

ORTHENE[®] XTRA INSECTICIDE

DIRECTIONS FOR USE

CROP	PEST	STATE	RATE		WHP	CRITICAL COMMENTS
			For further information refer to the Application Section of the GENERAL INSTRUCTIONS			
			Per Hectare (low volume)	Per 100 Litres water (High volume)		
Bananas	Banana scab moth (<i>Macleaya octasema</i>), Banana flower thrips (<i>Thrips hawaiiensis</i>)	Qld, NSW, WA, NT only	-	65 to 130 g 6.5 to 13 g/100 L (At 30 mL/bell use 130 g/100 L) At 40 mL/bell use 97.5 g/100 L At 60 mL/bell use 65 g/100 L	-	Bell injection only Apply 30 to 60 mL of prepared solution to each banana bell. The volume required per bell should be determined by the average bell size to be treated, prior to making up the solution. Use the highest concentration (13 g/100 L) when applying 30 mL per bell. Use the lowest concentration (6.5 g/100 L) when applying 60 mL per bell. Inject the required volume directly into the upright bell as it emerges from the throat of the banana plant.
	Banana rust thrips (<i>Chaetanaphothrips simpennisi</i>)	Qld, WA, NT only	-	130 g (13 g/10 L water)	-	Bunch spray only Apply, to the point of run-off, up to 50 mL of prepared spray solution to each bunch, ensuring thorough, even spray coverage. Application should be made no later than 2 weeks after bunch emergence.
Brussels sprouts	Helicthis (<i>Helicoverpa</i> spp.)	Tas only	1.0kg	100g	3 days	Spray when infestation occurs and then at 10-14 day intervals or as necessary. Use a non-ionic wetting agent at the rate specified by the manufacturer for use in horticultural crops.
	Cabbage moth, cabbage white butterfly	NSW, Vic, Tas, SA, WA, NT only	0.8kg	80g		
Cabbages, cauliflowers, broccoliflowers	Cabbage aphid, helicthis (<i>Helicoverpa</i> spp.)	Qld, WA, NT only	1.0kg	100g	3 days (broccoli 14 days)	
	Cabbage moth, cabbage white butterfly	NSW, Vic, Tas, SA, WA, NT only	0.8kg	80g		
Macadamias	Cabbage aphid, helicthis (<i>Helicoverpa</i> spp.)	Qld, WA, NT only	0.8kg	80g		
	Macadamia nut borer, fruit spotting bug, leaf miner	NSW, WA only	-	Dilute spraying: 80 g/100 L	-	Apply when pest activity first observed and repeat at 14 to 21 day intervals or as necessary. Apply by dilute or concentrate spraying equipment.
	Redshouldered leaf beetle	Qld, WA, NT only	-	Concentrate spraying: Refer to the Application Section in GENERAL INSTRUCTIONS	-	Apply the same total amount of product to the target crop whether applying this product by dilute or concentrate spraying methods.
	Flower eating caterpillar	NSW, WA only	-	Dilute spraying: 50 g/100 L	-	Apply at early flowering if pests evident. One to three sprays may be required depending on time and severity of infestation. Spray when bees are least active. Apply by dilute or concentrate spraying equipment.
Ornamentals	Flower eating caterpillar, fruit spotting bug, macadamia leaf miner, banana-spotting bug, flower thrips.	Qld, NT only	-	Dilute spraying: 50 g/100 L	-	Apply the same total amount of product to the target crop whether applying this product by dilute or concentrate spraying methods.
	Flower thrips, banana spotting bug, macadamia leaf miner.	WA only	-	Concentrate spraying: Refer to the Application Section in GENERAL INSTRUCTIONS	-	
	Aphids	All States	1.0kg	100g	-	Spray when infestation occurs and then at 14 day intervals. DO NOT spray more than once every 28 days on carnations and chrysanthemums. See also warning under Protection of Crops Section. DO NOT apply to carnations less than 6 days before picking.
Potatoes	Helicthis (<i>Helicoverpa</i> spp.)	Vic, Tas, SA, WA only	0.5kg	50g	3 days	Spray every 14-21 days or as necessary.
	Potato moth (tobacco leafminer)	All States	0.8kg	80g	14 days	Spray as indicated by crop checking (usually a minimum of 7 days is required). Use high volume application for good coverage i.e. 130-400 L/ha depending on crop stage, particularly attention to the bud heart. Spray at 7-10 day intervals, when the pest is present.
Tobacco	Helicthis (<i>Helicoverpa</i> spp.), tobacco looper, whitefly, cluster caterpillar, stem borer	Qld, WA only				
	Burdwom (<i>Helicoverpa armigera</i>)	NSW only				
Tomatoes	Potato moth (tobacco leafminer), Helicthis (<i>Helicoverpa</i> spp.)	NSW, Vic, Tas, SA, WA only	1.0kg	100g	3 days	Spray when infestation occurs and then at 7-14 day intervals or as necessary. (Ground application only).
	Potato moth (tobacco leafminer), helicthis (<i>Helicoverpa</i> spp.), aphids.	Qld, NT only	0.8kg	80g		Apply when infestation occurs and then at 7 day intervals or as necessary.

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

WITHHOLDING PERIOD (WHP)

Bananas, macadamias, ornamentals – NOT REQUIRED WHEN USED AS DIRECTED
Brussels sprouts, cabbages, cauliflowers, potatoes, tomatoes – DO NOT HARVEST FOR 3 DAYS AFTER APPLICATION.
Broccoli, tobacco – DO NOT HARVEST FOR 14 DAYS AFTER APPLICATION.

GENERAL INSTRUCTIONS

INSECTICIDE RESISTANCE WARNING **GROUP 1B INSECTICIDE**

For insecticide resistance management, Orthene Xtra is a Group 1B insecticide. Some naturally occurring insect biotypes resistant to Orthene Xtra and other Group 1B insecticides may exist throughout normal genetic variability in any insect population. The resistant individuals can eventually dominate the insect population if Orthene Xtra or other Group 1B insecticides are used repeatedly. The effectiveness of Orthene Xtra on resistant individuals could be significantly reduced. Since occurrence of resistant individuals is difficult to detect prior to use, Arvesta Corporation accepts no liability for any losses that may result from the failure of Orthene Xtra to control resistant insects.

The user should seek advice, and monitor the performance, and if the results are not in accordance with expectations, contact the manufacturer immediately. Apparent resistance however, should not be confused with poor application, coverage or timing techniques.

Orthene Xtra may be subject to specific resistance management strategies. For further information contact your local supplier, Arvesta Corporation representative or local agricultural department agronomist.

Export of treated produce
Growers should note that MRLs or import tolerances do not exist in all markets for edible produce treated with Orthene Xtra Insecticide. If you are growing edible produce for export, please check with Arvesta Corporation for the latest information on MRLs and import tolerances BEFORE using Orthene Xtra Insecticide.

Mixing
Add the required amount of Orthene Xtra Insecticide to the full volume of water in the spray or mixing tank with the agitator in operation. Ensure that the granules are completely dissolved before spraying.

Application

Good pest control requires even, thorough coverage of the target area. Application should be made using appropriate spray equipment and sufficient water to provide adequate penetration and coverage. Equipment settings and water volume may need to vary, depending on the growth stage of the crop.

Application instructions for all crops excluding Macadamias and Bananas
By Ground: Where spray volume equals or exceeds 1000 L/ha use the appropriate Rate per 100 L water, as specified in the "High Volume" column of the Directions for Use table. Where spray volume is less than 1000 L/ha use Rate per hectare, as specified in the "Low Volume" column of the Directions for Use table.

Aerial application Apply in a minimum of 20 L of water per hectare, using the appropriate rate per hectare, as specified in the "Low Volume" column of the Directions for Use table.

Application instructions for Bananas

Refer to Critical Comments section of Directions for Use Table for full details on method of application.

Special Instructions for Macadamias

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 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.

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.
- This 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 X (i.e. 1500 L ÷ 500 L = 3)
4. If the dilute label rate is 50g/100L, then the concentrate rate becomes 3 X 50, that is 150 g/100 L 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

Orthene Xtra Insecticide may be mixed in the spray vat with Oxydell[®]. A mixture of Orthene Xtra Insecticide with other products may be ineffective or may cause serious damage and hence is not recommended.

RE-Entry Period

Do not allow entry into, or perform agronomic practices in, treated areas until the spray deposits have dried. When prior entry is necessary, wear cotton overalls buttoned to the neck and wrist and elbow-length PVC gloves. Clothing must be laundered after each day's use. For greenhouse and other confined areas, do not re-enter until spray deposits have dried and area has been thoroughly ventilated.

PROTECTION OF CROPS, NATIVE AND NON-TARGET PLANTS

Bananas: As with a bell injection or bunch spray during the wet season may result in some damage to banana hands.

Ornamentals: Orthene Xtra Insecticide may cause foliage damage to certain shrubs and trees, e.g. crab apple, cotton wood, Lombardy poplar and American elm. DO NOT spray more than once every 28 days on carnations and chrysanthemums. Certain chrysanthemum varieties, e.g. Showoff, Iceberg, Albatross, Bonnie Jean and Statesman have, on occasions, been damaged by Orthene Xtra Insecticide.

PROTECTION OF LIVESTOCK

Harmful to bees – DO NOT apply during active foraging of bees and avoid spraying at flowering time. Avoid spray drift from target area. DO NOT contaminate feed or foodstuffs.

PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT
DO NOT contaminate streams, rivers or waterways with this product or the used container.

DRAFT WARNING

DO NOT apply in weather conditions, or from spraying equipment, which could be expected to cause spray to drift onto adjacent crops, crop lands, pasture or livestock.

STORAGE AND DISPOSAL

Store in the closed, original container in a dry, cool, well-ventilated area, out of direct sunlight. Single rinse before disposal. Add rinsings to spray tank. Do not dispose of undiluted chemicals on site. Puncture and bury empty containers in a local authority landfill. If no landfill is available, bury the containers below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt.

SAFETY DIRECTIONS

Poisonous if absorbed by skin contact, inhaled or swallowed. Repeated minor exposure may have a cumulative poisoning effect. Will irritate the eyes. Avoid contact with eyes. Do not inhale dust or spray mist. Obtain an emergency supply of atropine tablets 0.6 mg. When opening the container, preparing spray and using the prepared spray, wear cotton overalls buttoned to the neck and wrist and washable hat, elbow-length PVC gloves and face shield. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each day's use, wash gloves, face shield, and contaminated clothing.

FIRST AID

If poisoning occurs, contact a doctor or Poisons Information Centre. Phone Australia 131126. If swallowed, give one atropine tablet every 5 minutes until dryness of the mouth occurs – if poisoned by skin absorption or through the lungs, remove any contaminated clothing, wash skin thoroughly and give atropine tablets as above. Get to a doctor or hospital quickly.

MATERIAL SAFETY DATA SHEET

Additional information is listed in the Material Safety Data Sheet, which can be obtained from Arvesta Corporation.

EXCLUSION OF LIABILITY

This product as supplied is of a high grade and suitable for the purpose for which it is expressly intended and must be used in accordance with the directions. The user must monitor the performance of any product as climatic, geographical or biological variables and/or developed resistance may affect the results obtained. No responsibility is accepted in respect of this product, save for those non-excludable conditions implied by the Trade Practices Act or any State or Federal legislation.

APVMA Approval No: 50469/1/0/05

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Batch Number:

Date of Manufacture:

Dimensions: 195mm (Depth) X 145mm (Width)