

Product Name: TITAN ABAMECTIN 18 INSECTICIDE/MITICIDE

APVMA Approval No: 65889/136549

Label Name:	TITAN ABAMECTIN 18 INSECTICIDE/MITICIDE
Signal Handings:	DOISON
Signal Headings:	POISON  KEEP OUT OF REACH OF CHILDREN
	READ SAFETY DIRECTIONS BEFORE OPENING OR USING
Constituent	18 g/L ABAMECTIN
Statements:	TO GIL ADAMEOTIN
	SOLVENTS  100 c/l N METHYL 2 DVDDONE
	100 g/L N-METHYL-2-PYRROLIDONE 150 g/L DIETHYLENE GLYCOL MONOBUTYL ETHER
	481 g/L LIQUID HYDROCARBON
Mode of Action:	GROUP 6 INSECTICIDE
Statement of Claims:	For the control of certain mites on cotton, citrus, apples, capsicums, hops, pears, tomatoes, mushrooms, ornamentals, strawberries, blackcurrants, rhubarb, blackberries, raspberries, blueberries, cucumber, squash and zucchini, spring onions, shallots, snow peas and sugar snap peas, sweet corn, fruiting vegetables excluding cucurbits, lettuce and Native Budworm on cotton and other situations as specified in the Directions For Use table.
Net Contents:	5L-1000L
Restraints:	Do not use if rainfall is expected before spray has dried as reduced efficacy may result.
restraints.	Do not overhead irrigate within 24 hours of application.
Directions for Use:	This section contains file attachment.

Other Limitations:

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

# Withholding Periods:

#### **HARVEST**

Adzuki beans, mung beans, navy beans, soybeans, hops: DO NOT HARVEST FOR 4 WEEKS AFTER APPLICATION.

Apples, avocado, custard apple, pears: DO NOT HARVEST FOR 14 DAYS AFTER APPLICATION.

Blackcurrants, sweetcorn: DO NOT HARVEST FOR 21 DAYS AFTER APPLICATION. Blackberries, blueberries, citrus, lychees, papaya / pawpaw, raspberries, rhubarb: DO NOT HARVEST FOR 7 DAYS AFTER APPLICATION.

Cotton: DO NOT HARVEST FOR 20 DAYS AFTER APPLICATION.

Cucumber, fruiting vegetables (other than cucurbits), mushrooms, squash and zucchini, spring onion, shallots, lettuce, strawberries: DO NOT HARVEST FOR 3 DAYS AFTER APPLICATION.

Nursery Stock: NOT REQUIRED WHEN USED AS DIRECTED.

Passionfruit, snowpeas and sugar snap peas: DO NOT HARVEST FOR 1 DAY AFTER APPLICATION.

#### **GRAZING**

Adzuki beans, mung beans and navy beans, soybeans: DO NOT GRAZE FOR 4 WEEKS AFTER APPLICATION.

Apples, pears: DO NOT FEED TREATED PRODUCE TO LIVESTOCK FOR 14 DAYS AFTER APPLICATION.

Avocado, custard apple, papaya / paw paw: DO NOT GRAZE OR CUT TREATED AREA FOR STOCK FOOD.

Cotton: DO NOT GRAZE OR CUT FOR STOCK FEED FOR 20 DAYS AFTER APPLICATION.

Cucumber, fruiting vegetables (other than cucurbits), squash and zucchini, strawberries: DO NOT FEED TREATED PRODUCE TO LIVESTOCK FOR 3 DAYS AFTER APPLICATION. Duboisia: DO NOT GRAZE PLANTATIONS OR CUT GRASS FOR STOCK FOOD. Hops:DO NOT GRAZE OR CUT FOR 4 WEEKS AFTER APPLICATION.

Nursery Stock, Passionfruit: NOT REQUIRED WHEN USED AS DIRECTED.

Oil tea tree, Sweetcorn: DO NOT GRAZE OR CUT FOR STOCK FOOD FOR 21 DAYS AFTER APPLICATION.

ornamentals, rhubarb: DO NOT CUT OR GRAZE FOR STOCK FOOD.

Snow peas and Sugar snap peas: DO NOT GRAZE OR CUT FOR STOCK FOOD FOR 2 DAYS AFTER APPLICATION.

### Trade Advice:

Trade advice

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 Titan Ag Pty Ltd for the latest information on MRLs and import tolerances before using abamectin.

General Instructions:

This section contains file attachment.

#### Resistance Warning:

# INSECTICIDE RESISTANCE WARNING

#### **GROUP 6 INSECTICIDE**

For insect resistance management TITAN Abamectin Insecticide/Miticide is a group 6 miticide and insecticide. Some naturally occurring mite and insect biotypes resistant to this product and other group 6 insecticides may exist through normal genetic variability in any mite or insect population. The resistant individuals can eventually dominate the mite or insect population if the product or other Group 6 insecticides are used repeatedly. The effectiveness of the product on resistant individuals could be significantly reduced. Since occurrence of resistant individuals is difficult to detect prior to use, TITAN AG Pty Ltd accepts no liability for any losses that may result from the failure of this product to control resistant insects or mites

#### Precautions:

#### **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 in glasshouses for 24 hours after treatment. When prior entry is necessary, wear cotton overalls buttons to the neck and wrist and elbow-length gloves.

#### Protections:

PROTECTION OF CROPS, NATIVE AND OTHER NON-TARGET PLANTS Drift Warning: DO NOT apply under weather conditions, or from spraying equipment, that may cause spray to drift onto nearby susceptible plants/crops, cropping lands or pastures.

PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT DO NOT contaminate streams, rivers or waterways with the chemical or used containers. Dangerous to fish and other water-borne organisms. Dangerous to bees. DO NOT spray any plants in flower while bees are foraging. Studies indicate that when Abamectin comes into contact with soil it readily and tightly binds to the soil and becomes inactive over time.

# Storage and Disposal:

# STORAGE AND DISPOSAL

Store in the closed original container in a cool, dry, well-ventilated area. DO NOT store for prolonged periods in direct sunlight.

For Non-Refillable Containers: Triple rinse containers before disposal. Add rinsings to spray tank. DO NOT dispose of undiluted chemicals on site. If recycling, replace cap and return clean containers to recycler or a 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 500mm 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.

For Refillable Containers: Storage must be secure so that contents cannot be tampered with. All locks and/or seals must be in order. If locks or seals are broken prior to initial use then the integrity of this product cannot be assured. If this occurs TITAN AG Pty Ltd should be advised immediately. Empty contents fully into application equipment. Close all valves and return to point of supply for refill or storage.

# 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.

# Safety Directions:

#### SAFETY DIRECTIONS

Poisonous if swallowed. Will irritate the eyes and skin. Avoid contact with eyes and skin. Do not inhale spray mist. When opening the container, preparing the product for use and using the prepared product wear cotton overalls buttoned to the neck and wrist (or equivalent clothing), elbow-length chemical resistant gloves and goggles.

In addition, if applying by low pressure hand wand, wear half face-piece respirator with dust cartridge or canister.

When using as a dip, wear cotton overalls buttoned to the neck and wrist (or equivalent clothing), a washable hat, elbow-length chemical resistant gloves, impervious footwear, goggles and half facepiece respirator.

If product in eyes, wash it out immediately with 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, goggles, respirator (if rubber was with detergent and warm water) and contaminated clothing.

#### First Aid Instructions:

# FIRST AID

If poisoning occurs, contact a doctor or Poisons Information Centre. Phone Australia 13 11 26, New Zealand 0800 764 766. If swallowed, do NOT induce vomiting. If in eyes, hold eyes open, flood with water for at least 15 minutes and see a doctor. If skin contact occurs, remove contaminated clothing and was skin thoroughly.

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# DIRECTIONS FOR USE:

SITUATION	PEST	RATE	WHP (days)	CRITICAL COMMENTS
Apples, Pears	Two Spotted Mite ( Tetranychus urticae), European Red Mite ( Panonychus ulmi)	750mL/ha plus 5L/ha summer oil (see general instructions for mixing rates)	14 (G,H)	For best results, apply the product using dilute application (spraying to point of run-off). If applying with concentrate applications efficacy may be compromised. DO NOT apply at more than two times concentrate (i.e. half the dilute water volume). Apply the same amount of TITAN Abamectin Insecticide/Miticide to the target crop whether by spraying by dilute or concentrate spraying methods. DO NOT apply this product either before or after applications of Delan or Captan. In apples apply this product from 2 to 6 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 as soon as possible after mite numbers have reached a threshold for your area. Maximum mite control is usually reached at 7 days. Moderate to high mite populations will be controlled, but if there are no predatory mites present retreatment with another miticide (from another chemical group) may be necessary. Integrated Pest Control: The effects of Abamectin on parasitic wasps and other beneficial pests in Australian orchards are not known. Studies have shown that after application of Abamectin predatory mite populations may not increase for a number of weeks, due to lack of suitable pest mite prey. Predatory mite numbers will increase with any pest mite numbers allowing the continuation of biological mite control. DO NOT use in IPM programmes unless the pest mite threshold has been reached and predators are unlikely to achieve effective control.
Citrus	Broad Mite ( Polyhagotars-onemus latus), Brown Citrus Rust Mite (Tegolophus australis), Citrus Rust Mite (Phyllocoptera oleivora)	Apply by dilute or concentrate spraying equipment. Dilute spray: 15mL/100mL or 25mL/100mL	7 (H)	Apply the same amount of TITAN Abamectin Insecticide/Miticide to the target crop whether by spraying by dilute or concentrate spraying methods. Use the higher rate when the pest pressure is high. DO NOT apply more than once per season.

	Queensland fruit fly	plus 250mL/100mL summer oil Concentrate spray: Refer to application section – citrus Apply as a dilute spray in 3000 to 6000L water/ha as pest pressure indicates.  25 mL / 100 L	7 (H)	Apply in a spray volume of 15 – 20 L/ha in combination with suitable
	(QFF)			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	25 mL / 100 L Plus either: 30mL clofentezine (500 g/L) product / 100 L		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.

		Or 5 mL amitraz (200 g/L) product / 100 L		
Cotton (Qld, NSW and WA only)	Carmine Mite ( Tetranychus cinnabarinus), Two Spotted Mite ( Tetranychus urticae)	300mL/ha	20 (G,H)	DO NOT make more than 2 applications to cotton per season, regardless of pest being controlled.  To ensure adequate control: 1. Apply when the threshold number of mites has been reached for your region. 2. Apply when mite populations are low. If the mite population is too high at the time of application satisfactory control may not be achieved. Under high pest pressure a second application may be required 7-10 days after the initial application. Thorough coverage is essential.
	Native Budworm ( Helicoverpa punctigera )	300 or 600mL/ha		DO NOT make more than 2 applications to cotton per season, regardless of pest being controlled. Use only when Lepton kit results indicate that no greater than 10% Helicoverpa armigera are present. Use the higher rate alone or the lower rate with a suitable mixing partner. Applications should target brown eggs and newly emerged larvae (neonates). Mixed larval populations should be avoided.
Hops	Two Spotted Mite ( Tetranychus urticae)	1L/ha	28 (G,H)	Apply as a dilute spray in 1000 to 2000L water/ha (depending on crop size) as pest pressure indicates. DO NOT apply more than once per season.
Strawberries	Two Spotted Mite ( Tetranychus urticae)	100 mL/100 L If spray volume is less than 600 L/ha, use a minimum of 600 mL/ha DO NOT exceed 1200 mL/ha	3 (G,H)	Spray to wet all foliage to near the point of run off. Ensure thorough coverage and penetration into plants. Best results are obtained if application is made at the first sign of mite appearance. When applied at this time one application may give good control. If mite numbers exceed 3-5 mites per leaflet, apply two applications 7-10 days apart. Re-apply if required, but apply a maximum of two sprays of this product per season. If further treatment is required, apply a product from a different chemical group. Integrated Pest Control: See instructions in Apples and Pears section above. Refer to notes on resistance under General Instructions section of this label.
Ornamentals including	Two Spotted Mite ( Tetranychus urticae)	50mL/100L to a maximum of	Nil (H) DO	Spray to wet foliage to the point of run off using at least 2000L water/ha (100L/500m2). Thorough coverage and penetration into plants is essential.

Roses, Chrysanthem ums, Carnations and indoor foliage plants		1.5L	NOT GRAZE OR CUT FOR STOCK FOOD	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 7-10 days later. DO NOT use overhead irrigation within 24 hours of application. DO NOT use on Ferns or Shasta. For ornamentals not listed on this label, small test applications to test unexpected phytotoxicity should be made before spraying the whole crop. DO NOT use more than 2 times per season. Refer to notes on resistance under General Instructions section of this label.
Soybeans	Two Spotted Mite ( Tetranychus urticae)	300mL/ha	28 days (G,H)	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 second mite application 7-10 days later may be needed. DO NOT apply more than 2 sprays per season.
Mushrooms	Red pepper mites (Siteroptes mesembrinae) Mushroom pygmy mites (Microdispus lambi)  Soil borne nematodes of the family Rhabditidae	6 mL / 50 L of casing material  3mL in 1.5 L of water/m2 of growing medium	3 days (H)	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.  DO NOT 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.
Rhubarb	Broad mite (Polyphagotarsonemus latus)	300 or 450 mL/ha or 60-90 mL/ 100 L	7 (H) DO NOT GRAZE OR CUT FOR STOCK FOOD.	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.  Do not 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.
Blackcurrant s	Two spotted mite (Tetranychus urticae)	300 or 450 mL/ha or 60-90	21 (H)	Apply using spray volume of 1000L/ha. Spray to point of runoff. DO NOT exceed 1200L/ha.

		mL/ 100 L		When applying 60-90mL/100L application, DO NOT exceed 500L/ha spray volume.  DO NOT apply more than one application per season.  Apply when mites appear before numbers exceed 3 mites / leaf.  Apply using high volume ground spray application using an air blast sprayer.  DO NOT 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 (Tetranychus urticae)	300 or 450 mL/ha or 60-90 mL/ 100 L	7 (H)	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 60-90mL/100L application, DO NOT exceed 500L/ha spray volume.  DO NOT 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.
Blackberries, Raspberries and Blueberries	Queensland fruit fly (QFF) (Bactrocera tryoni)	Spot treatment: To prepare diluent, add 25 mL product /100 L, plus yeast autolysate.  To be applied at 125 spots / ha, with 20 mL diluent applied per spot.  Strip Spray Treatment: To	7 (H)	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. DO NOT make more than 12 applications to any fruit crop in any one season.  DO NOT apply when conditions are unsuitable for water based sprays (i.e. high temperatures, strong winds, inversion conditions, imminent rain).

Cucumber,	Two spotted mite	add 25 mL product / 100 L, plus yeast autolysate. To be applied at 15 L diluent / ha 300 - 450	3 (G,	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).  Apply with a properly calibrated boom sprayer (or equivalent) in sufficient
squash and zucchini	(Tetranychus urticae)	mL/ha	H)	volume to penetrate the plant canopy and evenly cover the plant surfaces.
Spring onions and shallots (field only)			3 (H)	Apply before pest populations reach economic damaging levels. Re-apply if monitoring shows moderate numbers of pest mites re-infest plants.  Allow at least 28 days between applications.
Snow peas and sugar snap peas	Two spotted mite (Tetranchus urticae) Tomato Red Spider Mite (Tetranychus		1 (H); 2 (G)	Do not apply more than 2 applications per crop  Abamectin should not be applied in two consecutive seasons without a
Sweet corn (field only)	evansi)		21 (G, H)	chemical from a different MOA group being used in between.
Fruiting vegetables other than cucurbits. Including tomatoes, peppers (sweet and chilli), and eggplant	Two spotted mite (Tetranychus urticae) Tomato Red Spider Mite (Tetranychus evansi)	300 – 450 mL/ ha (high volume spraying 60 mL / 100 L or 90 mL/100 L)	3 (G,H)	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). Reapply 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.
	Tomato Russet Mite		3 (G,H)	Do not use more than 2 applications per crop.  Do not 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.  Apply as for Two Spotted Mite. The lower rate will control Tomato Russet

	(Aculops lycopersici)			Mite not apparent at spraying. Use the higher rate when Tomato Russet
	(Aculops lycopersici)			Mite is present at spraying or is the main pest.
	Tomata Datata Davilid	450 mL / ha	3 (G,H)	Thorough coverage and penetration into the plant canopy is essential.
	Tomato Potato Psyllid (Bactericera cockerelli)	plus 500 mL	3 (G,H)	Thorough coverage and penetration into the plant canopy is essential.
		summer spray oil (or 90 mL /		Preferably apply before the build-up of pest numbers. Re-apply when pest numbers indicate.
		100L)		Alternative with a thoron boundary
				Alternate with other chemical groups.
				Allow at least 28 days between applications.
				Do not use more than 2 applications per crop. Refer to notes on resistance under General Instructions section of label.
	Tobacco Leafminer (Potato Moth) (Phthorimaea	600 mL/ ha (for high volume	3 (G,H)	Apply in sufficient volume to obtain even coverage and penetration of plants.
	operculella)	spraying use 120 ml /100 L)		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.
Lettuce	Two spotted mite (Tetranychus urticae)	300 – 450 mL/ ha or 60 -90 mL / 100 L water	3 (H)	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.
				DO NOT 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.

Avocados	Tea Red Spider Mite (Olygnychus coffeae)	37.5 mL / 100 L water with 500 mL Summer Oil per 100 L water	14 (H) DO NOT GRAZE OR CUT TREAT ED AREA FOR STOCK FOOD.	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 –1500L/ha.  Do not 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
Papaya / pawpaw	Two spotted mite (Tetranychus urticae)	300 or 450 mL/ha or 60-90 mL/ 100 L	7 (H) DO NOT GRAZE OR CUT TREAT ED AREA FOR STOCK FOOD.	Apply when pest first appears. Ensure adequate spray penetration to obtain effective control of pest.  Do not make more than one application per season.  To avoid resistance, sprays should be rotated with products from different chemical classes
Custard apple	Two spotted mite (Tetranychus urticae)  Banana spotted mite (Tetranychus lambi)	60 – 90 mL/100L or 300 – 450 mL/ha	14(H) DO NOT GRAZE OR CUT TREAT ED AREA FOR	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.  Do not apply more than one application per season

			STOCK FOOD.	
Passionfruit	Passionvine Mite (Brevipalpus phoenicis Geijskes) Two spotted mite (Tetranychus urticae)	50 mL / 100 L water	1 (H) Nil (G)	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 –1500L/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.  Do not 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 (Tetranychus urticae)  Litchi erinose mite (Aceria litchii)	50-100 mL/100 L water	7 (H)	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.
Adzuki beans, Mung beans and	Two spotted mite (Tetranychus urticae)	300 mL/ ha	28 (G, H)	Monitor crops regularly and apply as soon as threshold mite or thrips numbers have been reached.

navy beans	Bean or onion thrips (Thrips tabaci)			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 median 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 retreatment interval of 7 – 10 days between applications.
Duboisia	Red spider mite (Tetranchus urticae)	750 mL/ ha plus 5 L/ha of summer oil.	Grazin g: Do not graze plantati ons or cut grass for stock food.	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.
Oil tea tree	Pyrgo beetle	300 mL/ ha	21 (G)	Apply to coppice regrowth.  Apply as a foliar spray by ground or aerial application. Use a spray volume of 30 – 100 L/ha.  Do not apply more than 2 applications per crop.  For resistance management alternate with products from different mode of action groups

Nursery stock (non-	Tomato Potato Psyllid (Bactericera cockerelli)	450 mL / ha plus 500 mL	-	Thorough coverage and penetration into the plant canopy is essential.
food)	(Basicinsera cockereili)	summer spray oil Or 90 mL / 100L		Apply before pest populations reach economic damaging levels. Re-apply if monitoring shows moderate numbers of pests re-infest plants.
				Do not apply more than 2 applications per crop. Allow at least 7 days between applications.
				Do not apply more than 2 consecutive sprays before changing to an approved insecticide from a different chemical group.
Cut flowers	Tomato Potato Psyllid (Bactericera cockerelli)	90 mL/100 L water or 450	-	Use as a pre-harvest spray or post-harvest dip.
		mL/ha		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.

G = Grazing, H = Harvest

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

#### **GENERAL INSTRUCTIONS**

This product is not systemic, but quickly moves into leaves following application. It is important that thorough coverage is achieved so that the maximum amount of product can be deposited on the leaf surface for uptake and subsequent ingestion by sucking mites. Product that is not absorbed by leaves is quickly degraded.

#### Resistance

It is known that early development of mite resistance may occur if one particular miticide and miticides from one particular chemical group are continually used. For this reason it is recommended that this product be applied no more than twice in one season and preferably only once per season. A second application is only recommended where mite pressure is very high. It is also recommended to alternate this product with miticides from a different chemical group. Consult your local supplier or technical adviser for further information on chemical groups.

It is recommended that this product be applied no more than the following amount of times per season/crop and that it is not used consecutively except where a two-spray schedule is specifically recommended:

**Cotton:** No more than twice in one season and preferably only once per season. A second application is only recommended where mite pressure is very high.

Apples, Capsicums, Pears, Citrus, Hops: One spray per season.

**Tomatoes:** Two sprays per season, five sprays if mites are NOT present.

Strawberries: Two sprays per season.

For other crops see Directions for use.

This product **must not** be applied in two consecutive seasons or crops without an unrelated chemical being used in between. Alternate this product with approved miticides from other chemical groups. For further information contact your local supplier, TITAN AG representative or local agricultural department agronomist.

**Crop Monitoring:** It is essential to carry our regular crop monitoring of mite levels (every 2-3 days for cotton and every 3-5 days for other crops) to ensure the product is applied at the correct timing.

## MIXING INSTRUCTIONS FOR APPLES AND PEARS

To obtain 750mL of this product + 5L Summer Oil/ha apply spray at the following mixing rates:

	This Product	Summer Oil
	Quantity per 100L required	
1000L/ha (minimum)	75 mL	500mL
1500 L/ha	50 mL	335 mL
2000L/ha	37.5 mL	250 mL
2500 L/ha	30 mL	200 mL

#### MIXING

Partly fill the spray tank with water, add the required amount of this product, and then add the remainder of the product. If oil is recommended then add this after the TITAN Abamectin Insecticide/Miticide is well mixed. A wetting agent is NOT required.

#### CROP SAFETY

A mixture of this product with 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 volumes.

DO NOT apply this product to apples and pears before or after applications of Delan\* or Captan\*. The label instructions on the summer oil must be strictly followed.

Conditions which may contribute to crop damage are: 1. Unusually hot conditions present or expected within 24 hours of application. 2. Poor or slow drying conditions. 3. Application with equipment that may leave large droplets on fruit after application.

#### **COMPATIBILITY**

This product is compatible with most commonly used insecticides and fungicides. However all mixtures should be tested prior to mixing commercial quantities.

APPLICATION INSTRUCTIONS FOR COTTON This product may be applied by ground spraying or by fixed wing aircraft. Apply in a minimum of 20L of water per hectare. Ensure good coverage. Ground: Apply with inter-row droppers fitted with nozzles spraying towards the cotton rows. The inter-row nozzles should be level with or just below the canopy and spraying at right angles to the ground. Air (fixed wing): Apply in cooler parts of the day or night when there is a reliable cross wind to assist with good penetration into the crop canopy. Preferably use aircraft fitted with Micronair atomisers.

#### APPLICATION INSTRUCTIONS FOR CITRUS

To be effective this product requires thorough spray coverage. Ensure that equipment is properly calibrated to give an even distribution at the correct volume. The same quantity of product per hectare should be used when spraying either with dilute or concentrate method.

# **Dilute Spraying**

- Use a sprayer designed to apply high volumes of water up to 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. 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 100L 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.

# **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 1500L/ha
  - 2. Your chosen spray volume: For example 500L/ha
  - 3. The concentration factor in this example is: 3X (i.e. 1500L divided by 500L = 3)
  - 4. If the dilute label rate is 10mL/100L, then the concentrate rate becomes  $3 \times 10$  that is 30mL/100L of concentrate spray.
- The chosen spray volume, amount of product per 100L 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