other user may have against FMC or Seller are hereby excluded provided however that any rights of the buyer pursuant to non excludable conditions or warranties of the Legislation are expressly preserved. FMC hereby gives notice to buyer and other users that to the extent permitted by the Legislation it will not accept responsibility for any indirect or consequential loss of whatsoever nature arising from the storage, handling or use of this product. Where permitted by the Legislation FMC's liability shall in all circumstances be limited to the replacement of the product, or a refund of the purchase price paid therefor.

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