



**Company Name:** GROW CHOICE PTY LIMITED

**Product Name:** Ruler 200 Insecticide

**APVMA Approval No:** 80096/ 100199

<b>Label Name:</b>	Ruler 200 Insecticide
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<b>Signal Headings:</b>	POISON KEEP OUT OF REACH OF CHILDREN READ SAFETY DIRECTIONS BEFORE OPENING OR USING
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<b>Constituent Statements:</b>	200 g/L FIPRONIL
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<b>Mode of Action:</b>	<b>GROUP 2B INSECTICIDE</b>
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<b>Statement of Claims:</b>	For the control of various insect pests in asparagus, bananas, brassicas, cotton, forestry, ginger, wine grapevines, mushrooms, pasture, potatoes, sorghum, sugarcane and swede.
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<b>Net Contents:</b>	1L - 20L
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<b>Restraints:</b>	
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<b>Directions for Use:</b>	This section contains file attachment. <b>File Name:</b> Ruler 200 Insecticide Directions for Use.docx <b>File Size:</b> 61123 bytes
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<b>Other Limitations:</b>	
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<b>Withholding Periods:</b>	ASPARAGUS: DO NOT HARVEST FOR 1 DAY AFTER APPLICATION. BANANAS: NOT REQUIRED WHEN USED AS DIRECTED. BRASSICAS: DO NOT HARVEST FOR 7 DAYS AFTER APPLICATION. COTTON: DO NOT HARVEST FOR 4 WEEKS AFTER APPLICATION DO NOT GRAZE OR CUT FOR STOCK FOOD. GINGER: NOT REQUIRED WHEN USED AS DIRECTED.
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	<p>WINE GRAPEVINES: NOT REQUIRED WHEN USED AS DIRECTED (H). DO NOT FEED TRASH OR BY-PRODUCTS RESULTING FROM TREATED GRAPEVINES TO LIVESTOCK (G).</p> <p>MUSHROOMS: DO NOT HARVEST FOR 14 DAYS AFTER APPLICATION.</p> <p>PASTURE: DO NOT GRAZE OR CUT FOR STOCK FOOD FOR 14 DAYS AFTER APPLICATION. POTATOES, SWEET POTATOES: NOT REQUIRED WHEN USED AS DIRECTED.</p> <p>DO NOT GRAZE OR CUT FOR STOCK FOOD ANY PART OF FAILED CROP (INCLUDING TUBERS).</p> <p>SORGHUM: DO NOT HARVEST, GRAZE OR CUT FOR STOCK FOOD FOR 14 DAYS AFTER APPLICATION.</p> <p>SUGARCANE: DO NOT HARVEST FOR 12 WEEKS AFTER APPLICATION. DO NOT GRAZE OR CUT FOR STOCK FOOD FOR 12 WEEKS AFTER APPLICATION.</p> <p>SWEDE AND TURNIPS: DO NOT HARVEST FOR 7 DAYS FOLLOWING APPLICATION. DO NOT ALLOW LIVESTOCK TO GRAZE TREATED CROP.</p> <p>LIVESTOCK WITHHOLDING PERIOD WITHHOLD STOCK FROM SLAUGHTER FOR 21 DAYS AFTER APPLICATION, WHERE STOCK WERE PRESENT IN CROP OR PASTURE AT TIME OF APPLICATION.</p>
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<b>Trade Advice:</b>	<p><b>RESIDUES MANAGEMENT IN EXPORT PRODUCE</b></p> <p><b>Crops</b> Growers should note that MRLs or import tolerances do not exist in all markets for produce treated with RULER 200 Insecticide. If you are growing produce for export, please check with Grow Choice for the latest information on MRLs and import tolerances BEFORE using RULER 200 Insecticide.</p> <p><b>Livestock</b> Livestock may be exposed to fipronil residues in the feed by grazing treated pasture and/or sorghum forage and fodder. Observance of the 14 day grazing withholding period permits compliance with Australian MRLs for fipronil in meat, offal and milk. To meet more stringent export residues requirements, Meat and Livestock Australia recommends Export Slaughter Intervals (ESIs) and Export Grazing Intervals (EGIs) for RULER 200 Insecticide. When livestock grown for export are grazed on pasture and/or sorghum forage and fodder treated with RULER 200 Insecticide the user must obtain details of the recommended export intervals from Meat and Livestock Australia and must follow those recommendations.</p>
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<b>General Instructions:</b>	<p>This section contains file attachment.</p> <p><b>File Name:</b> Ruler 200 Insecticide General Instructions.docx <b>File Size:</b> 124287 bytes</p>
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<b>Resistance Warning:</b>	<p><b>INSECTICIDE RESISTANCE WARNING</b> <b>GROUP 2B INSECTICIDE</b></p> <p>For insecticide resistance management Ruler 200 Insecticide is a Group 2B insecticide. Some naturally occurring insect biotypes resistant to Ruler 200 Insecticide and other Group 2B insecticides may exist through normal genetic variability in any insect population. The resistant individuals can eventually dominate the insect population if Ruler 200 Insecticide or other Group 2B insecticides are used repeatedly. The effectiveness of Ruler 200 Insecticide on resistant individuals could be significantly reduced. Since the occurrence of resistant individuals is difficult to detect prior to use, Grow Choice Pty Ltd accepts no liability for any losses that may result from the failure of this product to control resistant insects.</p> <p>Ruler 200 Insecticide may be subject to specific resistance management strategies. For further information contact your local supplier, Grow Choice representative or local agricultural department agronomist.</p>
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<b>Precautions:</b>	PRECAUTIONS Re-entry period
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	DO NOT allow entry into treated areas until spray has dried. When prior entry is necessary, wear cotton overalls buttoned to the neck and wrist (or equivalent clothing). Clothing must be laundered after each days use. Human flaggers, if used in aerial spraying operations, must be protected by enclosed cabs.
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<b>Protections:</b>	<p><b>PROTECTION OF LIVESTOCK</b>  Dangerous to bees. DO NOT apply where bees from managed hives are known to be foraging, and crops, weeds or cover crops are in flower at the time of spraying, or are expected to flower within 28 days (7 days for pastures and sorghum).  Before spraying, notify beekeepers to move hives to a safe location with an untreated source of nectar, if there is potential for managed bees to be affected by the spray or spray drift. If an area has been sprayed inadvertently, in which the crop, weeds or cover crop were in flower or subsequently came into flower, notify beekeepers in order to keep managed bees out of the area for at least 28 days (7 days for pastures and sorghum) from the time of spraying. Where the owner of managed hives in the vicinity of a crop to be sprayed is not known, contact your State Department of Primary Industries/ Agriculture, citing the registration number, for assistance in contacting the owner.</p> <p><b>PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT</b>  DO NOT contaminate streams, rivers or waterways with the chemical or used containers. DO NOT spray across open bodies of water. Highly toxic to fish and aquatic organisms. This product will kill susceptible non-target invertebrates, including beneficial species, if they are exposed to drift. DO NOT apply aerially to brassicas and potatoes. A spray drift minimisation strategy should be employed at all times when aerially applying sprays to, or near, sensitive areas. The strategy envisaged is exemplified by the cotton industry's Best Management Practice Manual.</p>
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<b>Storage and Disposal:</b>	<p><b>STORAGE AND DISPOSAL</b>  Store in the closed, original container in a dry, cool, well-ventilated area out of direct sunlight.  Triple or preferably pressure 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 designated collection point.  If not recycling, break, crush, or puncture and deliver empty packaging for appropriate disposal 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. Do not re-use container for any other purpose.</p>
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<b>Safety Directions:</b>	Harmful if inhaled or swallowed. Will irritate the eyes and skin. Repeated exposure may cause allergic disorders. Avoid contact with eyes and skin. When opening the container and preparing product for use, wear cotton overalls buttoned to the neck and wrist (or equivalent clothing), elbow-length PVC gloves and goggles. When using the prepared spray, wear cotton overalls buttoned to the neck and wrist (or equivalent clothing) and elbow-length PVC gloves. Wash hands after use. After each days use, wash gloves goggles and contaminated clothing.
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<b>First Aid Instructions:</b>	<b>FIRST AID</b> If poisoning occurs contact a doctor or Poisons Information Centre (Phone Australia 131126).
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<b>First Aid Warnings:</b>	
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**DIRECTIONS FOR USE**

CROP	PEST	STATE	RATE	WHP	CRITICAL COMMENTS
Asparagus					<b>Dangerous to bees. Refer to PROTECTION OF LIVESTOCK.</b>
	Garden weevil ( <i>Phlyctinus callosus</i> )	WA, Vic only	40 mL/100L applying 500L spray solution per hectare	1 day (H)	Day time spraying is effective but superior control may be achieved if spray is applied at night. Repeat applications as required, depending on pest pressure. Controlling weevils in asparagus fern may reduce abundance the following season. <b>DO NOT</b> apply more than 6 applications per season, up to 4 applications to spears and after harvest 2 applications.
Bananas	Banana rust thrips ( <i>Chaetanaphothrips signipennis</i> )	Qld, NSW, WA, NT only	<u>Butt application</u> <b>All planting configurations:</b> 150 mL / 100 L water (0.75 mL/stool)  <u>Band application</u> <b>All planting configurations:</b> 40 mL/ 100 m <sup>2</sup> treated area  (See table under 'General Instructions - Application' for calculation of the treated area)	–	<b>Timing</b> Application should ideally be made at least two months prior to bunch emergence to reduce early thrips pressure. Such an application could coincide with an application for banana weevil borer control (see label directions below). <u>Butt application</u> Apply in a coarse spray covering the stem to a height of 30 cm and the soil/trash in a 30 cm radius from the stem base. Apply a total volume of 500 mL solution per stool. Ensure thorough coverage of butt, suckers, trash and exposed soil. <u>Band application</u> Apply in a band along each row. The band width should be such that at least 30 cm of soil/trash is treated on both sides of the butt. Apply with a side delivery boom and offset nozzles directed to spray at least 30 cm of soil on either side of the butt and to a height of 30 cm up the stems. Repeat the application from the opposite side of the row. Half of the spray volume required to treat each row should be applied from each direction of spraying. For double row configurations, treat both rows with each pass, ensuring the ground area between the two rows is also treated. Ensure thorough coverage of butt, suckers, trash and exposed soil. Apply in a minimum water volume of 13 L/100 m <sup>2</sup> (trash removed) or 26 L/100 m <sup>2</sup> (trash retained). See table under 'General Instructions – Application' for guidance.
					<b>Dangerous to bees. Refer to PROTECTION OF LIVESTOCK.</b>
		Banana weevil borer ( <i>Cosmopolites sordidus</i> )	Qld, NSW, WA, NT only	<u>Butt application</u> <b>All planting configurations:</b> 150 mL / 100 L water (0.75 mL/stool)	-
Brassicas (head cabbage, cauliflower, broccoli, Brussels sprout, kohlrabi)					<b>Dangerous to bees. Refer to PROTECTION OF LIVESTOCK.</b>
	Diamondback moth ( <i>Plutella xylostella</i> ), cabbage white butterfly ( <i>Pieris rapae</i> ), cabbage cluster caterpillar ( <i>Crociodolomia pavonana</i> )	All States	250 mL/ ha	7 days (H)	Diamondback moth can rapidly become resistant to insecticides. To preserve the effectiveness of RULER 200, limit the number of applications to no more than 4 per year, preferably applied within an 8 week ( <i>cont'd. over</i> )

## DIRECTIONS FOR USE

CROP	PEST	STATE	RATE	WHP	CRITICAL COMMENTS
<b>Brassicas (head cabbage, cauliflower, broccoli, Brussels sprout, kohlrabi)</b>	Diamondback moth ( <i>Plutella xylostella</i> ), cabbage white butterfly ( <i>Pieris rapae</i> ), cabbage cluster caterpillar ( <i>Crociodolomia pavonana</i> )	All States	250 mL/ ha	7 days (H)	(cont'd. from previous)  period. Use spray volume of between 400 and 1000 L/ha according to crop size. Use a non-ionic wetting agent at the rate specified by the manufacturer for use in horticultural crops. Ensure that the rate of wetting agent used results in efficient spray coverage of the leaf surface. This use is subject to an CropLife Resistance Management Strategy. Refer to your Grow Choice representative for details.
					<b>Dangerous to bees. Refer to PROTECTION OF LIVESTOCK.</b>
<b>Cotton</b>	Cotton thrips ( <i>Thrips tabaci</i> ) Green mirid ( <i>Creontiades dilutus</i> )	Qld, NSW, WA only	62.5 to 125 mL/ha	4 weeks (H)	Apply at the first sign of the pest. Ruler 200 will take 3-4 days to reach full effectiveness. Apply spray to achieve thorough coverage of foliage when pest first appears and repeat as required. Use the higher rate in situations of high thrips pressure. Use the higher rate under sustained heavy green mirid pressure. Use higher rate in situations of high green vegetable bug pressure. The product is compatible with early season IPM with the lower rate having less impact on beneficials.
<b>Forestry Plantations including Eucalyptus, Pinus and Corymbia spp.</b>	Australian plague locust ( <i>Chortoicetes terminifera</i> ), Spur-throated locust ( <i>Austracris guttulosa</i> ), Migratory locust ( <i>Locusta migratoria</i> ) Wingless grasshopper ( <i>Phaulacridium vittatum</i> ) Small plague grasshopper ( <i>Austroicetes cruciata</i> )	All States	6.25 mL to 12.5 mL/ha	–	Apply in plantations situations up to a maximum of two years of age. Apply diluted with water to a minimum of 20 L/ha by air or 50 L/ha by ground rig, directly onto locusts. Ensure thorough coverage of foliage. Residual control of these pests provided by Ruler 200 will vary with conditions. Rainfall will significantly reduce residual control. Residual control will also be reduced when applied directly to bare earth. Where inaccessibility prevents direct spraying of locusts apply as a barrier treatment (minimum 25 m wide) ahead of advancing hopper bands. DO NOT retreat for 14 days following application. DO NOT apply Ruler 200 to wet foliage. Ruler 200 is rainfast after drying on foliage (1 hour). Respray only if rain falls before spray is dry on crop. Mortality will increase to a maximum over a period of 3-15 days after spraying. Speed of kill varies with locust species, temperature and age of adults. Fully mature, adult spur-throated locusts may show symptoms of debilitation 4-48 hours after spraying but in cool weather may take up to 14 days to die. Feeding ceases when debilitation symptoms appear. See also <b>General Instructions</b> .
<b>Ginger</b>	Symphylids	Qld only	<b>Pre-plant application</b> 250 mL to 500 mL/ha <b>Dipping</b> 1 mL/200L + 250 mL/ha pre-planting application	–	<b>Pre-plant application</b> Apply as a spray to soil and incorporate to a depth of 200mm prior to planting. Use the higher rate in heavier soils and/or under high pest pressure. <b>Dipping</b> Dip seed pieces in aqueous solution prior to planting in beds pre-treated with Ruler 200 . Dip solution is achieved by mixing 1 mL of Ruler 200 in 200 L of water.
<b>Wine Grapevines</b>	Fig longicorn ( <i>Acalolepta vastator</i> )	All States	100mL/ 100L	–	Apply as a single spray to dormant vines following pruning and prior to budburst. Apply only as a high volume spray using hand held equipment. Thorough coverage of vine trunks and cordons is essential for effective control. <b>Refer to Application Wine grapevines.</b>

## DIRECTIONS FOR USE

CROP	PEST	STATE	RATE	WHP	CRITICAL COMMENTS
Mushrooms	Mushroom flies ( <i>Sciarids, Phorids and Cecids</i> )	All States	16 mL/ 300 L bale of peatmoss	14 days (H)	Prepare solution by mixing RULER 200 with a small volume of water. Apply mixture to peatmoss during preparation of casing. Ensure thorough mixing with peat moss.
Pasture, Sorghum					<b>Dangerous to bees. Refer to PROTECTION OF LIVESTOCK.</b>
	Australian plague locust ( <i>Chortoicetes terminifera</i> ), Spur-throated locust ( <i>Austracris guttulosa</i> ), Migratory locust ( <i>Locusta migratoria</i> ) Wingless grasshopper ( <i>Phaulacridium vittatum</i> ) Small plague grasshopper ( <i>Austroicetes cruciata</i> )	All States	6.25 mL/ha	14 days (H, G)	Apply diluted with water to a minimum of 20 L/ha by air or 50 L/ha by ground rig, directly onto locusts. Ensure thorough coverage of foliage. Residual control of these pests provided by Ruler 200 will vary with conditions. Rainfall will significantly reduce residual control. Residual control will also be reduced when applied directly to bare earth. Where inaccessibility prevents direct spraying of locusts apply as a barrier treatment (minimum 25 m wide) ahead of advancing hopper bands. DO NOT retreat for 14 days following application. DO NOT apply Ruler 200 to wet foliage. Ruler 200 is rainfast after drying on foliage (1 hour). Respray only if rain falls before spray is dry on crop. Mortality will increase to a maximum over a period of 3-15 days after spraying. Speed of kill varies with locust species, temperature and age of adults. Fully mature, adult spur-throated locusts may show symptoms of debilitation 4-48 hours after spraying but in cool weather may take up to 14 days to die. Feeding ceases when debilitation symptoms appear. See also <b>General Instructions</b> .
Potatoes, Sweet potatoes	Wireworm (various), mole cricket (various)	All States	250 mL/ha	-	Apply as a broadcast spray to the surface of the soil and incorporate to a depth of 15 cm prior to planting.
	Whitefringed weevil ( <i>Naupactus leucoloma</i> )	All States	500 mL/ha		
Sugarcane					<b>Dangerous to bees. Refer to PROTECTION OF LIVESTOCK.</b>
	Sugarcane weevil borer ( <i>Rhabdoscelus obscurus</i> )	Qld, NSW, WA, NT only	2 to 5.7 mL/100 m row	12 weeks (H, G)	Apply during the Summer months of December to February when the crop has produced the first millable internode of cane. Use hollow cone nozzles as a directed spray to cover the base of the sugarcane stools and up the stalk to a height of 40 cm. Treat both sides of the stools ensuring coverage of all stalks, soil and trash in an area to 10 cm either side of the stools. Use a non-ionic wetting agent at the rate specified by the manufacturer. Ensure that the rate of wetting agent used results in efficient spray coverage of the stalk, soil and trash surface. Apply in a minimum water volume of 250 L/ha (approx. 3.8 L/100 m row). Use the higher rate when pest pressure is heavy.
	Sugarcane wireworm (various)		<b>Single row plantings:</b> 1.1 mL/ 100 m single row length  <b>Double row plantings:</b> 1.8 mL/ 100 m double row length	-	Apply in the planting furrow over the top of the plant pieces (setts), in sufficient water to ensure coverage of the plant pieces and the surrounding soil.

<b>Swede and Turnips</b>	Diamondback moth ( <i>Plutella xylostella</i> )	All States	250 mL/ha	7 days (H)	Use according to the CropLife Resistance Management Strategy for diamondback moth control. The use is limited to 4 applications per year, preferably applied within an 8 week period.
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## MIXING

*Asparagus, Bananas, Brassicas, Cotton, Ginger, Wine Grapevines, Pasture, Potatoes, Sweet Potatoes, Sorghum, Sugarcane*

Slowly add the required amount of product to water in the spray tank while stirring or agitating. Agitate while spraying.

*Mushrooms*

Add required amount of RULER 200 Insecticide to a small quantity of water, ensuring thorough mixing.

## APPLICATION

*Bananas*

Ensure thorough coverage of butts, suckers and surrounding trash and exposed soil.

*Bananas (Band Spray)*

Example calculations of the quantity of RULER 200 Insecticide and the minimum water volume required to treat a 100 m row length of bananas for various band widths:

Band width to be treated <sup>#</sup>	Spray area per 100 m row	Total quantity of Fipronil 200 required per 100 m row*	Minimum recommended water volume per 100 m (Trash removed)*	Minimum recommended water volume per 100 m (Trash retained)*
1.5 m	150 m <sup>2</sup>	60 mL	20 L	40 L
2.0 m	200 m <sup>2</sup>	80 mL	27 L	54 L
2.5 m	250 m <sup>2</sup>	100 mL	33 L	66 L
3.0 m	300 m <sup>2</sup>	120 mL	40 L	80 L

<sup>#</sup>Band width = butt diameter plus 30 cm on either side of the butt

\*Rows should be treated from both sides. The quantities stated are the total amounts to be applied, i.e. half of the stated quantity should be applied from each direction of spraying.

*Brassicas*

Ensure thorough coverage of foliage and heads.

*Cotton*

For ground application use a prepared spray volume of 35 – 75 L/ha depending on the size of the crop. For aerial application see 'Aerial application' instructions below.

*Ginger*

Apply as a spray to soil and incorporate to a depth of 200 mm prior to planting.

*Wine Grapevines*

Ruler 200 Insecticide should be applied by hand held equipment as a high volume directed spray of approximately

500mL of solution per vine directed to trunks and cordons during dormant period only.

*Mushrooms*

Apply mixture to peat moss during preparation of casing, ensuring even mixing in peat moss.

*Potatoes, Sweet Potatoes*

Apply as a broadcast spray to the surface of the soil and incorporate to a depth of 15 cm prior to planting.

*Swede and Turnip*

Ensure thorough coverage of foliage.

## AERIAL APPLICATION

Use spray techniques that minimise off-target spray drift. DO NOT use rotary atomisers. Use application volumes between 20 L and 50 L/ha. Achieve a droplet density of

~60 droplets/cm<sup>2</sup> on a flat surface on the target. When spraying large droplets (>250 µm), increase the application volume to >40 L/ha to ensure sufficient droplets are produced.

Aerial application is not recommended for brassica and potato crops.