



**Information** when you need it



## the gwydir grower

21<sup>st</sup> January 2019

Crop/Bug Check (week ending 18<sup>th</sup> January) – Moree

### Crop Stage

- Irrigated From 8 to 23 nodes, 3 to 8 NAWF
- Some Dryland 16 nodes and yet to flower
- Dryland starting to cut out, later plant ok at the moment

### Insects/Beneficial's

- Moderate numbers of Mirids
- Whitefly adults migrating in, few nymphs
- Plenty of Jassids, couple of Heliothis coming through - only very smalls
- Low % of Mites about
- Mirid nymphs increased up to 10/m. Mites increasing with egg lays. Plenty spiders, lady birds, lace wings.
- Spraying with Fipronil and Abemectin.

### Weeds

- Roundup ready really struggling on peach vine

### Disease

- Vert becoming more evident, this is a concern given its been hot and dry

### Other

- Water very tight, cutting crops out earlier to ensure they make it through
- Treating the dryland very rough, won't spend money on it until we get decent rain

### **What the consultants are saying:**

*"Dryland SE Moree, 16-23 nodes, 5-6 NAWF, Mirid numbers on the increase but not at threshold yet, good numbers of spiders and beetles. Retention still high considering the weather conditions".*

*"Sprayed for Mirids in irrigated this week- transform, Dryland is carrying 0.5-1/m and we will hold on that".*

*"HOT!!!! Some cavitation evident in irrigated, throwing 3-5 bolls/day. Early dryland is very stressed and throwing fruit".*

*"Early Dryland early – 19 Nodes, 6 NAWF and approaching cutout. Late Dryland - 14 nodes and squaring. 0.5mirid nymph/m".*

Crop/Bug Check (week ending 18<sup>th</sup> January) - Mungindi

## Crop Stage

- Irrigation- mostly 18-23 nodes
- Dryland- 10 nodes (late plant), 18-22 (early Plant)
- Retentions up 70-90% & NAWF 6-8

## Insects/Beneficial's

- Low levels adult whitefly present.
- Low-moderate Mirid pressure (highest pressure fields just about to have 2nd Insecticide)
- Dryland- paddocks have had 0-1 Mirid sprays

## Weeds

- Low weed pressure

## Disease

- Verticillium present at low-moderate levels (severity in plant has increased)

## Other

- Due to heat and lack of rain water is tight

### **What the consultants are saying:**

*"Established dryland is actually tolerating high temperatures very well. Retentions up 70-90% & NAWF 6-8"*

*"Crops are 21-24 nodes with the older fields now at cut out which is a little earlier than usual but they do have a high fruit load"*

*"Much lower levels of predators than in other seasons but starting to see a few more"*

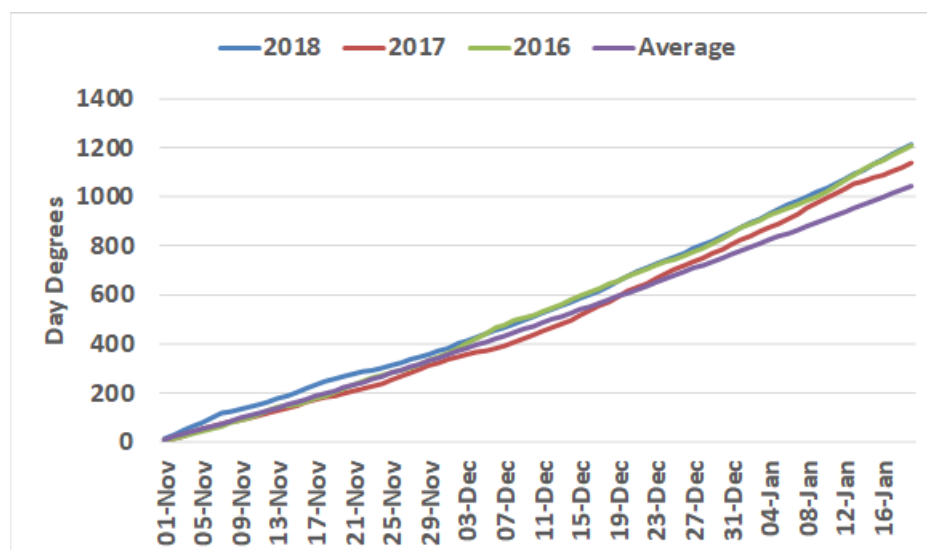
*"First spray for mirids this past week, Transform working very well. Whitefly at very low levels within the crop possible spray in a couple of weeks time"*

**Please note, that all agronomic decisions should be based around your crop and the pests found in it. This is a summary of responses from 7 consultants based in the Gwydir/Mungindi districts.**

## Day Degrees - Moree

Accumulated day degrees from planting date of 1 November until 19 January - Moree

- From 1<sup>st</sup> Nov: 1211
- 2017: 1136
- 2016: 1209
- Long Term Average: 1044

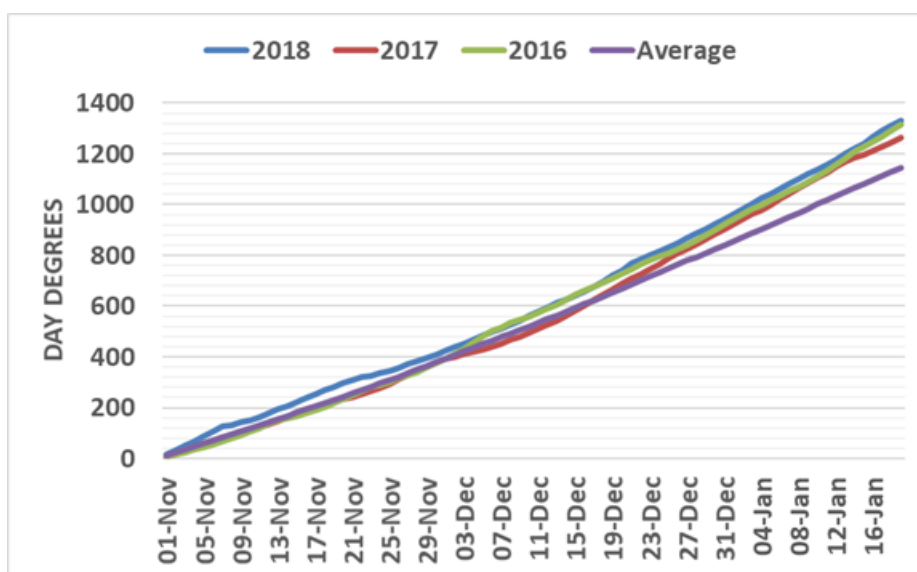


Date	2018	2017	2016	Average
Hot Days	31	28	33	14.6
Cold Shock	2	3	8	4.4

## Day Degrees - Mungindi

Accumulated day degrees from planting date of 1 November until 19 January - Mungindi

- From 1<sup>st</sup> Nov: 1329
- 2017: 1264
- 2016: 1313
- Long Term Average: 1146



Date	2018	2017	2016	Average
Hot Days	43	39	46	27.5
Cold Shock	1	2	6	3

## Pyriproxyfen (Admiral) 30-Day Window

Industry data from Silverleaf whitefly (SLW) resistance monitoring shows an increase in pyriproxyfen (e.g. Admiral®) resistance. This is a very concerning trend as pyriproxyfen is a cornerstone product for managing SLW populations in Australia, with low impact on beneficial insects.

To reduce the risk of SLW developing widespread pyriproxyfen resistance and potential product failure, Cotton Growers' Associations have nominated a voluntary 30-day window for each region in which pyriproxyfen can be applied.

The aim of narrowing the pyriproxyfen window is to minimise consecutive generations of SLW being exposed to resistance selection, and ensure the product is being applied once per season when most effective.

The Gwydir and Mungindi windows open shortly:

**Moree: 28th January 2019 – 28th February 2019. (this will be discussed at AWM meetings next week. See dates for diary below)**

**Mungindi: 25th January 2019 – 25th February 2019.**

**Reminder - when controlling SLW populations:**

- Avoid disruption to natural enemies when controlling mirids
- All spray decisions should be made based on the SLW matrix in the Cotton Pest Management Guide: <https://www.cottoninfo.com.au/publications/cotton-pest-management-guide> pages 32-36.
- Growers and consultants should check their regional window before applying pyriproxyfen
- Maximum 1 application of Pyriproxyfen per season

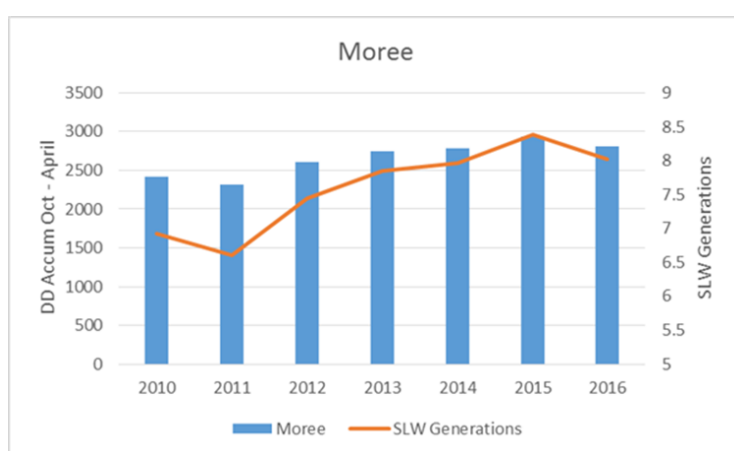
The aim of the threshold matrix is to identify when populations are beginning to enter a phase of rapid increase and enact control prior to numbers reaching levels where they might pose a risk of contaminating opening bolls with honey dew. Other factors that you might consider when approaching a control decision is you are unsure whether you are at threshold is to

- Examine the lower foliage for signs of honeydew. If you are seeing speckling on the leaves or the development of a honey dew sheen on the lower leaves it is time to consider a control treatment
- Examine the lower main stem leaves adjacent to the first 3-4 fruiting branches. If there are reliable numbers of nymphs present and this coincides with the presence of honeydew it is likely that you are observing an increasing population
- Consider your crop stage. The aim for pyriproxifen usage is to bring whiteflies under control by the time the first bolls open. This means that your control decisions when using a product such as pyriproxyfen should be made at least a fortnight before first open boll as the product will take 14-20 days to bring about population decline.
- Ideally use a softer selective product when controlling mirids to reduce any adverse effect on natural enemies (Beneficials). One of the reasons pyriproxyfen works so well is that it is highly selective and leaves the majority of SLW natural enemies in place after application. These natural enemies are very effective at “mopping up” any SLW that survive treatment and prolong the chance of any SLW resurgence. Fields that have been disrupted through the use of non-selective products for mirid management are more likely to have SLW numbers

rebound 4-6 weeks after pyriproxyfen treatment. Also the chance of resistant individuals surviving in disturbed fields is much higher.

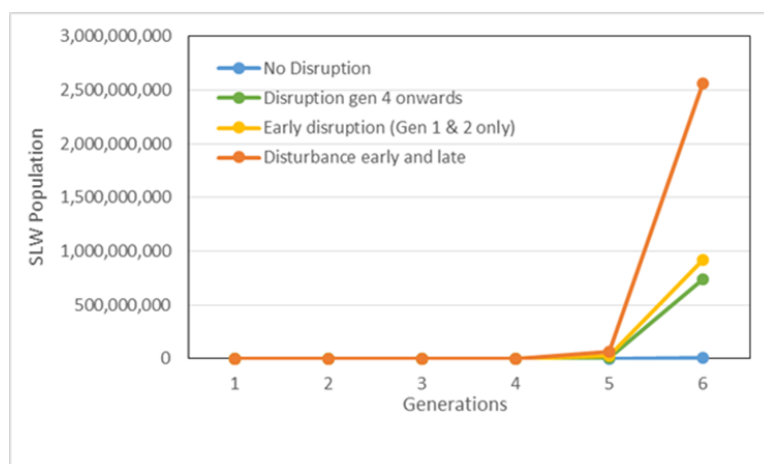
- If your numbers are not at threshold but SLW are still present in the crop, continue to monitor the population and keep a look out for signs of honey dew.
- If numbers build up or honey dew starts accumulating after the pyriproxyfen window has closed, consider the use of a knockdown product to reduce numbers during boll opening.
- If you are worried that control might still be necessary before defoliation, products such as spirotetramat (Movento®), diafenthiuron (Pegasus®), acetamiprid/emamectin (Skope®), cyantraniliprole (Exirel®) or dinotefuran (Starkle) should provide effective control for any late season build-up depending on the situations circumstances.
- Remember that the objective is to limit the opportunity for honey dew contamination of the lint. Even mild honeydew can cause problems.

**REMEMBER: Hotter seasons = more generations**



**AND SLW is a numbers game**

- Early disturbance can have a HUGE multiplier effect before you even see them. The figure below illustrates how early season usage of disruptive products can dramatically increase SLW mid to late season. This is often why low numbers can rapidly transform into problematic populations within a fortnight.



**Thanks to Paul Grundy, QDAF for assisting with this article.**

## Managing heat stress

- With hot conditions continuing across the Gwydir, we bring you this [CottonInfo blog](#) on managing heat stress in your cotton, featuring CSIRO researchers Dr Mike Bange and Dr Rose Brodrick.

## Water running short? How do we manage our irrigation?

When irrigation water is limited, stress has less of an impact if it occurs late in the season, compared to stress during the flowering period which can lead to significant yield loss. The crop is most susceptible to stress during flowering (see Table 1 - extracted from [WATERpak](#) chapter 3.1). In fact, stress during peak flowering is likely to result in double the yield loss compared to stress during squaring and late boll maturation (as shown in Table 1).

**Table 1: Yield loss (%) per day of water stress (extraction of > 60% plant available water)**

	Past Conventional*	Bollgard**
Squaring	0.8	1.1
Peak Flowering	1.6	1.7
Late Flowering	1.4	2.7
Boll Maturation	0.3	0.69***

\* Hearn and Constable 1984

\*\* Yeates et al. 2010

\*\*\* 14 days post cut out

Once the crop has reached cut-out (NAWF <5), the most critical period for minimising water stress has past. Stressed crops may reach cut-out earlier as leaf expansion and the development of new nodes slows in response to water stress. Whilst yield loss can still occur after cut-out the reduction in yield is lower.

Stretching the time between irrigations beyond the target deficit can lead to significant yield losses, therefore in most seasons it is better to skip the last irrigation rather than stretching irrigations during flowering. Soil moisture monitoring is invaluable for timely irrigations and when water is limited predicting how much water will be needed to refill the profile. The short term forecast can help refine scheduling in predicting future crop water use.

### So, what can you do on your farm?

- Current recommendations for limited water situations are to aim to concentrate water applications during flowering (first flower to cutout) and minimise stress during this period. This is the period that cotton is most sensitive to water stress and loss of early fruit will require further growth and water to support growth later in the season.
- Consider re-evaluating the time for cutting out crops based on end of season water availability. Growers can use high rates of mepiquat chloride to assist crops in reaching cutout

more rapidly. The risk here is that if it was to rain it would be difficult to restart crop growth. This risk has to be balanced with the impact of less available irrigation.

- Monitoring of crop development (especially changes in nodes above white flower and evaluating dates of last effective flower) using [CottASSIST's](#) crop development tool to determine how a crop is performing in comparison to the expected growth of a well-watered crop.
- Continue to use a variety of tools to schedule irrigations including soil moisture and weather forecasts.
- For further information: [WATERpak](#) (see section 3.1, 3.2 and 3.3)

**Thanks to Dr Mike Bange, CSIRO for assisting with this article.**

## Dates for the Diary

### AWM Meetings DATE CHANGED TO 30<sup>th</sup> and 31<sup>st</sup> January

- **Gwydir West AWM**
  - Date: Wednesday 30<sup>th</sup> January 2019
  - Time: 4:00pm
  - Location: **Mallawa Racecourse, Mallawa.**
  - Directions: <https://goo.gl/maps/3JQ1Q7z14vH2>
  - Refreshments sponsored by Namoi Cotton (Sandy O'Rourke)
- **Gwydir North East AWM**
  - Date: Thursday 31<sup>st</sup> January 2019
  - Time: **4:00pm**
  - Location: TBC
  - Refreshments sponsored by Adama (Rob Lomman)
- **Bankless Irrigation Field Day**
  - Date: Wednesday 6th February 2019
  - Supported by NWIAL (North West Irrigation Australia Regional Committee), GwydirValley CGA, CottonInfo, NWLLS and NSW DPI Sustaining the Basin
  - Flyer attached
- **CSD Field Day**
  - Date: Wednesday 20th February 2019
  - Location: Little Mollee @ CSD farms

### Janelle Montgomery

Regional Extension Officer | Gwydir, Mungindi | CottonInfo

M 0428 640 990 | E [janelle.montgomery@cottoninfo.net.au](mailto:janelle.montgomery@cottoninfo.net.au) | W [www.cottoninfo.com.au](http://www.cottoninfo.com.au)



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