

# **Walnut Blight Management Workshop**

Colin Jack  
Australian Walnut Industry Association

Project Number: WN11700

## **WN11700**

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**AUSTRALIAN WALNUT INDUSTRY ASSOCIATION**

**FINAL REPORT**

**MILESTONE 190.**

**PROJECT:** **WN11700 Walnut Blight Management Workshop**

**PROJECT TITLE:** **“Address the latest research and explore the most suitable methods of application to minimise blight.”**

**MILESTONE  
COMPLETION  
DATE:** **30<sup>th</sup> August 2011**

**AUTHOR:** **Trevor Ranford**

**RESEARCH  
PROVIDER:** **Australian Walnut Industry Association.**

**PROJECT NO:** WN11700

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**PURPOSE OF PROJECT:** “Conduct an industry workshop that addressed the latest research and explore the most suitable methods of application to minimise Walnut blight.”

**FUNDING SOURCES:** Horticulture Australia Limited  
Australian Walnut Industry Association  
Voluntary R&D Levy

**DATE OF REPORT:** 30<sup>th</sup> August 2011

**DISCLAIMER:**

*“Any recommendations contained in this publication do not necessarily represent current HAL policy. No person should act on the basis of the contents of this publication, whether as to matters of fact or opinion or other content, without first obtaining specific, independent professional advice in respect of the matters set out in this publication.”*

## **FINAL REPORT (MILESTONE 190)**

### **PROJECT OBJECTIVES:**

The Objectives of the Blight Workshop Project are as follows:-

- To present a summary of current research in Australia on Walnut Blight control.
- To present the various fungicides and alternative methods available and spray units for application.
- To offer a method for calculation of application rate of fungicide.
- To provide a forum for questions and answers in relation to Blight.
- Participants will leave with a greater knowledge of how Blight works, and how to best control it.

These objectives are to be achieved through:-

1. Organising and conducting a Blight Workshop
2. Distributing the presentations via a range of methods
3. Preparing a management report for use by growers.

The output below details the work undertaken to achieve the milestone objective.

### **Output:**

#### **1. Initial Notification.**

The Project Manager prepared an initial notice of the workshop for early distribution to Walnut growers.

A copy of the notice is attached as Appendix A

#### **2. Management Committee Meetings**

The Management Committee of Colin Jack, Carol Kurnet and Trevor Ranford held regular teleconference to plan the workshop program

#### **3. Industry Workshop Program**

A Blight Workshop program was developed and distributed by e-mail, mail and the web site to all known Walnut growers.

The workshop notice and program is attached as Appendix B.

#### **4. Summary of Current Research**

Michael Lang from Walnuts Australia and Dr Kathy Evans from the Tasmanian Institute of Agriculture Research gave an extensive presentation on the research and field work that had been done on Walnut Blight.

**The presentation is attached to this report as Appendix C.**

## **5. Control Methods.**

Steven Field, Senior Chemical Standards Officer, Victorian DPI Tatura made a presentation on chemical use in relation to Walnut Blight and other pest and diseases.

**The presentation is attached to this report as Appendix D.**

Greg Bennett, Territory Sales Manager, DuPont Crop Protection Australia gave a presentation on chemicals that can be used for the management of Walnut Blight. Mankocide <sup>TM</sup> DF was highlighted as an effective chemical that had been tested in field trials.

**The presentation is attached to this report as Appendix E.**

## **6. Question & Answer Forum.**

Questions were taken during the workshop and the following is a collation of those questions and answers.

**Q** Can Blight attack other parts of the tree?

**A** Yes, but we concentrated on the fruit. A good indicator of blight is the level that occurs in the buds as a site of the primary inoculums

**Q** So does the disease occur before the female flowers?

**A** Yes, assuming that there is rain before and during bud burst.

**Q** This last week was 23 degree and rain should we be monitoring as the buds are moving no?

**A** Temperature is important must not so much a key as rainfall. The Americans have developed a predictive model includes temperature. We have run these in TAS. However, they are not as successful.

**Q** How big should the bud be when we spray?

**A** The bacterium is in the outer bud scales, so as soon as the bud swells it is time to spray.

**Q** Can other organisms living in the buds out compete the bacterium?

**A** We do not know, worth considering for research.

**Q** What about infected pollen?

**A** Yes, infected catkins will fall off and this will knock fruit off early. The Americans do not see this as a major concern.

**Q** What are other causes of early fruit drop?

**A** There is a problem in Sirr, some in Lara caused by frost, non-pollination etc.

**Q** Is blight only affect walnuts?

**A** It affects all Juglans species.

**Q** Can you start a clean orchard?

**A** The inoculum source is in the buds...so can be in bud wood. It is widespread and it is hard to be disease free. It can survive on other plants too, and on the walnut mummies on the trees and the ground.

- Q** Is 7 days the magic figure between sprays?  
**A** The permit requirement is 7 – 10 days. Work in cherries shows that heavy rainfall reduces the copper from the leaves, so we need to reapply
- Q** The Americans advise to spray a day before rain. What do you think?  
**A** It depends on whether there is significant rain.
- Q** Once you spray with copper how soon does it work?  
**A** It works immediately. However, the chemical on the bacterial surface will decay over time and become less effective.
- Q** Can copper go on as a dust?  
**A** The Americans have tried it long ago, but now they have gone to Bordeaux. Mancozeb is a good dust application. We used to use Bordeaux at rate of 25kg copper to 2000L water and a 20 kg bag of lime, but it is messy and difficult to use.
- Q** Is there any phyto toxicity with the use of penetrants such a Pulse?  
**A** No, they are organo-silicates and reduce the surface tension to help get the product on. There is evidence to suggest that if re-wetting it all washes off. Do your own trials to see if it helps.
- Q** If blight control is a 2-year process and you have new orchards, would you spray before the first crop?  
**A** The stems are very susceptible to the bacterium and can kill your shoots so it is good to spray. Use what you see on the stems as a guide.
- Q** Are my off cuts from problem a problem?  
**A** They can still be viable and harbour the bacterium but it is a low probability.
- Q** After pruning, I go and spray to protect the wounds. Is this useful?  
**A** The Americans have tried a dormant season spray but because the bacterium can multiply so quickly, it is of only a little use.

#### **Issues that were raised for the future**

- More R and D on Penetrants.
- Pruning wounds
- Copper resistance
- Weather based model in practice
- Bio controls
- Systemics
- Lucerne crops
- Compost tea
- Late autumn sprays

## **7. National Horticulture Research Network.**

Dr Kathy Evans from the Tasmanian Institute of Agriculture Research (TIAR) gave a presentation on the new National Horticulture Research Network and how the Walnut Industry can be involved.

**The presentation is attached to this report as Appendix F.**

## 8. Overview of the Walnut Blight Workshop.

The following is a summary of the whole workshop

Fifty people attended the Seminar on Walnut Blight presented at Tatura on 13 August 2011 by Horticulture Australia and AWIA. The following is a summary of the papers presented. Power point presentations from all the speakers will be available at [walnut.net.au](http://walnut.net.au). Attendees will receive copies from the day.

**The First paper was presented by Michael Lang (Walnuts Australia) and Kathy Evans (Tasmanian Institute of Agricultural Research)** looking at Mike's research undertaken on Blight management in walnuts in Tasmania.


Blight is caused by a bacterium that survives in buds & catkins over winter. It spreads by rainsplash and wind onto leaves, shoots flowers and fruit. Pollen can also become infected and the catkins will fall from the tree early.

The disease development varies from year to year however, rainfall is the key weather variable, and particularly rainfall intensity ie how long the surface is wet. A sensor that can measure leaf wetness and temperature will give a useful indicator.

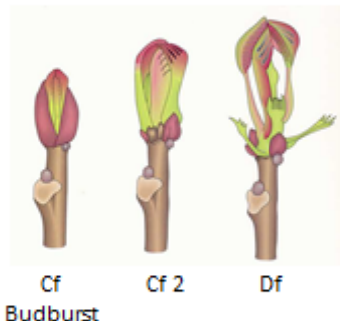
Blight Symptoms appear 17 to 24 days after bud burst so the first spray must be a bud burst.

Research shows that copper based sprays work best. There is a better control with use of Mankocide compared to Mancozeb plus copper. In a good year the first 2 sprays are critical. In a bad (wet) year at least 9 sprays were needed before there was an increase in the yield. It is important to control the disease until the fruit has reached half its full size. Spraying must be done in accordance with the label. Sprays were found to be cost-effective in a mature orchard in Tasmania

### Budburst sprays



- Budburst and shoot elongation can occur over a period of 2 to 3 weeks
- Increased fruit set with buds that burst within 7 to 10 days of earliest time of budburst (Chandler)
- Initial spray applied when 5% of terminal buds are at Cf 2
- Further budburst sprays applied at 7 day intervals?



Budburst

TIAR – research • development • extension • education • training

It is necessary to control the disease as a two year strategy (dealing with the level in the stems so you don't harbour the disease into the next year).



All cultivars are susceptible to infection and “Budburst” sprays are a necessary evil. “In-season” sprays are necessary for reducing the current disease and future inoculum potential and sprays must be applied prior to rainfall.

### **The National Horticulture Research Network: What’s in it for walnuts?...Kathy Evans**

A national RD and E Framework will facilitate further cooperation between research agencies and industry and provide greater efficiency and effectiveness. For each horticultural industry, a government agency (state) has been nominated to be the Major agency, or Support agency, or Link agency, or No role under the framework.

**Major agency:** For Walnuts this will be TIAR, Tasmania. TIAR has made a commitment to play a leadership role in developing and facilitating a national approach to R&D.

**Support agency:** Industry & Investment NSW undertake some research for the industry, in specialist areas and/or in regional R&D relevant to their state, collaborate with TIAR (Major agency) in undertaking research within the national program (if aligned with I&I NSW investment plan)

**Link agency:** DPI, Victoria - undertake little or no research but will access information and resources from other agencies to provide local industry with extension activities

For WALNUTS there could be better communication & coordination of R, D & E; Major & support agencies have made a commitment to maintain capability in walnut R, D & E; Knowledge not generated by the framework can be delivered via the framework; Framework fosters collaboration rather than duplication & competition.

### **Steven Field, Chemical Standards Officer for Department of Primary Industries, VIC.**

Steven outlined the legislative requirements for the use of horticultural chemicals. Although requirements may vary from state to state the following general rules apply.

Any Restricted Use Chemicals are only to be used by someone who has an agricultural chemical users permit and has completed a course on chemical use. Users must read and follow the instruction on the chemical label.

Non Restricted Chemicals (off label) must not be used at a higher rate or more frequently or contrary to a specific use.

Most states will have a public chemical registration information system (PUBCRIS) the APVMA lists all chemicals that are registered for use. Registered chemicals have a minimal residue limit. (note that ANIC and AWIA apply for permits on behalf of all growers for particular chemicals for use such as Mancozeb which is used for bacterial blight).

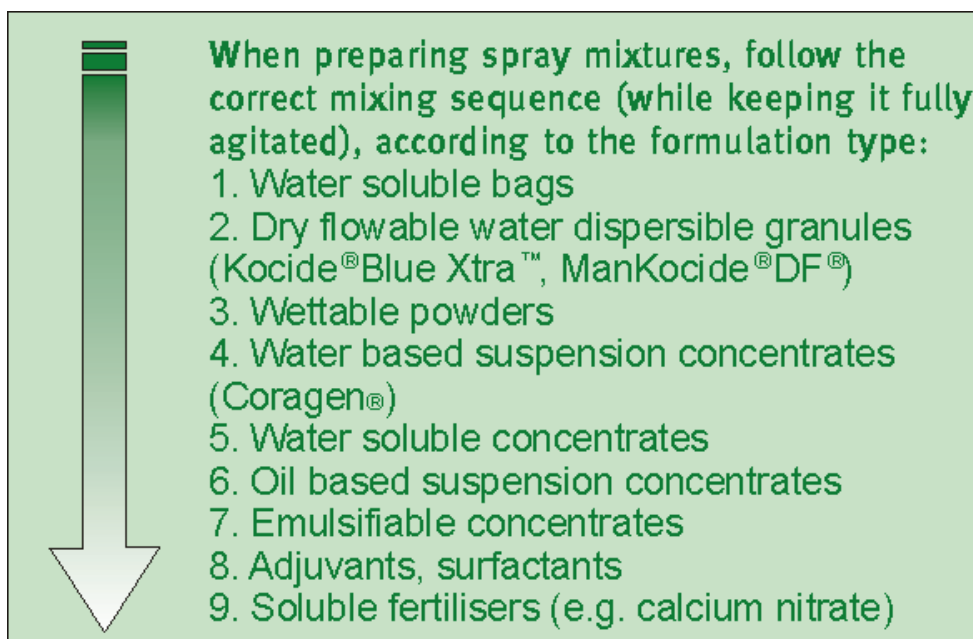
### **Greg Bennett Du Pont Crop Protection Australia: ManKocide DF**

Mankocide is a dry flowable formulation; premix of copper hydroxide (30% metallic copper) + mancozeb (15%). It controls both bacterial and fungal pathogens and has a

permit use for walnuts for BACTERIAL BLIGHT (*Xanthomonas campestris* pv *juglandis*).

The 2 to 1 ratio has shown to reduce the tolerance of copper tolerant bacteria. **Copper hydroxide** disrupts the bacterial cell contents and has multi-site activity within the cell = Low resistance risk. **Mancozeb** has no direct activity on bacteria yet appears to aid the ionic copper to penetrate the coating around the cell wall of the bacterium.

For best results, it must be mixed according to the instructions on the label. It is important that products used in tank mixes be added in the correct sequence according to their formulation type.



Trials conducted in Tasmania by Agronico Research showed that the incidence of Walnut blight was significantly less 27 and 69 days after the last treatment and there was no statistical difference at 122 days. Also the disease severity was significantly less 27 days after the last treatment and there was no statistical difference at 69 and 122 days. In spite of there being no visible difference at 122 days after the last treatment there was a 15% improvement in the % of harvestable walnuts.

***Prepared by Carol Kunert***

## **DISSEMINATION PROCESS:**

The following dissemination program has been undertaken:-

- The presentations, together with contact details of suppliers and any other materials that are distributed by the speakers, have been made available to all participants via direct mail/email.
- A hard copy of the Workshop proceedings have been printed and posted to all attendees.
- The power point presentations have been added to the Australian Walnut Industry Association website.
- A summary of the day has been produced and will be printed in the next edition of the Australian Nutgrower with outcomes and photos.

## **EVALUATION:**

### **1. Attendance.**

The Australian Walnut Industry Association promoted the Walnut Blight Workshop to ALL known Walnut growers.

The attendance on the day was fifty growers, researchers and presenters.

This was considered a good result for the Association.

### **2. Dissemination of Information.**

The information from the workshop has been disseminated to all attendees.

In addition the information has been placed on the Australian Walnut Industry Association website for ALL growers to access.

### **3. Evaluation from the attendees.**

An evaluation form was prepared and completed by the participants.

**A copy of the Evaluation form is attached as Appendix G.**

The following is the results of the attendees evaluation:-

QUESTION:	RESPONSE: (Score out of 5)
How well have we delivered the workshop	4.31
Value of Workshop content to tour business	4.38
Individual activities:	
Presentation 1	4.31
Presentation 2	Cancelled due to illness
Presentation 3	4.00
Presentation 4	4.33
Presentation 5	4.08
Orchard visit	4.75
Overall Planning and Presentation	4.60

What has been the most valuable activity of Workshop?

- Best activity this year
- Combined activity overall
- Increased knowledge of Blight Management
- Kathy Evans – Blight
- Presentation 1 - Blight Issues
- Michael Lang talk
- Presentation 1 - Michael Lang
- Good Explanation of the disease in Presentation 1 - Informative. Practical and interactive
- Discussion on Research promoted better understanding
- Presentations directly relevant to farm management
- Kathy & Mick's presentation most relevant to growers
- Group discussion and questions and answers with technical input
- Sharing experiences was useful
- What really worked in the field was valuable

What Suggestions do you have to improve future workshops?

- None
- Group Chairs in a round of three quarter round - Make participants participate
- More meetings as a group
- Practical determination of disease inoculum in dormant wood
- Hold questions until the end of presentations
- More walk around in the farm visit to see different tree structures would have been helpful to newcomers

## FINANCIAL REPORT:

Travel			
Description	Budget	Actual	Total
Expert Airfares x 2	\$ 1,050.00	\$825.65	
Accommodation 1 night x 3	\$450.00	\$443.24	
Hire care & Fuel	\$ 300.00	\$452.38	
Petrol Allowance	\$300.00	\$152.04	
Bus Hire & Fuel for minibus	\$ 550.00	\$450.00	
Additional Accommodation		\$241.00	
<b>Total</b>	<b>\$2,650.00</b>	<b>\$2,564.31</b>	

Expert Speaker			
Description	Budget	Actual	Total
Expert Speaker	\$900.00	\$830.00	
Speaker Gifts		\$90.00	
<b>Total</b>	<b>\$900.00</b>	<b>\$920.00</b>	

Administration			
Description	Budget	Actual	Total
Photocopying Phone calls, Postage of Proceedings	\$400.00	\$355.00	
Admin Officer Salary	\$1,200.00	\$ 1337.50	
<b>Total</b>	<b>\$1,600.00</b>	<b>\$1692.50</b>	

Production of Best Practice information on Walnut Blight Management			
Description	Budget	Actual	Total
Printing & Binding Manual Style Document	\$400.00	\$800.00	
Postage		\$125.00	
<b>Total</b>	<b>\$400.00</b>	<b>\$925.00</b>	

Venue			
Description	Budget	Actual	Total
Hire Venue	\$400.00	\$ 100.00	
Hire of Equipment	\$100.00	\$50.00	
<b>Total</b>	<b>\$500.00</b>	<b>\$150.00</b>	
Catering			
Description	Budget	Actual	Total
Lunch	\$500.00	\$400.00	
Morning/Afternoon Tea	\$100.00		
<b>Total</b>	<b>\$600.00</b>	<b>\$400.00</b>	
<b>TOTAL</b>	<b>\$6650.00</b>	<b>\$6,651.81</b>	



**APPENDIX A: INITIAL NOTIFICATION**

**AUSTRALIAN WALNUT  
INDUSTRY ASSOCIATION**

Incorporated under the Association Incorporation Act 1981 Registered No. A0023961T  
President Bryan Goble 222 Koondrook West Road Koondrook, via Kerang, Vic 3579 Tel 03 5453 3845 email awiapres@walnut.net.au  
Secretary Carol Kunert 1452 Benalla-Whitfield Rd Myrthee via Moyhu Vic 3732 Tel. 03 57297647 email awiasec@walnut.net.au



**AUSTRALIAN WALNUT INDUSTRY  
ASSOCIATION**

**INVITES**

**WALNUT GROWERS and PROCESSORS**

to attend industry meetings

**ON: Saturday 13<sup>th</sup> and Sunday 14<sup>th</sup> August 2011**

**AT: Tatura Research Centre, TATURA. VIC**

**Saturday 13<sup>th</sup>: Walnut Blight workshop**

**(10:00 am to 5:00 pm)**

**Industry dinner**

**Sunday 14<sup>th</sup>: Industry Development Workshop**

**(9:00 am to 1:00 pm)**

**Accommodation available in Tatura or Shepparton.**

**PUT THE DATES IN YOU DIARY.**

**MORE DETAILS ON THE PROGRAM AVAILABLE SHORTLY**

## APPENDIX B:      WORKSHOP PROGRAM

AUSTRALIAN WALNUT  
INDUSTRY ASSOCIATION



# WALNUT 'BLIGHT' WORKSHOP and ORCHARD VISIT

Saturday 13<sup>th</sup> August 2011 10.00 AM to 5 PM

at

DPI Research Centre 255 Ferguson Road Tatura, Vic.

This seminar will:

- Summarise current research in Australia on Walnut Blight control.
- Present the various fungicides and alternative methods available and spray units for application.
- Offer growers with a method for calculation of application rate of fungicide.
- Provide a forum for questions and answers in relation to Blight.

### PROGRAM

- |          |  |
|----------|--|
| 9:30 am  | Registration and refreshments  |
| 10:00 am | Welcome and Opening  |
| 10:05 am | AWIA update  |
| 10:15 am | <b><i>"Walnut Blight"</i></b> <b>Dr Michael Lang</b> (Research Scientist – Walnuts Australia) and <b>Dr Kathy Evans</b> (Senior Research Fellow, Tasmanian Institute of Agricultural Research) <ul style="list-style-type: none"><li>➤ Overview of walnut blight. (How does disease develop in relation to weather?)</li><li>➤ Current disease management. (How well are we doing now?)</li><li>➤ The 'why' and 'how' of better management. (What scope is there for improvement?)</li><li>➤ What needs to happen next? (How do we achieve better management?)</li></ul> Q&A and interactive session throughout the presentation |
| 11:45 am | <b><i>"Blight Chemical application methods and rates"</i></b> . <b>Dr Harold Adem</b> , Victorian Department of Primary Industries, Tatura   |
| 12:15 pm | Lunch  |



- 1:15 pm      ***“Blight Chemical Registration”***. Steve Field, Chemical Standards Officer, Victorian Department of Primary Industries.
- 2:00 pm      ***“The National Horticulture Research Network: what’s in it for walnuts?”***  
  
                 **Dr Kathy Evans** (Convenor – Industry development & Extension, Tasmanian Institute of Agricultural Research)
- 2:30 pm      Afternoon tea.
- 3:00 pm      Orchard visits
- 6:30 pm      **Industry Dinner** (at individuals own costs) – Venue to be confirmed

Transport from Melbourne can be coordinated subject to the needs of participants. Please indicate if you require transport to and from Melbourne/Tatura.

***Sponsored by The Australian Government through Horticulture Australia Ltd and Australian Walnut Industry Association***

**APPENDIX C:        “Walnut Blight”**

(Attached to this Report as a Power Point Presentation)

**APPENDIX D:        “Walnut Blight and Chemical Use”**

(Attached to this Report as a Power Point Presentation)

**APPENDIX E:        “ManKocide DF: The dual action fungicide.”**

(Attached to this Report as a Power Point Presentation)

**APPENDIX F:        “The National Horticulture Research Network: What’s in it for Walnuts?”**

(Attached to this Report as a Power Point Presentation)

**AUSTRALIAN WALNUT  
INDUSTRY ASSOCIATION**



## AUSTRALIAN WALNUT INDUSTRY ASSOCIATION: BLIGHT WORKSHOP

Please respond by completing on the day or by **Friday 19 August** to [sahort@bigpond.com](mailto:sahort@bigpond.com)

Scale Definition:	Low	1	2	3	4	5	High
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**1. How well have we delivered the workshop**                      1            2            3            4            5

**2. Value of Workshop content to your business**                      1            2            3            4            5

**Comments:**

**3. Importance of Individual Activities (please mark/rate only those you have used) and**

***How Well Have We Performed:***

Presentation 1: Michael Lang/Kathy Evans                      1            2            3            4            5

Presentation 2: Harold Adem                      1            2            3            4            5

Presentation 3: Steven Field                      1            2            3            4            5

Presentation 4: Kathy Evans                      1            2            3            4            5

Presentation 5: Chemical Company 1                      1            2            3            4            5

Presentation 6: Chemical Company 2                      1            2            3            4            5

Orchard Visit                      1            2            3            4            5

Overall Planning and Presentation                      1            2            3            4            5

**4. What has been the most valuable activity of the Workshop (see Section 3 above)?**

**Activity:**

**Why:**

**6. What suggestions do you have to improve a future workshop?**

**Name:**

***Sponsored by The Australian Government through Horticulture Australia Ltd and Australian Walnut Industry Association***



# Walnut blight and chemical use

Steven Field, Senior Chemical Standards Officer  
DPI Tatura

# APVMA & DPI roles

## Federal Level

**Australian Pesticides and Veterinary  
Medicines Authority (APVMA)**

## State level

**Department of Primary Industries  
Chemical Standards Field Services**

- **The general public**
  - **users of chemicals**
  - **avoid chemicals in food**
- **Trade**
- **Environment**
- **Health and welfare of animals**
- **Ensure a chemical product is effective**

# What is the relevant legislation?

**Agricultural and Veterinary  
Chemical (Control of Use) Act  
1992**

**Agricultural and Veterinary Chemical  
(Control of Use) Regulations 2007**

# Chemical Labels

- Contain instructions on storage, mixing, use and disposal of chemicals
- Following the labels minimises the risk of adverse experiences
- Users must read and follow chemicals labels



# Material Safety Data Sheet (MSDS)

Supplements information on product label but is not a substitute for label

MSDS for all 'on hand' products must be accessible where farm chemicals are stored

MSDS should be available at Rural Merchandiser or via the manufacturers website

# DPI Restricted Use Chemicals

- Schedule 7 DANGEROUS POISONS
- Atrazine
- Metham sodium
- Ester formulations of 2,4-D, 2,4-DB, MCPA, and Triclopyr

# DANGEROUS POISON

KEEP OUT OF REACH OF CHILDREN

READ SAFETY DIRECTIONS BEFORE OPENING OR USING

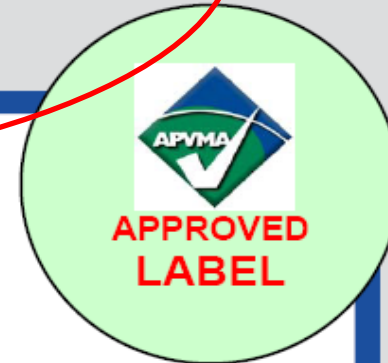
CAN KILL IF SWALLOWED

DO NOT PUT IN DRINK BOTTLES

KEEP LOCKED UP



**SPRAY-SEED**  
250 HERBICIDE



ACTIVE CONSTITUENTS: 135 g/L PARAQUAT present as PARAQUAT DICHLORIDE  
115 g/L DIQUAT present as DIQUAT DIBROMIDE

**GROUP L HERBICIDE**

*For control of a wide range of grasses and broadleaf weeds. Can be utilised in crop establishment programs. Contains non-ionic wetter.*

**IMPORTANT: READ THE ATTACHED LEAFLET BEFORE USING THIS PRODUCT**

**110 LITRES**

Syngenta Crop Protection Pty Limited

Level 1, 2-4 Lyon Park Road, North Ryde NSW 2113

In a transport emergency dial 000, Police or Fire Brigade.

For specialist advice in an emergency only, call 1800 033 111 (24 hours).

APVMA Approval No: 46516/110/0307

XXXXXX

**syngenta®**

▲ LIFT FOR FULL INSTRUCTIONS

**POISON**

KEEP OUT OF REACH OF CHILDREN  
READ SAFETY DIRECTIONS BEFORE OPENING OR USING



**Grazon\***

**Extra**

**Herbicide**

**ACTIVE CONSTITUENTS:**

300 g/L TRICLOPYR present as butoxyethyl ester

100 g/L PICLORAM present as hexyloxypropylamine salt

8 g/L AMINOPYRALID present as hexyloxypropylamine salt

**GROUP I HERBICIDE**

For control of a range of environmental and noxious woody and herbaceous weeds as specified in the Directions For Use.

**IMPORTANT: READ THE ATTACHED BOOKLET BEFORE USE.**

**SHAKE WELL BEFORE USE**

Dow AgroSciences Australia Limited A.B.N. 24 003 771 659

20 Rodborough Road, Frenchs Forest NSW 2086

[www.dowagrosciences.com.au](http://www.dowagrosciences.com.au)

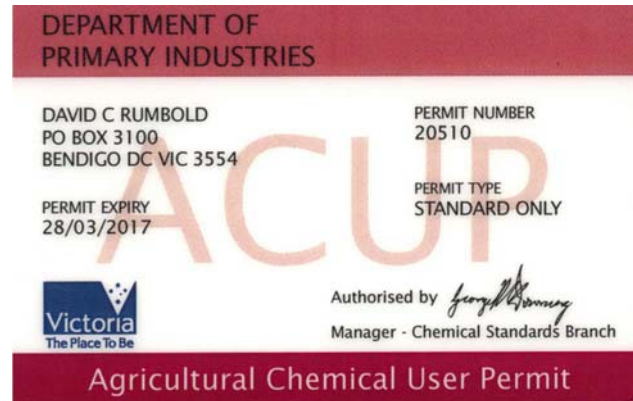
**CUSTOMER SERVICE TOLL FREE 1-800 700 096**

\*Trademark of Dow AgroSciences

**Contents: 1 Litre**

GMID: 268995 05/07

# Agricultural Chemical Users Permit (ACUP)



Complete training in AgVet Chemical use (e.g. Chemcert AgVet Chemical Users Course) then apply to the DPI

**Restricted Chemicals  
MUST BE used STRICTLY  
in accordance with label  
directions for use**

# Off-label use - *Non-restricted* chems

You **MUST NOT** use an Agvet chemical at a;

**HIGHER RATE**

**MORE FREQUENTLY**

**CONTRARY TO A SPECIFIC STATEMENT eg  
'DO NOT....'**



*The miracles of science™*

# DuPont™ Kocide® Blue Xtra™ fungicide

## Technical Information

### Active Constituent:

350 g/kg COPPER (Cu) present as cupric hydroxide

### Pack Sizes:

10 kg

GROUP	<b>Y</b>	FUNGICIDE
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## CAUTION

**KEEP OUT OF REACH OF CHILDREN**

**READ SAFETY DIRECTIONS BEFORE OPENING OR USING**

For the control of various diseases of fruits and vegetables.



# Application Rates

Vines	Downy mildew ( <i>Plasmopara viticola</i> )		135 to 190 g/100L	factor greater than 2. Apply when shoots are 10 cm long and repeat at 10 to 14 day intervals while weather conditions favour infection. Use the higher rate when conditions are highly favourable for infection. Leaf damage may occur on 'copper-shy' varieties. Apply as a dilute or concentrate spray. <b>DO NOT</b> use a concentration factor greater than 3.
Walnuts	Walnut blight ( <i>Xanthomonas campestris</i> pv. <i>juglans</i> )		225 g/100L plus 175 mL Polyphase or Miscible Summer Oil	Apply a minimum of three sprays at 7 to 10 day intervals, commencing when the catkins are partially opened. Further applications may be necessary if conditions allow infection. Apply as a dilute application only.
Avocados, citrus, kiwi-fruit, litchi, nectarines, passionfruit, plums, peaches, pecans, tropical fruit.	Phytophthora stem canker	Qld and NSW only	75 g/1 L or 75 g/1 L of water based paint	Mix to a smooth consistency. Apply only to stems of trees or vines wherever cankers appear, after removing dead tissue. Repeat applications up to a maximum of 5 per season until natural healing is commenced. Application with paint carrier may only require 1 or 2 treatments in a season.
Bananas		NSW only		
Macadamias		Qld only		

# Do Not Statements

## DIRECTIONS FOR USE

### RESTRAINTS

**DO NOT** apply if rain is expected within 4 hours.

**DO NOT** apply when temperatures exceed 35° C.

**DO NOT** apply when slow drying conditions prevail.

**DO NOT** apply to copper-shy crops or cultivars.

**DO NOT** apply if it is likely to rain before the spray is dry.

**DO NOT** apply to wet crops.

**DO NOT** use in spray solutions with a pH of less than 6.5.

All rates for tree and vine crops are for dilute spraying. For concentrate spraying rates, refer to the Mixing/Application section. If using concentrate application, apply the same total amount of product to the target crop.

TREE/ VINE CROP	DISEASE	STATE	DILUTE SPRAYING RATE	CRITICAL COMMENTS
Almonds	Shothole	All States	150 g/100 L	Apply when buds are swelling but BEFORE AND WITHIN ONE WEEK OF BUD OPENING. Apply as a dilute or concentrate spray. <b>DO NOT</b> use a concentration factor greater than 2.
	Leaf curl ( <i>Taphrina deformans</i> )			CORRECT TIMING IS CRITICAL FOR EFFECTIVE CONTROL. Apply when buds are swelling but BEFORE AND WITHIN ONE WEEK OF BUD OPENING. Apply as a dilute or concentrate spray. <b>DO NOT</b> use a concentration factor greater than 2. For a given variety, the time of bud opening will vary from year to year, depending on the weather and in any year it will vary between varieties. Thus, the bud development of each variety in the orchard should be monitored each year to determine the correct time of application. Blocks containing more than 1 variety may need to be treated more than once, to treat each variety at the correct time. Where leaf curl is, or is likely to be, a severe problem, based on previous experience, the following program should be followed: 1. AUTUMN - apply at leaf fall. 2. Apply at the FIRST SIGN of BUD SWELL and REPEAT ONE WEEK LATER PRIOR TO

# What are the risks involved in off label use?

- Residues in produce/livestock
- Residues in the environment
- Efficacy, and
- Occupational health and safety issues

Most States require use in strict accordance with the label unless the APVMA has issued a permit allowing off label use.

*Example – NSW Pesticides Act 1999 (Office of Environment and Heritage)*

Must only use chemicals registered by the APVMA and you must obtain a permit from the APVMA to legalise off label use

## PERMIT TO ALLOW MINOR USE OF AN AGVET CHEMICAL PRODUCT

PERMIT NUMBER -PER10332

This permit is issued to the Permit Holder in response to an application granted by the APVMA under section 112 of the Agvet Codes of the jurisdictions set out below. This permit allows a person, as stipulated below, to use the product in the manner specified in this permit in the designated jurisdictions. This permit also allows any person to claim that the product can be used in the manner specified in this permit.

THIS PERMIT IS IN FORCE FROM 15 November 2007 until 31 December 2012.

**Permit Holder:**

AUSTRALIAN WALNUT INDUSTRY ASSOCIATION INCORPORATED  
5 ROLLS COURT  
GLEN WAVERLEY VIC 3150

**Persons who can use the product under this permit:**

Persons generally.

Permits the  
use of  
paraquat  
products for  
general  
weed control  
– NOT  
VALID IN  
VIC

## PERMIT TO ALLOW MINOR USE OF AN AGVET CHEMICAL PRODUCT

PERMIT NUMBER -PER9391

This permit is issued to the Permit Holder in response to an application granted by the APVMA under section 112 of the Agvet Codes of the jurisdictions set out below. This permit allows a person, as stipulated below, to use the product in the manner specified in this permit in the designated jurisdictions. This permit also allows any person to claim that the product can be used in the manner specified in this permit.

THIS PERMIT IS IN FORCE FROM 4 JANUARY 2007 TO 30 JANUARY 2012.

**Permit Holder:**

WEBSTER HORTICULTURE C/- AGRONICA PTY LTD  
349 Forth Road  
DEVONPORT TAS 7310

**Persons who can use the product under this permit:**

Persons generally.

### CONDITIONS OF USE

**Product to be used:**

GRIFFIN MANKOCIDE DF FUNGICIDE

Containing: 300 g/kg COPPER

150 g/kg MANCOZEB

PENNCOZEB 750 DF FUNGICIDE

Containing: 750 g/kg MANCOZEB as their only active constituent.

Permits to  
use  
specified  
products for  
control of  
bacterial  
blight – **NOT  
VALID IN  
VIC, but  
may be a  
permitted off  
label use**

# What is a chemical residue?

The left over chemical in produce/livestock after an application of that chemical

*Consumers are becoming increasingly concerned with residues in produce*

*Ever growing pressure on farmers to grow cleaner and greener produce*

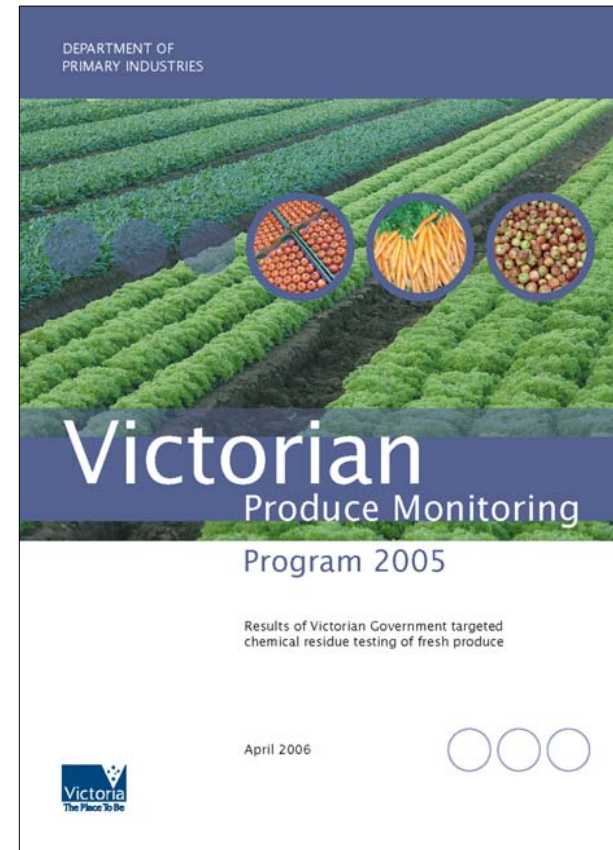
- The highest acceptable level of a chemical residue in produce after an application of that chemical
- Usually measured in mg/kg
- Set well below levels harmful to humans
- Australia adopt MRL's set by FSANZ

**Food Standards Australia and New Zealand**  
(Victoria also recognises APVMA MRLs)



# Monitoring programs in Australia:

- NRS (DAFF)
- VPMP (Victorian DPI)
- CleanFresh (NSW)
- QA programs
- Supermarket testing programs



**Relates back to consumer confidence, trade and public health**

**If an MRL has not been established for a chemical on a particular produce, any detection of a residue is a violation.**



Dip used to  
treat  
chestnuts  
post harvest  
with fungicide  
prior to cold  
storage

- Grower used an iprodione fungicide as it is registered for post harvest dipping of pome and other fruit.
- As the chemical was not registered then no MRL had been set for the presence of iprodione in chestnuts.
- The chestnuts were sampled and iprodione was detected.

# How do you avoid issues?

- Observe Good Agricultural Practice (GAP) when using chemicals (WHPs, Label directions)
- Good farm planning and practices to manage the risk of drift and contamination
- Utilising Integrated Pest and Disease Management (IPDM)
- Being aware of market requirements – international and domestic

# Unregistered chemicals

- Copper sulfate is listed by the APVMA as an active constituent exempt from approval.
- Calcium carbide, hypochlorite, polysulfide and sulfate are also exempt from approval.
- This means that the active constituent does not approval to be imported into Australia.
- Any agricultural chemical products made from these active constituents **still need to be approved** prior to use.

‘...agricultural and veterinary chemical products containing active constituents included in this list must be registered by the APVMA before that product can be legally sold, distributed or used in Australia.’

Source – *Active constituents (ACs) excluded from the requirements of APVMA Approval, as at Friday 7 May 2004*, published by the APVMA (2004)



Use of 'technical' or 'industrial' grade active constituents as chemical products is illegal under S6 of the AgVet CoU Act 1992, unless specified exemptions apply.



Unregistered chemical used to treat a fish species.

Extremely combustive if mixed incorrectly!



# APVMA Spraydrift Operating Principles

New regulations for label directions to mitigate risk of spraydrift e.g.

- Specific spray quality
- Specific records
- Buffer zones
- Specific wind speeds

Extremely important - Need to brief industry in more detail at a later date.

# Record Keeping – necessary?

- Ensures market access by demonstrating you are assessing the risk
- Point of reference for previous pest control practices
- Evaluate how well a chemical worked
- Work out how much chemical is required for next time – **SAVE TIME & MONEY**

**Records of use are required to be made for all uses of agricultural chemicals.**

**Records of use MUST be made within 48 hours of the chemical use, and MUST be kept for two years.**



## Keeping Records

Legal Requirements for Agricultural and  
Veterinary Chemical Use in Victoria

### Record Keeping Template: Agricultural Chemical Use

Agricultural Chemical Application Details						Weather Details*		Contact Details	
Date of application	Product trade name	Application rate	Crop/ commodity treated OR situation product was applied	Extent of use (area/ volume/ weight)	Location where product was used	Wind speed	Wind direction	Name and address of applicator and (if applicable), the supervisor	Name and address of person for whom the application was carried out

Agricultural chemical details must be recorded within 48 hours of use.

\* Required if product is being sprayed outdoors.

For pest animal baiting, use the 'Poison Baits used for Pest Animal Control' record keeping template.

# Walnut blight – where to from here?

## Short term

- Use registered chemicals at on label rates
- May use non-restricted use chemicals off label in Vic – ONLY if the risks of off label use are addressed and restrictions are observed

## Long term

- Industry needs to generate data to either obtain **an APVMA permit that reflects current practices** or to get a registrant to put the use pattern on the label

# Handy Websites

[www.apvma.gov.au](http://www.apvma.gov.au) (Access labels and permits)

[www.dpi.vic.gov.au/chemicalstandards](http://www.dpi.vic.gov.au/chemicalstandards) (Access information about Victorian rules and regulations)

<http://www.apvma.gov.au/about/nrs/use.php>  
(list of various State Government authorities responsible for controlling use of chemicals)