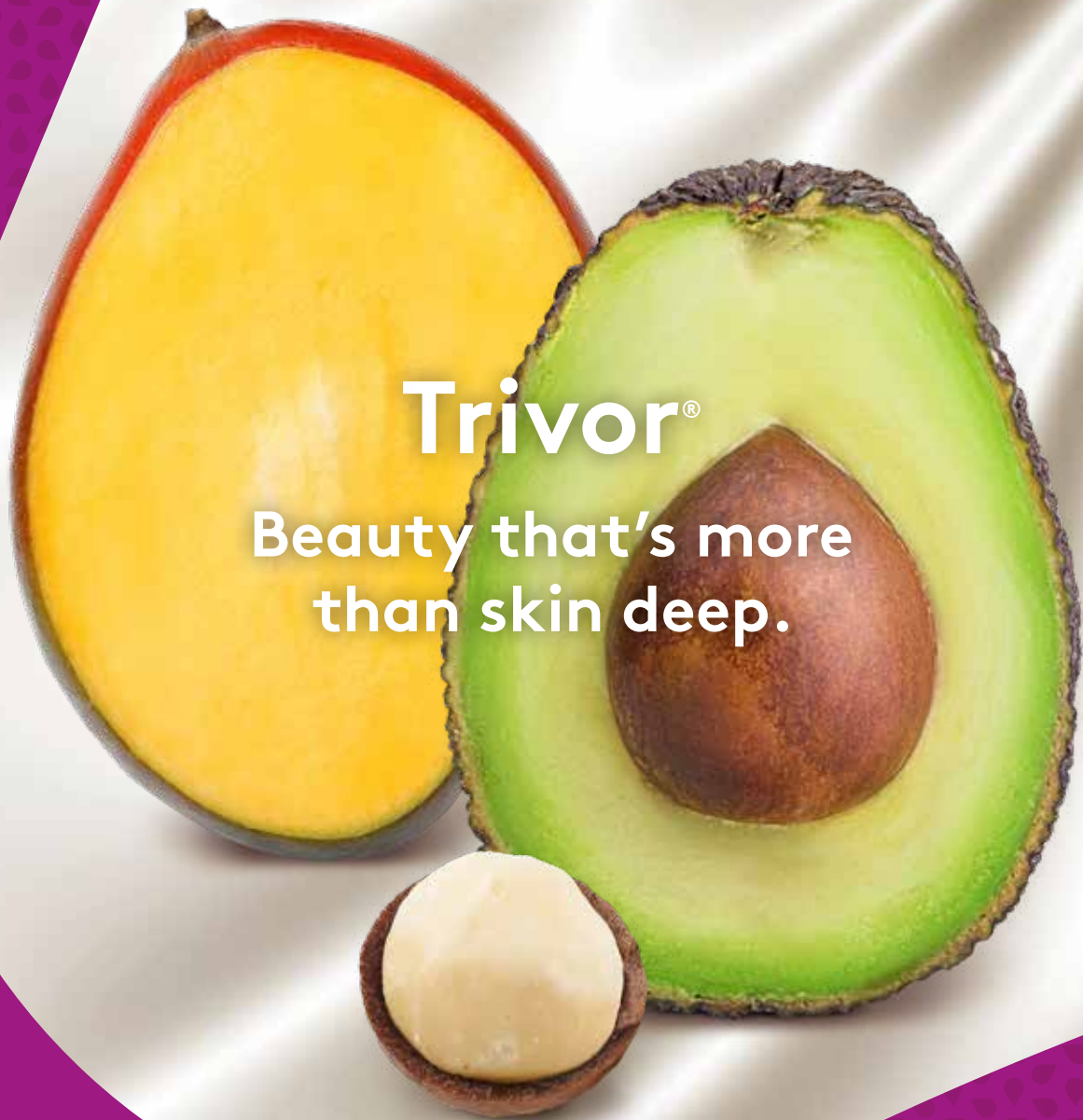




ADAMA



Trivor[®]

Beauty that's more
than skin deep.

Avocado, Mango and Macadamia

Product Guide



INSECTICIDE

ADAMA.COM



Trivor provides a new option for knockdown and residual control of key pests of avocados, macadamias and mangoes.

Key points

- Flexible option for knockdown and residual control of key stinging and sucking insects in avocados, macadamias and mangoes.
- Combines two insecticide modes of action to provide good resistance management.
- No additional adjuvants required.
- Highly compatible dispersible concentrate formulation with excellent crop safety.
- Locally-developed under Australian conditions to meet the needs of Australian avocado, macadamia and mango growers.

Overview

Fruit/Banana spotting bugs, scales, mealybugs and fruit flies can significantly market yield and market acceptance of avocados, macadamias and mangoes. Trivor is a unique insecticide delivering two active ingredients for control of a range of key pests, as well as allowing growers and their advisors to implement an effective resistance management strategy. Trivor combines two highly effective active ingredients from the Group 4a (acetamiprid) and 7c (pyriproxyfen) insecticide groups. This provides ideal foundation for resistance management strategies, both within the same crop season and from year to year. Trivor is also registered for the control of a wide range of insect pests in citrus and grapes.

Knockdown and residual control

Trivor provides rapid knockdown and residual control of key insect pests of tropical and subtropical tree crops. Trivor provides robust efficacy of target pests and protects marketable yield.

Beneficial insect impacts

Trivor has only a minimal and short-term impact on beneficial insects and is significantly less disruptive to beneficial insects than older broad-spectrum insecticides. Do not spray during flowering or when bees are actively foraging. Applied early in the season, it controls pest populations whilst allowing beneficial species to become established.

Excellent compatibility

Trivor has excellent physical and biological compatibility with a range of other insecticides and fungicides for one-pass insect and disease control. Trivor does not require the addition of an adjuvant to achieve maximum efficacy, providing maximum flexibility when implementing fungicide rotation programs.

Developed for use in Australia

ADAMA is one of the world's leading crop protection companies. Trivor was developed by ADAMA to meet the needs of Australian citrus, grape, avocado, macadamia and mango growers. Commercial development is continuing throughout the world, including Asia, Middle-East, North America, Africa and South America. ADAMA is committed to developing simple, practical and innovative solutions that make the complex job of farming easier.



Use and target pests



Adult female fruit spotting bug (Photo: Alana Govender).

Fruit/banana spotting bugs (*Amblypelta nitida*, *A. lutescens lutescens*)

Apply up to two applications of Trivor per season in avocados and up to three applications of Trivor per season in macadamias and mangoes as part of a monitoring and spray program. Trivor should be applied post-flowering when monitoring indicates spotting bugs are becoming active in the crop. Use the higher rate if high pressure is expected or for longer residual control. Alternate each application of Trivor with a registered insecticide from a different mode of action group on a minimum 14-day spray interval.



Pink wax scale (*Ceroplastes rubens*)

Apply up to two applications of Trivor per season as part of a monitoring and spray program. Apply Trivor post-flowering when crop monitoring indicates the onset of crawler release. Use the higher rate if heavy scale pressure is expected or for longer residual control. Do not target Trivor applications on well-established populations with high levels of mature adult insects. Continue monitoring crops after application and if required, apply a second application of Trivor after a minimum interval of 21 days.



Oleander scale (*Aspidiotus nerii*)

Apply up to two applications of Trivor per season as part of a monitoring and spray program. Apply Trivor post-flowering when monitoring indicates the onset of crawler release. Use the higher rate if heavy scale pressure is expected or for longer residual control. Do not target Trivor applications on well-established populations with high levels of mature adult insects. Continue monitoring crops after application and if required, apply a second application of Trivor after a minimum interval of 21 days.



Mango scale (*Aulacaspis tubercularis*)

Apply up to two applications of Trivor post-flowering and when crop monitoring indicates the onset of crawler release. Do not target Trivor applications on well-established populations with high levels of mature adult insects. Continue monitoring crops after application. If additional treatments are required, apply a registered insecticide with an alternative mode of action after a minimum 21-day spray interval before applying a second application of Trivor.

Directions for use

Crop	Pest	Rate	Critical comments
Avocados	Fruit spotting bug (<i>Amblypelta nitida</i> , <i>A.lutescens lutescens</i>)	20–40 mL/100 L	Should be applied post-flowering. Use a minimum of 400 mL/ha and do not apply more than 800 mL/ha per application.
Macadamias		20 mL/100 L	Do not apply more than 2 applications per season to avocados and no more than 3 applications to macadamias and mangoes.
Mangoes			Do not apply more than 1.6 L/ha per season.
Avocados	Pink wax scale (<i>Ceroplastes rubens</i>)	40 mL/100 L	Apply up to two applications per season post-flowering when crop monitoring indicates the onset of crawler release.
Macadamias			
Mangoes			
Avocado	Oleander scale (<i>Aspidiotus nerii</i>)	20–40 mL/100 L	Apply up to two applications per season post-flowering when crop monitoring indicates the onset of crawler release.
Macadamias	Soft brown scale (<i>Coccus hesperidum</i>)	40 mL/100 L	Use a minimum of 400 mL/ha but not more than 800 mL/ha per application. Do not exceed more than 1.6 L/ha per season.
	Citrus mealybug (<i>Planococcus citri</i>)		
	Long tailed mealybug (<i>Pseudococcus longispinus</i>)		
Mangoes	Mango scale (<i>Aulacaspis tubercularis</i>)	40 mL/100 L	
Avocados	Mediterranean fruit fly (<i>Ceratitis capitata</i>) Suppression only	40 mL/100 L	Apply up to two applications per season.
Macadamias			Use a minimum of 400 mL/ha but not more than 800 mL/ha per application.
Mangoes			Apply Trivor® in rotation with insecticides from a different mode of action using a 7 day spray interval.
	Queensland fruit fly (<i>Bactrocera tryoni</i>) Suppression only		

Withholding periods

Avocados, Mangoes

DO NOT HARVEST FOR 28 DAYS AFTER APPLICATION

Macadamias

DO NOT HARVEST FOR 14 DAYS AFTER APPLICATION

Grazing

DO NOT GRAZE OR CUT TREATED AREA FOR STOCKFOOD.

Efficacy data

Avocados

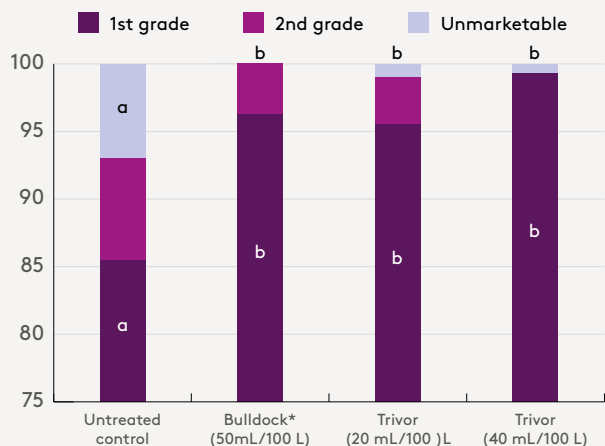


Figure 1: Percentage of avocados damaged at harvest by fruit/banana spotting bug.
(Childers, Qld, 2016, var. Hass, Trial ID: ADA14375#8)

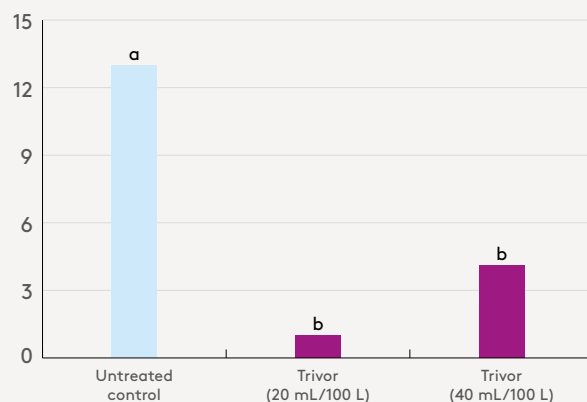


Figure 2: Percentage of avocados infested with oleander scale (23DAA2).
(Ravensbourne, Qld, 2016, Trial ID: ADA14375#5)

Macadamias

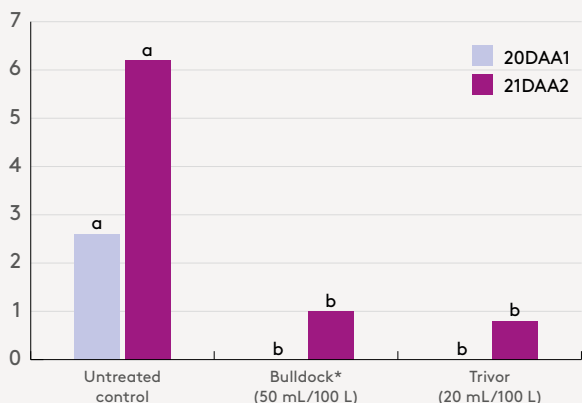


Figure 3: Mean number of macadamia nuts damaged by fruit/banana spotting bug.
(Bundaberg, Qld, 2015, Trial ID: ADA14375#7)

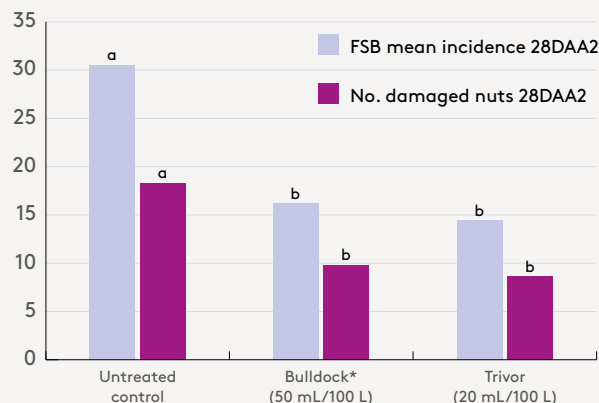


Figure 4: Mean % incidence of fruit/banana spotting bugs and damaged macadamia nuts.
(Gympie, Qld, 2014, Trial ID: FAR13343)

Mangoes

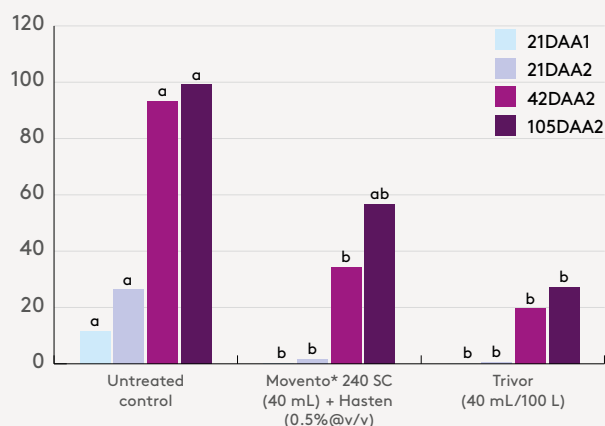


Figure 5: Mean % density of male mango scale per mango leaf.
(Ayr, Qld, 2016, Trial ID: ADA1601)

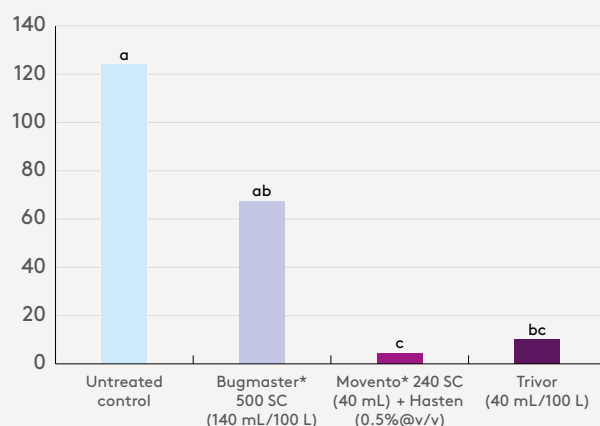


Figure 6: Mean number of live female mango scale on fruit at harvest (42DAA2).
(Electra, Qld, 2016, Trial ID: ADA14375#9)

Application guidelines

Mixing

Shake container before opening. Two-thirds fill the spray tank with clean water and add the required quantity of Trivor with the agitator operating. Top up the spray tank to the required volume with clean water with the agitator running. Maintain agitation while spraying. Trivor is a dispersible concentrate (DC) formulation. It is added to the spray tank after any water dispersible granular (WG) or suspension concentrate (SC) formulations and before any emulsifiable concentrate (EC) or soluble liquid concentrate (SL) formulations.

Adjuvants

Trivor does not require the addition of an adjuvant to achieve maximum efficacy. While a number of adjuvants have been tested for compatibility, none add to the performance of Trivor.

Compatibility

The following products have been tested for both physical and biological compatibility with Trivor and do not present a phytotoxicity risk or a reduction in target insect control when tank-mixed. As formulations of other manufacturer's products are beyond the control of ADAMA and water quality varies with location, all mixtures should be tested prior to mixing commercial quantities. Please contact your local ADAMA representative for further information on compatibility of Trivor with other products or visit adama.com for the latest information.

Spray volume

For best results, apply Trivor as a dilute (high volume) spray ensuring thorough coverage of fruit and foliage throughout the crop canopy. Concentrate spraying can also be used when targeting certain pests, such as Pink wax scale and Oleander scale. If concentrate spraying, ensure suitable equipment is used to achieve coverage of foliage and fruit and observe the maximum use rates per hectare, per application.

Crop	Avocados	Macadamias	Mangoes
	Amistar* 250 SC Altacor* Insecticide Barmac Copper Oxychloride Kocide* Blue Xtra	Howzat® SC Cabrio* 250 EC Score* 250 EC Rovral* Aquaflo Barmac Copper Oxychloride Kocide* Blue Xtra Custodia® Forte Merivon*	Amistar* 250 SC Octave* WP + mancozeb Aero* 600 WG Polyram* 700 DF Barmac Copper Oxychloride Kocide* Blue Xtra

Always read and follow the product label directions of all tank-mix partners. **Care must be taken when tank mixing more than two products, particularly products that are not manufactured by ADAMA, due to potential variation in formulations or product quality. Seek competent advice or perform a jar test if unsure before proceeding.** Note that physical compatibility tests determine whether the products will mix and are suitable for application using commercial spray equipment. Physical compatibility tests do not check for adverse crop effects or the biological efficacy of the individual products when applied as a tank-mix. Recommendations for use, handling, storage and disposal of products may also change over time. The information contained in this document is not intended to replace the product label. The product label, safety data sheet and supporting product information can be viewed on the ADAMA website www.adama.com or by scanning the QR code located on this document or the product packaging.



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