



# PRODUCT BULLETIN

## Canopy® and Silverleaf whitefly control?

Silverleaf whitefly (*Bermisia tabaci*) was first detected in Australia in 1994 with resistance already to most pyrethroid, organophosphate and carbamate insecticides. It is likely Canopy, when used in combination with other appropriate insecticides, will have an ongoing role in silverleaf whitefly suppression.

### POSSIBLE MODES-OF-ACTION OF SPRAY OILS AGAINST SWF

In US studies, spray oils have been shown to:

- be toxic and repellent to adult whiteflies
- deter oviposition
- reduce the number of nymphs that develop from eggs laid after treatment
- kill nymphs

### IN HORTICULTURE (FNQ)

SWF is now managed on an area wide basis by:

- rotating insecticide groups with no consecutive applications of any one.
- avoiding broad spectrum insecticides
- treating IGRs as one insecticide group.
- inclusion of the Caltex Precision Spray Oil, D-C-Tron® Plus, in spray programs (D-C-Tron Plus is a lighter version of Canopy (C24 v C27) used in hort.)

### IN COTTON

Canopy has been known to have an effect on SWF since the early 2000's issues in Emerald.

### 2008/09

Shield® and Canopy are both used for mirid control. A fortunate side benefit of their use may also be suppression of SWF. Caltex commissioned a large scale, late season, aerial trial to investigate anecdotal evidence.

#### The trial:

- was in a conventional, late planted field near St George at 100% SWF infestation
- looked at Canopy alone, Shield alone and Canopy + Shield treatments
- was performed as an alternate strip layout, designed by Research Connections, to suit aerial application and provide pairwise sampling comparisons between adjacent strips
- was analysed using restricted maximum likelihood techniques to model variations across the site. The trial results are in the Table (over)

#### It showed that under these extreme circumstances:

- Canopy provided significant suppression by itself, similar to Shield by itself (~100% down to 80% infestation after 1 spray)
- Canopy + Shield provided additionally significant suppression (~100% down to 50% after 1 spray)
- 2 successive sprays of Canopy + Shield, 9 days apart, reduced the pressure very significantly (100% to <30%)



For more assistance contact Caltex Precision Spray Oils™:  
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**PRECISION**  
SPRAY OILS

# CANOPY HAS BEEN REGISTERED AS AN INSECTICIDE IN COTTON FOR MORE THAN 5 YEARS NOW.

## % SWF Infestation after various treatments.

All non-control treatments were accidentally sprayed with Canopy + Shield 9 DAT.

Days after Treatment	Canopy	Control 2	Canopy + Shield	Control 3	Shield + Maxx	Control 4
3	85	97	80	98	85	96
7	80	96	54	95	81	99
16	47	89	61	93	68	97
20	25	84	55	78	56	88
24	28	79	47	73	52	82
Average SED (range)	5.8 (4.3 - 7.3)					

Percent SLW infestation 3, 7, 16, 20 and 24 days after initial treatment in SLW strip trial. Strips are in field plan order.

### 2009/10

Caltex commissioned 4 large scale trials to further investigate the effect of regular Canopy use throughout the season on SWF spray decisions late in the season. The trials were simple divided blocks in a 'with (Canopy) and without' approach. Results showed:

- clear benefit in early season Canopy use at Carrington (see Chart) where the 'with Canopy' approach maintained SWF pressure in Zone 1 of the SLW Threshold Matrix to beyond 1800DD compared to the 'without approach' in which pressure was in zones 2B and 3C after 1650DD.
- in the trial at Walgett, between 1500 and 1650DD, the 'no Canopy' approach rose from zero pressure to zone 3B/C whereas the pressure in the 'with Canopy' approach

rose only into zone 2A/B. In other words, at 1650DD the spray decision would have been only a knockdown treatment with regular Canopy use, as opposed to an IGR + knockdown without Canopy.

### CONCLUSION

At this point, the field trial results appear to reflect field anecdotal experience. It is likely that Canopy will have an ongoing role to play in the suppression of silverleaf whitefly in integrated pest management programs when used in combination with other appropriate insecticides.

