



GROCHEM CROP DOC 600

SYSTEMIC FUNGICIDE

A systemic fungicide for the control of root rot in avocado, root and collar rot in citrus, root and crown rot in ornamentals & root and heart rot in pineapples caused by phytophthora fungi and for the control of downy mildew in grapes, poppies and cucurbits.

GENERAL INFORMATION

GROCHEM CROP DOC 600 is a specially formulated 600 g/L of Phosphorous (Phosphonic) Acid present as Mono (and) Di Potassium Phosphate. As a result of this formulation it is a nearly neutral pH product, which aids in plant uptake, movement and disease control. A near neutral pH will also help with product compatibility, when mixing with product such as coppers.

CROP DOC 600 is rapidly transported from the point of entry throughout the plant to the site of infection. This is especially important when dealing with root and tissue acting diseases. The mode of action combines both toxicity to the infection as well as aiding natural plant defenses.



CROP DOC 600 is short lived in the plant, it oxidises to Phosphate, which is a high demand macro-nutrient required for plant growth. This rapid breakdown to plant available nutrients gives it a short withholding period.

CROP & SITUATION	DISEASE	STATE	TREATMENT METHOD	RATE	CRITICAL COMMENTS
ALMONDS	Suppression of <i>Phytophthora</i> spp	ALL STATES	Foliar spray	333 mL/100L	Ensure thorough coverage of foliage and branches. Spray to point of run-off using air blast sprayer or equivalent equipment. DO NOT apply more than two (2) application per season. DO NOT apply after hull split. DO NOT apply under high temperatures, particularly if humidity is low.
			Irrigation	5.2 L/ha	Ensure even mixing with irrigation water. DO NOT apply more than two (2) application per season. DO NOT apply after hull split. DO NOT apply under high temperatures, particularly if humidity is low.
AVOCADO	Phytophthora Root Rot (<i>Phytophthora cinnamomi</i>) (curative treatment)	QLD, NSW, VIC, SA, WA, ACT ONLY	Trunk Injection	Skeletal trees: 1st year 5mL undiluted product per metre of canopy diameter Other situations: 2.5mL product diluted with 7.5mL water per metre of canopy diameter	Injection: Inject trees at spring flush maturity – repeat treatment in February and March. Drill holes 5mm diameter and 25-50mm deep with slight downhill angle in the trunk. Syringes should be placed in the main trunk of the tree and spaced evenly around the circumference of the trunk. Suitable for use with injectors, Agmuri gun or hydraulic tree injection. Do not prune back trees before injection process as burning of new growth may occur. Do not inject trees in winter months. Do not cut back the canopy of injected trees. Do not add any other material other than water to Crop Doc 600 for tree injection. Do not inject more liquid in a lesser number of syringes than directed.
			Foliar Spray	3.3-4.0L/ha	Solution concentrate: 165-200ml/100L Amount per unit: Spray to run off – 7.5 to 10L per adult tree. 1. For curative apply every 3 weeks until disease is under control. 2. For prevention apply every 5 to 6 weeks.
CHESTNUT	Suppression of Phytophthora Trunk and Root Canker (<i>Phytophthora cinnamomi</i>)	NSW, VIC, SA, WA, TAS ONLY	Stem Injection	Dilute 1 to 3 parts with water; then inject 20 mL per meter of canopy.	DO NOT apply to trees under severe water stress or during very hot weather. Apply trunk injection up to three (3) times per year, two (2) during the production (growing) season and one (1) post-harvest.

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CROP & SITUATION	DISEASE	STATE	TREATMENT METHOD	RATE	CRITICAL COMMENTS
YOUNG OR SMALL CITRUS	Phytophthora Root Rot (<i>P. nicotianae</i> var <i>parasitica</i>) & Collar Rot (<i>P. citrophthora</i>)	ALL STATES	Foliar Spray	170-330mL/100L to leaf wetness (by boom or similar high volume sprayer)	<p>Two applications: 1. Late winter prior to flowering. 2. Autumn applied to mature fruit Repeat applications annually to maintain protection of the plant. Depending on conditions at time of application, use a non-ionic wetting agent in conjunction with Crop Doc 600.</p> <p>Where disease incidence is high or well established: For effective control apply as a protectant before above ground symptoms of decline and collar rot become evident, spray trees for even coverage. Do not apply under high temperature (above 35° C) particularly if humidity is low or to moisture stressed trees.</p> <p>Low phytophthora pressure, well drained soil: Removal of fruit from affected plants will enhance recovery.</p> <p>Warning: Young container grown mandarin trees may develop leaf burn and growth retardation following foliar application or soil drench of Potassium Phosphate at a rate recommended for established trees.</p>
MATURE CITRUS	Phytophthora Root Rot (<i>P. nicotianae</i> var <i>parasitica</i>) & Collar Rot (<i>P. citrophthora</i>)	ALL STATES	Foliar Spray	13.3L/ha in 3000 to 4000L of water. 53mL/12L per tree	
				8.3L/ha in 2000 to 5000L of water. 33mL/12L per tree	
CUCURBITS	Downy Mildew (<i>Pseudoperonospora cubensis</i>)	ALL STATES	Foliar Spray	3L/ha in min 800L to 1000L of water	Use weekly spray intervals when conditions favour disease development. To avoid phytotoxicity with some plant species, it is recommended that the product be tested on a few plants of each species prior to the main application.
GRAPES	Downy Mildew (<i>Plasmopara viticola</i>)	ALL STATES	Foliar Spray	2L/ha early season/ small canopies. 2.7- 4L/ha mid-late season /large canopies	It is essential that the rate of Crop Doc 600 is adjusted to the vine-row volume (i.e. the volume of vine foliage per hectare). An application of 500 L/ha is suggested at the start of the season, increasing to 2000 L/ha in a vigorous crop at full canopy. Spray timing is critical. For best results apply Crop Doc 600 as a tank mix with protectant fungicides such as mancozeb/dithane, Copper Oxychloride etc, to ensure both pre and post-infection activity. Crop Doc 600 should be applied at times of high disease risk, especially between the time that conditions are conducive to downy mildew infection and the appearance of oil spots. Ensure spray coverage is adequate and that the appropriate rate of Crop Doc 600 is applied to match vine growth, particularly from mid-season onwards, and especially where grapes are grown on root stock.
MACADAMIAS	Phytophthora Root Rot (<i>Phytophthora</i> spp.) Trunk (Stem) canker (<i>P. cinnamomi</i>)	NSW, Qld, WA ONLY	Foliar application	170 – 200 mL/100L	Apply to affected macadamia trees at mature leaf flush during Spring and Autumn. Apply to each leaf flush if disease persists during the production season. DO NOT apply to young leaf flush, as phosphorous acid may burn the foliage. Apply spray to the point of run-off, ensuring all leaves and branches are covered. Apply as maximum of two (2) application per crop. Apply using a spray volume of 2,000 to 3,000 L/ha for mature tress (depending on tree size) OR 7.5 - 10L of solution per tree. Apply using airblast sprayer or equivalent equipment. DO NOT apply to trees under severe water stress or during hot weather.
			Trunk application	334 mL/L	Apply to affect macadamia trees at root flush and 28 days after root flush. Apply a maximum of two (2) applications per crop. Apply by dilute spray to the point of run-off around the trunk to approximately 1 m above the soil level, ensuring thorough coverage around the entire trunk. Trunk is to be wet at time of application. Apply using a knapsack sprayer or equivalent equipment. A bark penetrant such as Pulse or similar is to be applied at the rate of 2% v/v.
ORNAMENTALS	Phytophthora Root & Crown Rot	VIC, NSW, QLD, TAS, WA, ACT, NT ONLY	Foliar Spray	Knapsack/Boom: 170mL/100L Air Blast: 330mL/100L	DO NOT apply to ornamental plants under extremes of temperature. DO NOT apply when ornamental plants are dormant or stressed. Apply at 4 to 6 week intervals when conditions favour disease development. To avoid phytotoxicity with some plant species, it is recommended that the product be tested on a few plants of each species prior to main application.
PINEAPPLE	Phytophthora Root & Heart Rot (<i>P. cinnamomi</i>)	QLD, WA ONLY	Foliar Spray	4L/ha in 800 to 2000L/ha boom spray	Apply to tops 2 weeks prior to harvest of planting material.
POPPIES	Downy Mildew (<i>Peronospora cristata</i>)	TAS ONLY	Foliar Spray	2L/ha	Commence application from 10-12 leaf stage up to row cover. Use in combination with mancozeb products at registered rate. Repeat 7-10 days later. Apply no more than 2 sprays per crop per season. Note: Crop toxicity problems may occur when application is made with low water volumes. Users should determine an appropriate water volume on a small area prior to large scale field use. Consult your field officer for assistance.
SUB-TERRANEAN CLOVER	Phytophthora Root Rot	NSW, SA, VIC, TAS, WA, ACT ONLY	Foliar spray	500mL/ha approx. 200L water/ha	Apply 8 to 9 days after first irrigation but before second irrigation. Apply in Autumn when subterranean clover is at the cotyledon to unifoliate growth stage.
WALNUTS	Phytophthora Root Rot (Preventative treatment ONLY)	NSW, VIC, SA, WA, & TAS ONLY	Trunk Injection	5 mL diluted with 7.5 mL water per metre of canopy diameter	DO NOT apply more that two (2) applications per season. The sensitivity of some species and varieties has not been fully evaluated. It is advisable to treat a small number of tress to ascertain their reaction before treating the whole crop.
			Microjet to root zone	5L/ha or 9.5 mL per tree	
			Foliar spray	For a tree height of 8 to 10 metres, dilute 3.3 mL in 1L water. Apply 384 L dilute spray per hectare or 12 L diluted product per tree	

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



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APVMA PERMITS

GROCHEM CROP DOC 600 can also be used under several different APVMA permitted uses. Always read the permit before use.
For the most up to date permits visit the APVMA website: portal.apvma.gov.au/permits.

PERMIT NO.	DESCRIPTION	STATUS	ISSUED DATE	EXPIRY DATE
PER13697	Phos acid / Strawberry runners / Root & crown rot (Phytophthora cactorum)	CURRENT	28-Aug-12	30-Sep-22
PER83873	VARIOUS / PINEAPPLES / PHYTOPHTHORA ROOT AND HEART ROT	CURRENT	22-Feb-18	28-Feb-26
PER80064	Phosphorous acid / Strawberries / Crown Rot	CURRENT	1-Nov-14	31-Oct-25
PER86216	Phosphorous Acid / Basil / Downy Mildew	CURRENT	22-Mar-18	31-Oct-25
PER81408	"PHOSPHOROUS ACID / CAPSICUM / PHYTOPHTHORA SOIL FUNGUS	CURRENT	7-Sep-15	31-Jul-25
PER13958	Various products / Rubus, Ribes & Blueberries / Various fungal blights	CURRENT	1-Apr-13	31-Aug-25
PER15259	Phosphorous Acid / Chestnuts / Suppression Phytophthora, Phomopsis	CURRENT	27-Feb-15	30-Apr-25
PER88903	Phosphorous acid / Ginger / Pythium Rhizome Rot (Pythium myriotylum)	CURRENT	10-Mar-20	31-Mar-21
PER11951	Phosphorous acid / Brussels sprouts, broccoli, cauliflower, spinach, silverbeet, endive, radicchio, chicory & processing peas / Downy mildew	CURRENT	1-Nov-10	31-Mar-25
PER87607	Phosphorous acid / Passionfruit / Phytophthora	CURRENT	5-Apr-19	30-Apr-24
PER81006	PHOSPHOROUS (PHOSPHONIC) ACID/NATIVE SHRUB, HEATH, WOODLAND AND FOREST VEGETATION/ PHYTOPHTHORA DIEBACK	CURRENT	9-Dec-15	31-Jan-23
PER86805	Phosphorous Acid / Rhubarb / Downy Mildew	CURRENT	21-Jan-19	31-Jan-24
PER13534	Phosphorous acid / Native vegetation / Phytophthora cinnamomi	CURRENT	28-Nov-12	31-Oct-23
PER84766	PHOSPHORUS ACID / MACADAMIA TREES / TRUNK (STEM) CANKER & PHYTOPHTHORA ROOT ROT	CURRENT	30-Nov-17	30-Nov-22
PER84708	Phosphorous acid / Sweet potato (Ipomoea batatas) / Pythium root rots and Phytophthora root rots (suppression only)	CURRENT	8-Aug-17	31-Aug-22
PER13697	Ridomil Gold 480EC and Phos acid / Strawberry runners / Root & crown rot (Phytophthora cactorum)	CURRENT	28-Aug-12	30-Sep-22
PER13698	Phosphorous / Lettuce (leaf+hydro), parsley, coriander Fennel and Bulb (Allium) Vegetables / Downy Mildew	CURRENT	1-Oct-12	30-Sep-22
PER13807	Phosphorous acid / Custard apple / Phytophthora	CURRENT	7-Nov-12	30-Sep-22
PER14184	Phosphorous (phosphonic) acid / Beetroot, Carrot, Parsnip & Brassica leafy vegetables / Damping off and downy mildew	CURRENT	1-Jul-13	30-Jun-22
PER14490	Phosphorous acid / Papaya (Pawpaw) / Phytophthora root rot & Pythium	CURRENT	4-Apr-14	31-Mar-22
PER81980	Various Fungicides / Cut flowers / Various fungal diseases	CURRENT	3-Feb-16	31-Dec-21

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DISCLAIMER: Application to fruit with poor pollination, or misshapen due to frost or other events, may enhance misshapen appearance. The information contained in this publication is of a general nature and should not be relied upon as a substitute for professional advice in specific cases. As no control can be exercised over the manner in which or the conditions under which this product is used, no responsibility will be accepted for any damage or injury whatsoever arising from the storage, handling, application or use of this product.