

Silverleaf Whitefly

Silverleaf Whitefly (SLW) has been seen in low numbers in the Macquarie this season. In the Gwydir, Upper and Lower Namoi valleys SLW has been present in high enough numbers to warrant control. Lewis Wilson (CSIRO and Cotton CRC) has indicated that SLW populations in NSW regions (Macquarie, Upper & Lower Namoi and Gwydir) may now be high enough that the pests will continue to be seen in low numbers each season and that given the right conditions an outbreak could occur. A mild wet winter could result in a larger population of SLW surviving through the winter on weed hosts to high levels in the spring. It is important that the cotton industry in the Macquarie is aware of SLW and are in a position to manage any potential outbreaks in the future.

SLW is a problem due to its resistance to many insecticides and capacity to rapidly reproduce on cotton. While SLW adults and nymphs cause some mid to late season damage to terminals, leaves and stems, the principal concern is the contamination of lint through their excretion of 'honey dew'. Whitefly honey dew is worse than aphid honey dew, because it has a higher boiling point and is more difficult to remove in processing.

Distribution: SLW has been identified in most cotton growing regions in Australia, is readily found on ornamental plants in nurseries and has a wide range of hosts.

Climate: SLW does not have an over-wintering diapause stage so its distribution is limited to those areas where it can survive winter conditions. The growth rate of SLW decreases and generation times increase in cooler weather. From Bileola in Qld and further north, the generation time in winter is 80 days or less whereas in Narrabri it is 120 days.

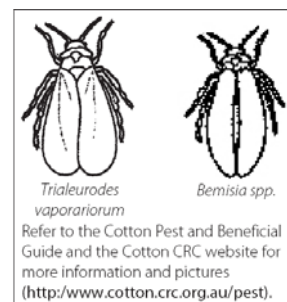
Host plants: In order for a SLW outbreak to occur a long period of continual hosts is required. These may be weeds (such as sowthistle) or cultivated hosts (cucurbits

are excellent hosts). Cereals crops and most winter legumes are not good hosts for SLW.

Risk of Outbreak in the Macquarie: The risk of a major outbreak in the Macquarie is considered low as we typically experience cooler winters and have less available hosts crops year round, however **this does not mean there is no risk!**

Correct species identification is important. There are 3 types of whitefly found on Australian cotton.

- Greenhouse whitefly (*Trialeurodes vaporariorum*)
- Eastern Australian native whitefly (*Bemisia tabaci* Aus)
- Silverleaf Whitefly (*Bemisia tabaci* B-biotype)



Greenhouse whitefly and the native whitefly are the most common but are generally not significant pests of cotton. Greenhouse whitefly can be visually identified from *Bemisia* types (see image) by comparing their wing shape. The *Bemisia* types (Native and SLW) can only be distinguished by a biochemical test. Contact your local extension officer or refer to Cotton Pest Management Guide for details on species verification sampling, which is undertaken at QDPI&F, Toowoomba. The species composition may change during the season so should be verified more than once.

Monitoring: Sampling for SLW should commence weekly at flowering and then twice weekly from peak flowering. Sampling for SLW can occur at the same time, with the same leaves, as sampling for mites and aphids. SLW are scored using a presence/absence method

Control: Use the Threshold Matrix developed by Dr Richard Sequiera (QDPI&F) 2008/09 Cotton Pest Management Guide. Control is based on whether suppression (low to medium density populations prior to open cotton) or knock-down (high density populations late in the season) is required.

It is essential that SLW are managed on an area wide basis within an IPM framework. This includes:

- Implementation of a resistance management protocol.
- Commitment to using the appropriate products at the recommended crop stage and pest density.
- Preservation of beneficials by avoiding broad spectrum insecticides early season.
- Good farm hygiene to reduce weed hosts

SLW can build up resistance to insecticides very rapidly. Poor insecticide selection can flare SLW!

Avoiding broad spectrum insecticides early to preserve beneficials is crucial to effective SLW management.

For more information go to

http://www.cottoncrc.org.au/content/Industry/Publications/Pests_and_Beneficials/Whitefly.aspx or the 2009 Cotton Pest Management Guide. Thanks to Lewis Wilson (CSIRO) and Susan Maas (QDPI&F) for information in this article.