



## CROP PROTECTION



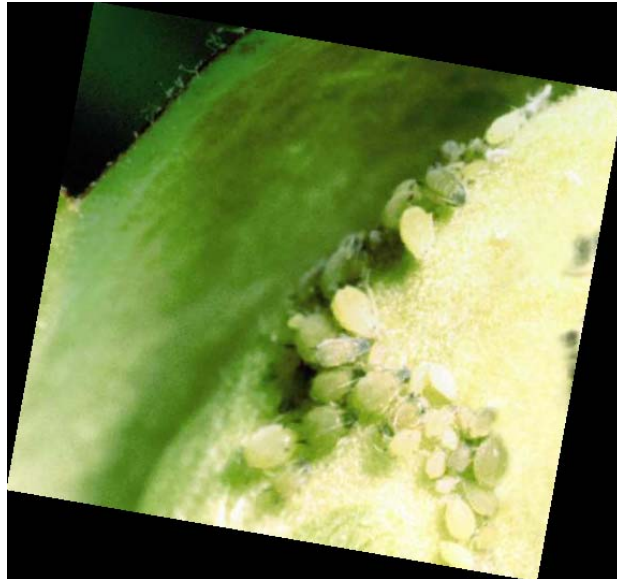
# The future of insect control in cotton

Cotton growers could be saving themselves thousands of dollars and reducing the heavy dependence on Bollgard cotton by simply including the Caltex Precision Spray Oils (TM) product Canopy® in their Integrated Pest Management (IPM) programs.

This is the finding of several years of scientific trials, including those conducted at the Australian Cotton Research Institute (ACRI), and more recent field experience since the commercial release of Canopy onto the Australian market in 2004.

Despite this, many growers have until now underestimated the central role of Canopy in their overall insect management strategies and its ability to save growers hundreds of dollars a hectare each season by continuing to successfully grow conventional cotton.

Canopy is the first and only spray oil registered as an insecticide in cotton and its registrations have been progressively expanded to include control of *Helicoverpa* and the major sucking pests including aphids and green mirids.



This is a significant development, as sucking insects have gone from being a secondary pest to the major cause of yield loss in the greatly increasing area planted to Bollgard crops. Sucking pests also cause significant losses in conventional cotton.

Canopy also avoids the need to resort to less-targeted 'harder' insecticides which destroy useful beneficial insect populations and can cause mite flares later in the season.

- **TOP & LEFT: Sucking pests like aphids and mirids are now the primary insect pests in cotton.**

## Flexibility in Bollgard/Conventional cotton planting ratios

St George based cotton consultant, John Barber, is one of many cotton industry professionals to recognise the full potential of Canopy in reducing costs and improving efficacy of insect control in both conventional and Bollgard crops.

Writing in a recent edition of *Australian CottonGrower* magazine, Mr Barber said insect pests could be managed more cost-effectively by using Canopy as the basis of insect management in both Bollgard and conventional crops.

This would offer the grower flexibility in their Bollgard to conventional planting ratio, potentially slashing up front cropping costs, by reducing the reliance on Bollgard as a stand-alone pest management tool while better managing the development of insect resistance to both Bollgard and commonly used insecticides.



- Cotton Consultant, John Barber

Mr Barber's findings echo those of years of field use and the results of extensive pre-registration trials in which the increasing value of Canopy as a key component of IPM strategies has been demonstrated.

According to Mr Barber, sucking pests will always be a problem if growers rely heavily on Bollgard, while *Heliothis* will always be a problem if they plant only conventional cotton. He concludes that the system which allows cotton to be grown for the least cost and greatest return is a 50/50 Bollgard/conventional cotton mix - in which Canopy is a key insect management tool.

- **Growers switching to Canopy® don't have to lock themselves into expensive genetic solutions and harsh chemistry to successfully control *Heliothis* in cotton.**



## Solution to sucking pests in Bollgard



- **Canopy® does not disrupt beneficial insect populations, nor does it lead to resistance problems or mite flare.**

For those growers planting up to 95% of their cotton area to Bollgard, sucking pests like mirids, aphids, cotton stainers and potentially whiteflies can be successfully controlled if Canopy is used regularly.

In previous years Mr Barber had recommended Canopy as a mixing partner with larvacides on conventional cotton, more as an adjuvant than an insecticide and found there were never any problems with aphids where Canopy was used. Now Mr Barber is confident that if used regularly as a standalone application - or added to Pix during the early and mid season, Canopy will suppress these major sucking pests in Bollgard.

Canopy can also be combined with a low rate of endosulfan if mirids are persistent or well over threshold levels. If late season pests like cotton stainers appear, Canopy plus a reduced rate pyrethroid mix could be used to provide effective and economical control.

## Canopy insecticide value underestimated

Caltex Precision Spray Oils Manager, Dr David Johnson conceded Canopy's potential had not been fully realised probably because its contribution to insect management strategies was more subtle than conventional insecticides.

He said it was important to understand that Canopy's role was to get the most benefit out of the pre-existing ecology within the crop.

"Canopy should be used to tip the pest/beneficial balance back in favour of the beneficial.

"Years of replicated large scale field trials, the results of which are mostly published, have proven that Canopy's contribution to cotton IPM is genuine and significant."

## Unique precision formulation

Dr Johnson added that Canopy's unique Precision Spray Oil™ formulation provided a level of insect control not normally associated with petroleum spray oils.

That's because Canopy's unique formulation includes:

- Caltex's high viscosity (*nC27*) paraffinic base oil that maximises insecticidal activity and persistence of co-sprayed insecticides,
- a special UV absorber which protects the base oil from photodegradation (which had been identified as a potential source of phytotoxicity in other spray oils), and
- a robust level of non-phytotoxic emulsifiers that allow it to spread effectively across the leaf surface, improving deposition on the leaf surface



- **Dr David Johnson**

## Flexible application

Canopy use is not restricted by Insect Resistance Management Strategy (IRMS) spray programs because of its physical mode-of-action (i.e. suffocation). Pests susceptible to this mode-of-action have not developed resistance in more than 100 years of use of spray oils for pest control.

Canopy can be used throughout the cotton season, either alone or in combination with many other products, because of its low impact on beneficial insect populations. The wide range of compatibilities also reduces spray costs and has been found to enhance the activity of a wide range of partner chemicals.

Further information on Canopy is available from crop protection product resellers or Caltex Precision Spray Oils.



- Canopy<sup>®</sup> is the only spray oil registered as an insecticide in cotton. It effectively controls *Helicoverpa* and sucking pests, such as aphids and mirids, by blocking their respiratory systems. Secondary toxic effects may include penetrating external tissues and degrading them.

## Further information:

Contact your Caltex Precision Spray Oils supplier or representative:

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