Cotton Catchment Communities CRC
NSW DEPARTMENT OF PRIMARY INDUSTRIES

# COTTON *TALES*

*Macquarie Valley and Bourke*

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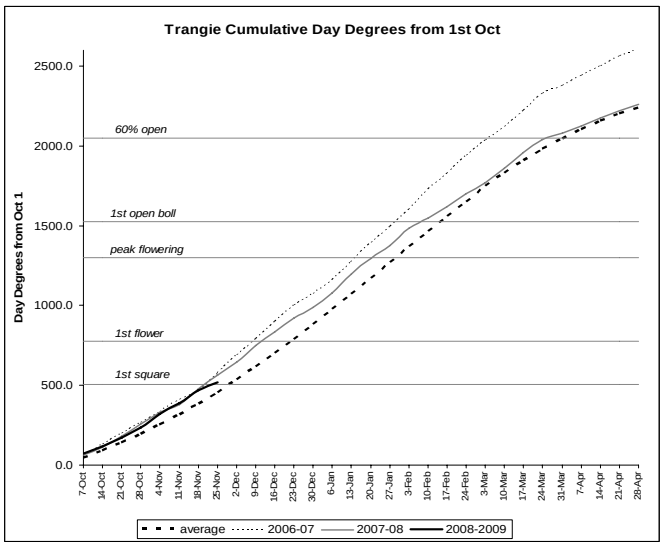
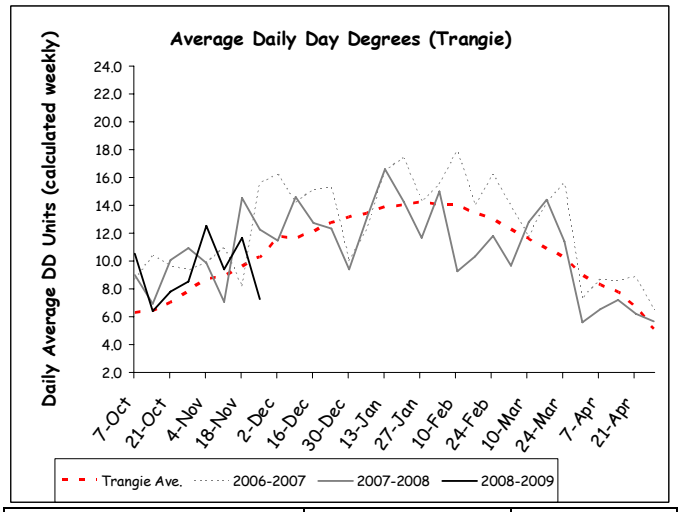
2008/09
No.8
02/12/08




| Period | Cold Shock | Hot Days |
|---|---|---|
| 15 – 30th Sep 08 | 12 | |
| 1st Oct – 30th Nov 08 | 18 | 2 |

## Mirid Biology

*Thanks to Dr Moazzem Khan (QDPI&F) for help with this article. Parts of this article are from the new mirid fact sheet.*

Being able to identify mirids correctly and understanding their biology can help in making spray decisions.

Of the two species of mirids commonly found in cotton, the green mirid is the dominant species, particularly in a cotton monoculture, (>95% of the mirid population). The proportion of brown mirids on cotton is higher in mixed cropping (soybean, mungbean, pigeon pea, cotton) systems, though it is still less common than green mirid.

Both green & brown mirids have an egg and 5 nymphal stages before moulting to adult. Under summer conditions, a generation of green and brown mirids (egg to adult) can be completed in about 2 & 3 weeks respectively. Adults of both mirids can live for 3-5 weeks and a female can lay up to 80 eggs in her life time.

Temperature is an important driver of mirid development. Optimum temperatures for both green & brown mirids are 30 to 32°C. At these temperatures, the development from egg to adult takes 15.6 &18 days in green & brown mirids respectively. When the weather remains cloudy & temperatures are around 32°C for a few days, green mirid populations will explode within a short time frame, faster than when temperatures are cooler or hotter.

Though warmer conditions generally lead to faster development, temperatures much beyond the optimum tend to reduce survival, and prolonged periods of very hot weather (>35$^{o}$C) can reduce mirid abundance. Heavy rain & strong storms can also reduce mirid numbers.

During winter mirids development slows down, however mirids are able to overwinter on a wide range of alternate hosts, including many common weeds.

Know your pest - Adult green & brown mirids may be confused with adult broken backed bugs & crop mirids Nymphs of the green mirid may be confused with nymphs of broken backed bugs, apple dimpling bugs, aphids & predatory black mirids.

For further information a new fact sheet on “Mirid Biology and Identification” is available on the cotton CRC website and includes pictorial identification at different stages.
http://web.cotton.crc.org.au/content/Industry/Publications/Pests_and_Beneficials/Sucking_Pests.aspx

| **Mirid Thresholds** | | Planting to 1 flower/m | Flowering to 1 open boll/m | 1 open boll/m to harvest |
|---|---|---|---|---|
| Adults or nymphs/m | | | | |
| Visual Sampling | cool region | 0.7 | 0.5 | - |
| | warm region | 1.3 | 1 | - |
| Beatsheet Sampling | cool region | 2 | 1.5 | - |
| | warm region | 4 | 3 | - |
| Sweep net Sampling* | cool region | 2 adults + 1.1 nymphs | 1.5 adults + 0.8 nymphs | - |
| | warm region | 4 adults + 2.1 nymphs | 3 adults + 1.6 nymphs | - |
| Crop damage | | | | |
| Fruit retention | | 60% | 60-70% | - |
| Boll damage | | - | 20% | 20% |
| Tip damage (% of plants affected) | | | | |
| (light**) | | 50% | - | - |
| (heavy***) | | 20% | - | - |
| ** After 9-10 nodes* | | | | |
| *** Light tip damage - embryo leaves within the terminal are black.* | | | | |
| **** Heavy tip damage - terminal and 2-3 uppermost nodes are dead.* | | | | |