Cotton Catchment Communities CRC

# COTTON *TALES*

*Macquarie Valley*

Sal Ceeney, ☎ 04 59 189 771 💻 ms.ceeney@gmail.com

2010/11
No.6
04/02/11

## APHID MANAGEMENT

Cotton aphids are being reported from many areas and creating concern about potential for aphids to reduce yield, resistance levels and Cotton Bunchy Top Disease.

- *There are confirmed high levels of neonicitinoid resistance in aphids*
- *Preserving beneficials and good farm hygiene are key to effective aphid management*
- *If you suspect a spray failure do not respray with a chemical from the same group. Follow the IRMS guidelines.*

**Decisions – do aphids require control?**

When aphids feed they take in the sugars produced during photosynthesis and if they feed for long enough this translates into reduced yield.

Fig 1. Cotton aphid infested cotton leaf

A range of beneficials and parasites will help control aphids. If these are disrupted aphid populations may increase quickly and require chemical control.

Sample for aphids using the scoring system described on page 14-15 in the Cotton Pest Management Guide Use 'look-up' tables in the Cotton Pest Management Guide to estimate the risk of reduced yield. An 'Aphid Yield Loss Estimator' tool simplifies the input of data and avoids having to use look-up tables. This is available on the Cotton CRC website: (http://cottassist.cottoncrc.org.au/Aphids/Default.aspx).

After first open boll the threshold is 10% of plants infested if there is honeydew present. This aims to avoid contamination of lint with honeydew as penalties for honeydew contamination are severe.

**Selecting an Insecticide**

- Neonicotinoids - in 09/10, 78% of the strains tested showed resistance to the neonicotinoid group (e.g. Shield®). Neonicotinoids may not provide effective aphid control. If a poor result is achieved do not respray with a neonicotinoid.
- Petroleum Spray oils (Canopy, Biopest) – high molecular weight oils will help suppress aphid populations if used regularly (e.g. alone or with other insecticides).
- Pirimicarb (carbamate) and organosphosphates (omethoate/ dimethoate) will provide control. The previous high resistance to these groups has virtually disappeared in recent years. However: note there is cross resistance between pirimicarb and OP's dimethoate and omethoate – overuse of either will rapidly reselect for resistance. Do not use more than twice and do not use consecutively (eg do not spray pirimicarb then dimethoate). If pirimicarb or OP spray fails don't use either again. OP usage to control aphids will likely disrupt beneficials, and flare other pests such as SLW. As pirimicarb is past its window in the IRMS approval should be sort to use it.
- Endosulfan will suppress aphids (see label restrictions on use)
- Diafenthiuron (Pegasus®) is available late in the IRMS. Adherence to the IRMS recommendation of maximum of 2 sprays is important as a few cotton aphid strains have been found to have low resistance to diafenthurion
- Spirotetramat (Movento®) is available for all of the IRMS with a maximum of two sprays allowed.

*For more information refer to 2010/11 Cotton Pest Management Guide.*

Fig 2. Cotton bunchy top affected plant

## COTTON BUNCHY TOP (CBT) -

CBT is a viral disease that is spread by cotton aphids. Symptoms include reduced plant height, leaf size, petiole length, internode length, boll size and potential yield.

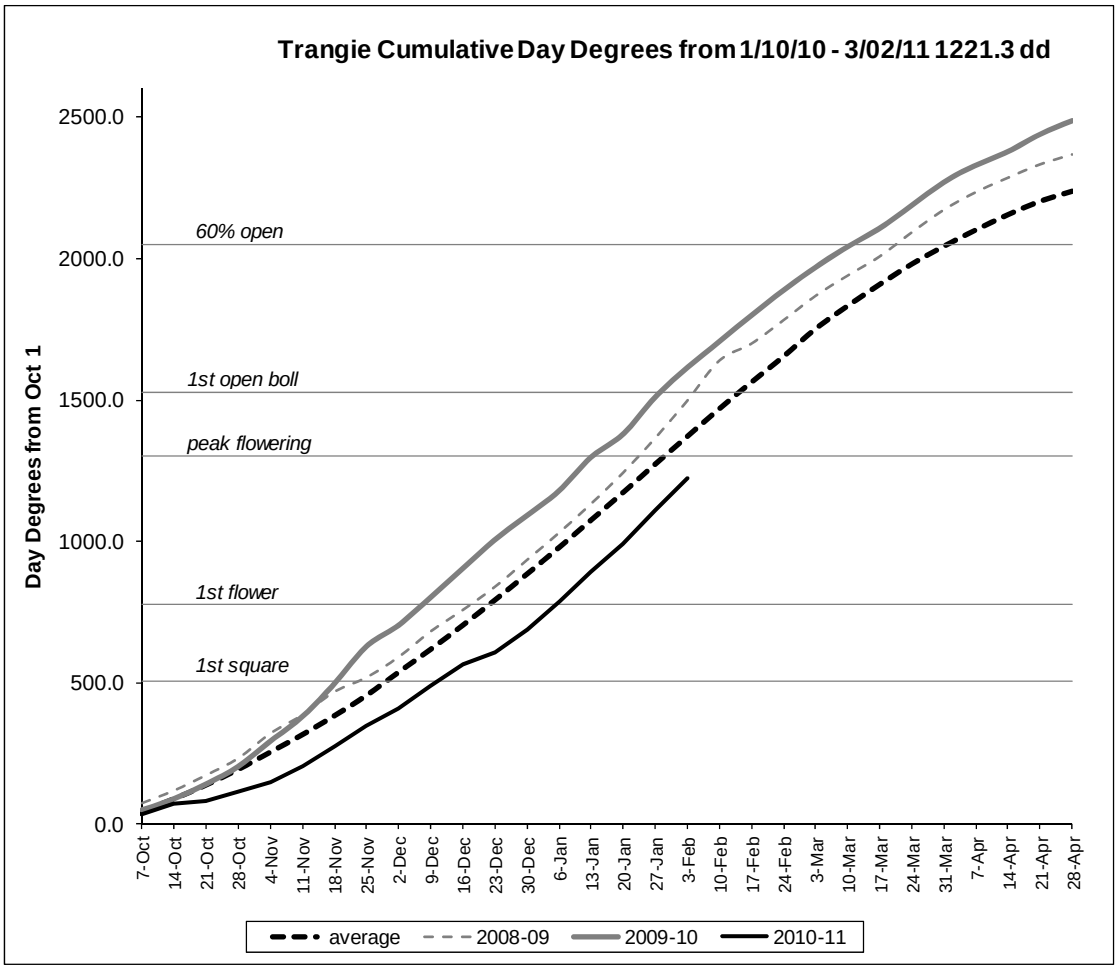
**What are the factors that have made 2010/11 favourable to CBT**

HOST✓ CBT is commonly observed in volunteer cotton plants surviving over from the previous season.

VECTOR✓ An abundance of suitable aphid hosts in spring allowed aphids to establish colonies on seedling cotton.

ENVIRONMENT✓ Disease spread is favoured by climatic conditions which are suitable for aphid reproduction, feeding and spread.

Areas at high risk will be those where there are CBT affected hosts near cotton crops. In this case manage aphid populations to avoid a high proportion of plants carrying them (e.g. < 10-15%).


Trangie Cumulative Day Degrees from 1/10/10 - 3/02/11 1221.3 dd
Day Degrees from Oct 1
2500.0
2000.0
1500.0
1000.0
500.0
0.0
60% open
1st open boll
peak flowering
1st flower
1st square
7-Oct
14-Oct
21-Oct
28-Oct
4-Nov
11-Nov
18-Nov
25-Nov
2-Dec
9-Dec
16-Dec
23-Dec
30-Dec
6-Jan
13-Jan
20-Jan
27-Jan
3-Feb
10-Feb
17-Feb
24-Feb
3-Mar
10-Mar
17-Mar
24-Mar
31-Mar
7-Apr
14-Apr
21-Apr
28-Apr
average
2008-09
2009-10
2010-11