TROPICAL FRUIT CROP GUIDE

SIVANTO® prime

Introducing innovative and selective insecticide classes is critical for sustainable pest management.

SIVANTO® prime is a member of the novel **butenolide** class of insecticides, which was inspired by a naturally occurring compound produced by the plant, *Stemona japonica*. It offers advantages over existing management options by offering rapid protection, flexibility for use over flowering and a good level of beneficial species safety. With over a decade of field research in Australia, it has shown excellent performance on a wide spectrum of damaging sucking pests including fruit spotting bugs and planthoppers.

PRODUCT AT A GLANCE

Crops	Tropical and sub-tropical fruits, inedible peel (excluding bananas, pineapples)
Pests	Banana spotting bug (*Amblypelta lutescens*) Fruit spotting bug (*Amblypelta nitida*) Green planthopper (*Siphanta* spp.) Mango planthopper (*Colgaroides acuminata*)
Use rate	75 or 100 mL/100 L (Dilute spraying)
Adjuvant	Not required
Number of sprays/ respray interval	2 applications per block in a 12-month period/interval not less than 14 days. This ensures that the Maximum Residue Limits (MRLs) are not exceeded but also supports the continued effectiveness of the product.
Withholding period	3 days
Compatibility	Broadly compatible with most commonly used products. For information on the compatibility of SIVANTO prime with other products, contact your reseller or local Bayer Crop Science representative
Active ingredient	Flupyradifurone (200 g/L)
Formulation	Water soluble concentrate (SL)
Activity group	Group 4D – Butenolide
Mode of action	Agonist of the insect nicotinic acetylcholine receptor (nAChR)
Pack sizes	3 L & 10 L
Export production	Growers should note that suitable MRLs do not exist in all markets for produce treated with SIVANTO prime. If you are growing produce for export, please check with Bayer Crop Science or your industry body for the latest information before using the product.

RAPID PROTECTION

SIVANTO prime is quickly taken up in foliage before moving systemically upwards through the xylem and across the leaf surface (translaminar). Direct spray contact or uptake by ingestion through sap feeding, causes feeding to quickly cease, followed by insect death. It offers the maximum benefit when applied to newly establishing pest populations, where younger lifecycle stages are present.

FLEXIBILITY OVER FLOWERING

SIVANTO prime shows low toxicity to Australian native stingless bees (*Tetragonula* spp. and *Austroplebeia* spp.) and European honeybees (*Apis mellifera*)[1] when used as directed. Direct overspray or leaf wetness will not be harmful to bees and does not cause disorientation in bees. Reduced foraging on the day of application may be noticed although foraging recovers the next day. It can be safely applied during the period of crop flowering due to the presence of enzymes in these bee species that can break down the active ingredient into biproducts that are harmless to the bee[2]. However, under good agricultural practice, it is recommended not to apply SIVANTO prime or any other insecticides at times when bees are actively foraging. To maintain bee safety, there are limits to the number of applications. When used as directed, SIVANTO prime is not expected to result in adverse impact on colony performance or survival[1].

SAFETY TO BENEFICIAL SPECIES

Important beneficial species such as parasitoids, predatory mites, lacewings, hoverflies and ladybird beetles are highly compatible with the use of SIVANTO prime. Applied under field conditions, it has been shown to have minimal impact on most beneficial species, except for predatory bugs, for example *Orius* spp. Use of SIVANTO prime does not flare mites, which can occur with other Group 4 insecticides.

EASY TO APPLY

SIVANTO prime is a water soluble concentrate (SL) formulation that has been optimised for rapid biological activity, without compromising its outstanding safety on beneficial species or pollinators. It contains an in-built adjuvant system, which provides rapid retention and penetration into the leaf, without the need for additional spray adjuvants. This allows the product to be rainfast within 5 hours in tree crops. It mixes easily and has shown to be robust for use over a wide range of water pH, hardness and temperatures.

Adult fruit spotting bug (*Amblypelta nitida)*

Fast acting planthopper control

European honeybee

Australian native stingless bee

Green lacewings (*Chrysoperla* spp.)

[1] SIVANTO prime may cause short-term effects to bees – refer to label statement.
[2] Only known exception without detoxifying enzymes *Megachile rotunda* (alfalfa leafcutter bee)

FRUIT SPOTTING BUGS

HOW DOES IT WORK?

SIVANTO prime provides knockdown of juvenile and adult stages of fruit spotting bugs and banana spotting bugs through direct spray contact.

Adult fruit spotting bug (*Amblypelta nitida*)
Image courtesy of NSW Department of Primary Industries

HOW TO APPLY

Monitor orchards and apply when spotting bug populations are first detected. Apply SIVANTO prime at 75 mL/100 L to stop the population from building and to prolong the abundance of beneficial species in the orchard. It has the flexibility to be applied during flowering[1]. Apply at 100 mL/100 L on established populations. A maximum of two applications are permitted for areas sprayed during a 12-month period.

HOW SAFE IS SIVANTO PRIME TO BENEFICIAL SPECIES?

Important beneficial species such as green lacewings, predatory mites, ladybird beetles, hoverflies and parasitoids are highly compatible with the use of SIVANTO prime. Applied under field conditions, it has been shown to have minimal impact on most beneficial species, except for predatory bugs.

Stethorus (*Stethorus punctillum*)

Green lacewing (*Chrysoperla* spp.)

[1] *SIVANTO prime may cause short-term effects to bees – refer to label statement.*

PLANTHOPPERS

HOW DOES IT WORK?

SIVANTO prime provides knockdown and residual control of mango and green planthoppers. It is highly systemic and provides residual control preventing sap feeding and sooty mould development.

Adult mango planthopper (*Colgaroides acuminata*)

HOW TO APPLY

Monitor orchards and apply SIVANTO prime at 75 mL/100 L when planthoppers are first detected. Where spotting bugs are also a problem, apply early in the spray program to stop the population from building. Under high pest pressure or when increased residual control is desired, apply SIVANTO prime at 100 mL/100 L. It has the flexibility to be applied during flowering[1]. Apply a maximum of two sprays in a 12-month period.

HOW SAFE IS SIVANTO PRIME TO BENEFICIAL SPECIES?

Important beneficial species such as parasitoids, predatory mites, lacewings, hoverflies and ladybird beetles are highly compatible with the use of SIVANTO prime. Applied under field conditions, it has shown to have minimal impact on most beneficial species except for predatory bugs. SIVANTO prime is highly compatible with the commercial release of lacewings and does not hinder parasitism.

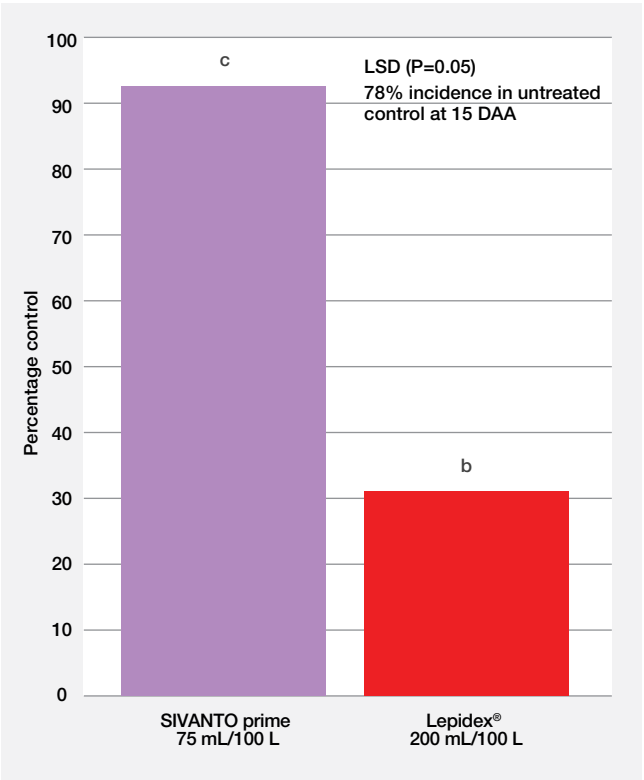

Figure 1. Mean percentage control (Abbott) of adult + nymph planthoppers at 15 DAA. Arriga via Mareeba, Qld. 12QE14

[1] *SIVANTO prime may cause short-term effects to bees – refer to label statement.*

APPLICATION

PRODUCT VOLUME GUIDE AND CRITICAL COMMENTS

SIVANTO prime has labelled limits on the volume of product applied per application and per year, and/or the number of applications per year. Refer to this table:

1 **Find the product rate being applied**
2 **Find the water volume being applied per hectare**
3 **Note the amount of SIVANTO prime applied per application**
4 **Follow all additional critical comments**

TROPICAL AND SUB-TROPICAL FRUIT – INEDIBLE PEEL		
PEST AND RATE		
SPOTTING BUGS AND PLANTHOPPERS		
Water volume (L/ha)	75 mL/100 L	100 mL/100 L
360	200 mL/ha	360 mL/ha
400	300 mL/ha	400 mL/ha
500	375 mL/ha	500 mL/ha
600	450 mL/ha	600 mL/ha
700	525 mL/ha	700 mL/ha
800	600 mL/ha	800 mL/ha
900	675 mL/ha	900 mL/ha
1000	750 mL/ha	1000 mL/ha
1100	825 mL/ha	Maximum of 1 L/ha per application Papaya – minimum recommended water volume 360 L/ha
1200	900 mL/ha	
1300	975 mL/ha	

Maximum of 1 application during flowering. Maximum of 2 applications per 12 months.

BAYER

SIVANTO® prime

For more information on SIVANTO prime, visit **sivantoprime.com.au** or talk to your local Bayer Crop Science representative.

Hort Innovation

MT12024 – The development of DC-092 for the control of spotting bug in macadamia nut and tropical inedible peel crops. This multi-industry project has been funded by Hort Innovation (Previously Horticulture Australia Limited) using voluntary contributions from Bayer Crop Science and matched funds from the Australian Government. Hort Innovation is the grower-owned, not-for-profit research and development corporation for Australian horticulture.

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