

Macadamia grower's handbook

Reprint – information current in 2004



REPRINT INFORMATION – PLEASE READ!

For updated information please call 13 25 23 or visit the website www.deedi.qld.gov.au

This publication has been reprinted as a digital book without any changes to the content published in 2004. We advise readers to take particular note of the areas most likely to be out-of-date and so requiring further research:

- Chemical recommendations—check with an agronomist or Infopest www.infopest.qld.gov.au
- Financial information—costs and returns listed in this publication are out of date. Please contact an adviser or industry body to assist with identifying more current figures.
- Varieties—new varieties are likely to be available and some older varieties may no longer be recommended. Check with an agronomist, call the Business Information Centre on 13 25 23, visit our website www.deedi.qld.gov.au or contact the industry body.
- Contacts—many of the contact details may have changed and there could be several new contacts available. The industry organisation may be able to assist you to find the information or services you require.
- Organisation names—most government agencies referred to in this publication have had name changes. Contact the Business Information Centre on 13 25 23 or the industry organisation to find out the current name and contact details for these agencies.
- Additional information—many other sources of information are now available for each crop. Contact an agronomist, Business Information Centre on 13 25 23 or the industry organisation for other suggested reading.

Even with these limitations we believe this information kit provides important and valuable information for intending and existing growers.

This publication was last revised in 2004. The information is not current and the accuracy of the information cannot be guaranteed by the State of Queensland.

This information has been made available to assist users to identify issues involved in macadamia production. This information is not to be used or relied upon by users for any purpose which may expose the user or any other person to loss or damage. Users should conduct their own inquiries and rely on their own independent professional advice.

While every care has been taken in preparing this publication, the State of Queensland accepts no responsibility for decisions or actions taken as a result of any data, information, statement or advice, expressed or implied, contained in this publication.



Queensland Government



Handy **GUIDES**

The **Chemical handy guide** lists common pests and diseases of macadamia and the chemicals registered for their control. Withholding periods are indicated for individual chemicals. The handy guides are followed by a listing of trade names and registration status in the different states of Australia.

These registrations are current as at June 2004, but are subject to continuous change. Always check the label before use. Updated information on registrations can be obtained from your chemical supplier, Infopest, the Australian Pesticide and Veterinary Medicines Authority (APVMA) or the Australian Macadamia Society.

The **Crop production handy guide** is a calendar of the major crop management operations timed to match the desired crop cycle for an orchard in southeast Queensland. It provides an easy to view monthly guide to the things that need to be done in the orchard.

Disclaimer

This is a guide only. The product label is the official authority—use it to confirm all data relating to use of a chemical. In no event shall the authors or their respective organisations be liable for any damages whatsoever resulting from use of the data in this handy guide.

Chemical handy guide for macadamia diseases

✓ indicates that a trade product containing the active ingredient is registered in at least one Australian state.

Note that different trade names have different withholding periods—check the label before use.

NA = Not applicable

SAFETY FIRST

Read the label

Follow the directions
Wear protective clothing

thiram	NA								✓		
phosphorous acid	NA							✓	✓		
prochloraz as MnCl ₂ complex	NA	✓									
copper hydroxide plus metalaxyl-M	28							✓	✓		
copper oxychloride plus metalaxyl	28							✓	✓		
metalaxyl-M	28							✓	✓		
metalaxyl	28							✓	✓		
benomyl	14								✓		
carbendazim	14							✓			
benomyl plus carbendazim	14			✓		✓			✓		
copper ammonium acetate	1								✓		
copper sulfate (tribasic)	1								✓		
copper oxychloride	1		✓			✓		✓	✓		
cuprous oxide	1		✓			✓		✓	✓		
copper hydroxide	1								✓		
iprodione	NA/o							✓			
<p>Active ingredient</p> 	<p>Withholding period (days)</p>	<p>Alternaria blight</p>	<p>Anthraco nose</p>	<p>Blossom blight</p>	<p>Botrytis blight</p>	<p>Macadamia husk spot</p>	<p>Phytophthora root rot</p>	<p>Phytophthora trunk/collar rot</p>	<p>Pink disease</p>	<p>Raceme (blossom) blight</p>	<p>Trunk and stem canker</p>

Chemical trade names and state registrations

Chemical	Chemical type	Trade name	Qld	NSW	Vic	SA	WA	NT	Tas	ACT
acephate	Group 1B Insecticide	Lancer 750 DF, Orthene Xtra	Yes	Yes	No	No	Yes	Yes	No	No
azinphos-methyl	Group 1B Insecticide	Benthion 200 Flowable, Gusathion 200 SC	Yes	Yes	No	No	Yes	No	No	No
benomyl	Group A Fungicide	APVMA permit	Yes	Yes	No	No	No	No	No	No
benomyl plus carbendazim	Group A fungicide	APVMA permit	Yes	Yes	No	No	No	No	No	No
beta-cyfluthrin	Group 3A Insecticide	Bulldock Prime, Bulldock 25 EC	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Btk	Group 11C Insecticide	Delfin	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Btaz	Group 11C Insecticide	Agree, Bacchus	No	Yes	No	No	No	No	No	Yes
carbaryl	Group 1A Insecticide	Bugmaster Flowable, Carbaryl 500, Carbaryl 500 Flowable, Carbaryl WP	Yes	Yes	No	No	Yes	No	No	No
carbendazim	Group A Fungicide	APVMA permit	Yes	Yes	No	No	No	No	No	No
chlorpyrifos	Group 1B Insecticide	APVMA permit	No	Yes	No	No	No	No	No	No
coumatetralyl	coumarin	Racumin, Racumin 8	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
copper as ammonium acetate	Group Y fungicide	Liquicop	Yes	No	No	No	No	No	No	No
cuprous oxide	Group Y Fungicide	Flocop, Norshield, Nordox 500, Norshield 750 WP, Norshield WG	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
copper hydroxide	Group Y Fungicide	Kocide Blue, Kocide Blue Xtra, Kocide Liquid Blue, Champ Dry Prill, Copper Hydroxide 500 WP, Kocide, Flo-boirdo	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
copper hydroxide plus metalaxyl-M	Group DY Fungicide	Ridomil Gold Plus	Yes	Yes	No	No	No	No	No	No
copper oxychloride	Group Y Fungicide	APVMA permit	Yes	No	No	No	No	No	No	No
copper oxychloride plus metalaxyl	Group DY Fungicide	Axiom Plus, Zee-Mil Plus	Yes	Yes	No	No	No	No	No	No
copper oxychloride	Group Y Fungicide	Brycop, Copper Oxychloride, Copper Oxychloride 50% WP, Copper Oxychloride WP, Copperoxy 500 WP, Coppox, Copper Oxychloride 500 WP, Oxydul DF	Yes	Yes	No	No	Yes	Yes	No	Yes
copper sulfate (tribasic)	Group Y Fungicide	Tri-Base Blue	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
diazinon	Group 1B Insecticide	Diazinon, Diazinon 800	Yes	Yes	No	No	Yes	No	No	No
endosulfan	Group 2A Insecticide	APVMA permit	Yes	Yes	No	No	Yes	No	No	No
ethoprophos	Group 1B Insecticide	APVMA permit	Yes	No	No	No	No	No	No	No
iprodione	Group B Fungicide	Rovral Liquid, Civet Aquaflor, Ippon 500 Aquaflor, Rovral Aquaflor Rovral 750 WG	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
metalaxyl	Group D Fungicide	Axiom 50G, Zee-Mil 50G, Ridomil 50G	Yes	Yes	No	No	No	No	No	No
metalaxyl-M	Group D Fungicide	Ridomil Gold 25G	Yes	Yes	No	No	No	No	No	No
methidathion	Group 1B Insecticide	APVMA permit	Yes	No	No	No	No	No	No	No
methidathion	Group 1B Insecticide	Supracide 400, Suprathion 400 EC	Yes	Yes	No	No	Yes	No	No	No
petroleum oil	Insecticide, Spreader	APVMA permit	Yes	No	No	No	No	No	No	No
phosphorous acid	Group Y Fungicide	APVMA permit	Yes	Yes	No	No	Yes	No	No	No
prochloraz as MnCl ₂ complex	Group C Fungicide	APVMA permit	No	Yes	No	No	No	No	No	No
sulphur	Scabicide, macro element	APVMA permit	Yes	No	No	No	No	No	No	No
tebufenozide	Group 16A Insecticide	Mimic 700 WP	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
thiram	Group Y Fungicide	APVMA permit	Yes	Yes	No	No	No	No	No	No
trichlorfon	Group 1B Insecticide	Dipterex 500 SL, Lepidex 500	Yes	Yes	No	No	No	Yes	No	No

Crop production handy guide

*Timing shown applies to southeast Queensland—some adjustment will be necessary for other production areas.

Operation	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June
Crop cycle*	Leaf growth	Peak flowering	Spring flush	Nut growth and oil accumulation	Summer flush	Nut drop	Flower	Nut drop				
Fertilising	Apply nitrogen in as many applications as possible throughout the year. Avoid applying all or nearly all in summer.											
Nitrogen	Apply phosphorus if necessary prior to wet season											
Phosphorus	Peak potassium needs											
Potassium	Apply organics after harvesting is completed											
Organics	Apply foliar sprays of boron, zinc & copper if necessary											
Trace elements	Sample here											
Leaf analysis	Apply zinc to summer leaf flush & boron to soil if necessary											
Pest & disease control	Monitor flowers for flower caterpillar & blossom blight—spray when action levels reached	Monitor green fallen nuts for spottingbugs & nutborer. Spray when action levels reached	Monitor nuts on trees for nutborer. Spray when action levels reached	Monitor for husk spot to determine spray requirement for next season	Treat trees for trunk canker if necessary	Treat trees for trunk canker if necessary	Treat trees for trunk canker if necessary	Treat trees for trunk canker if necessary	Treat trees for trunk canker if necessary	Treat trees for trunk canker if necessary	Treat trees for trunk canker if necessary	Treat trees for trunk canker if necessary
Irrigation	Peak water need											
Other operations	Introduce bee hives to improve pollination	Skirt and prune trees (after harvest & before flowering)	Ground preparation for harvest. Repair surface drains	Clean up under trees prior to harvest								
Harvesting (Boxes show nut drop pattern)	816/814/246/842/849	A38/A4/Daddow/A16	Harvest every 4 weeks	660	741/344	816/814/246/842/849	A38/A4/Daddow/A16	Harvest every 4 weeks				
Operation	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June

