



Information when you need it



the gwydir grower

17 December 2018

Crop/Bug Check (week ending 14th December)

Crop Stage

- First flower on earliest crops (late Sept/early Oct plant)
- Irrigated: Early plant 11-18 nodes, late plant 1-2 nodes.
- Dryland: 1-6 leaf
- Reports of crops losing some squares. Generally, also reporting consistent Heliothis pressure in these crops. Some questioning if it's Thrip damage.

Insects/Beneficial's

- Pest pressure remains low.
- Still some reports of higher Thrip pressure, however most crops are growing out of Thrip damage well
- Plenty of Beneficials and building. Increasing Spiders, Lady Beetles and Red Blue Beetles
- Heliothis eggs common. Consistent Heliothis pressure. Averages of 5-10 Heliothis eggs/m
- First Mirids starting to show up, still very low numbers

Weeds

- Strong grass germinations along with fleabane
- Most crops have all been sprayed at least once.

Disease

- Odd bit of seedling disease in some areas of irrigation predominantly.

Weather

- Rain below hopes and expectations.

Other

- Some fields slow, looks to be compaction.
- Growing out of sandblasting well.
- Some minor Gramoxone damage (drift).
- Some residual herbicide damage - Imazapic and Picloram

What the consultants are saying

"Some irrigated still looks a bit ratty from late start and thrip damage and heavy winds/sand blasting. Starting to recover now, rain will be big help"

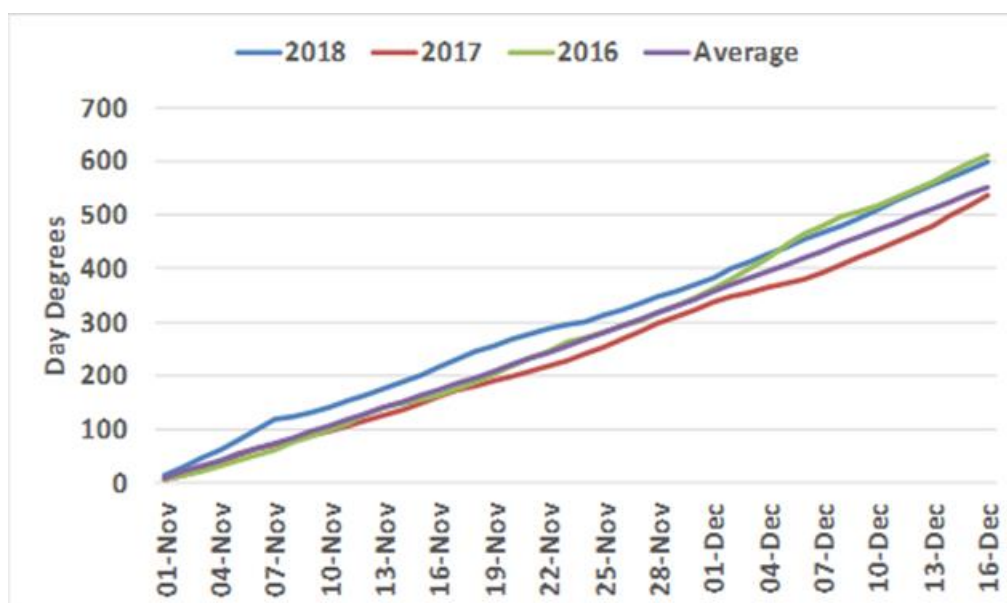
"Sustaining higher % of early square loss next to harvested wheat/barley. Egg numbers low, although are consistent"

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 10 consultant's based in the Gwydir Valley.

Day Degrees - Moree

Accumulated day degrees from planting date of 1 November until 16 December - Moree

- From 15th Oct – 599.5
- 2017 – 535.8
- 2016 – 611.6
- Long Term Average – 552.4

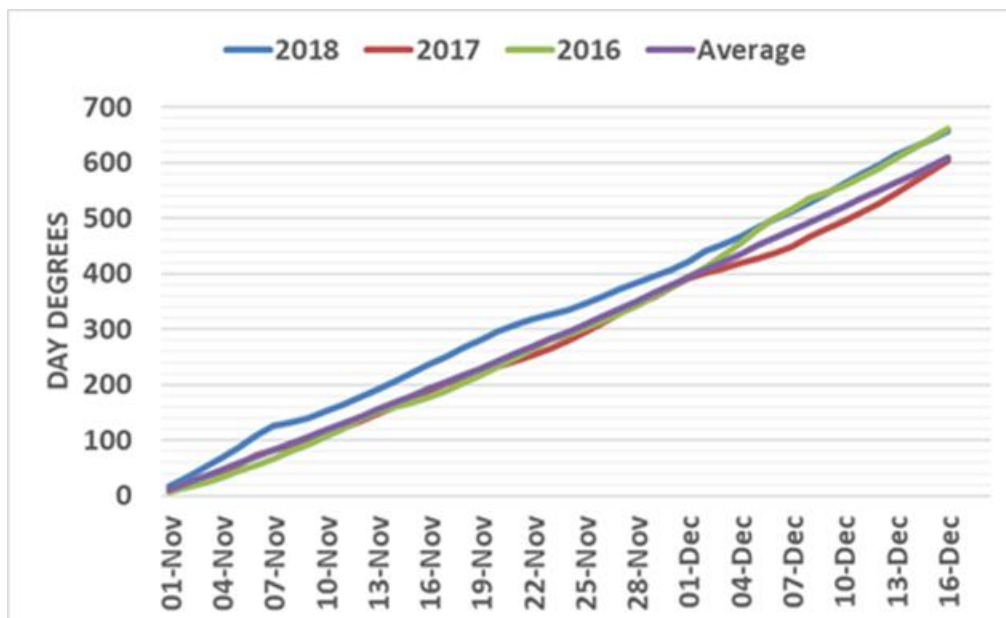


Date	2018	2017	2016	Average
Hot Days	6	4	13	5.8
Cold Shock	2	3	8	4.1

Day Degrees - Mungindi

Accumulated day degrees from planting date of 1 November until 16 December - Mungindi

- From 1st Nov – 657.2
- 2017 – 603.6
- 2016 – 661.0
- Long Term Average – 608.7



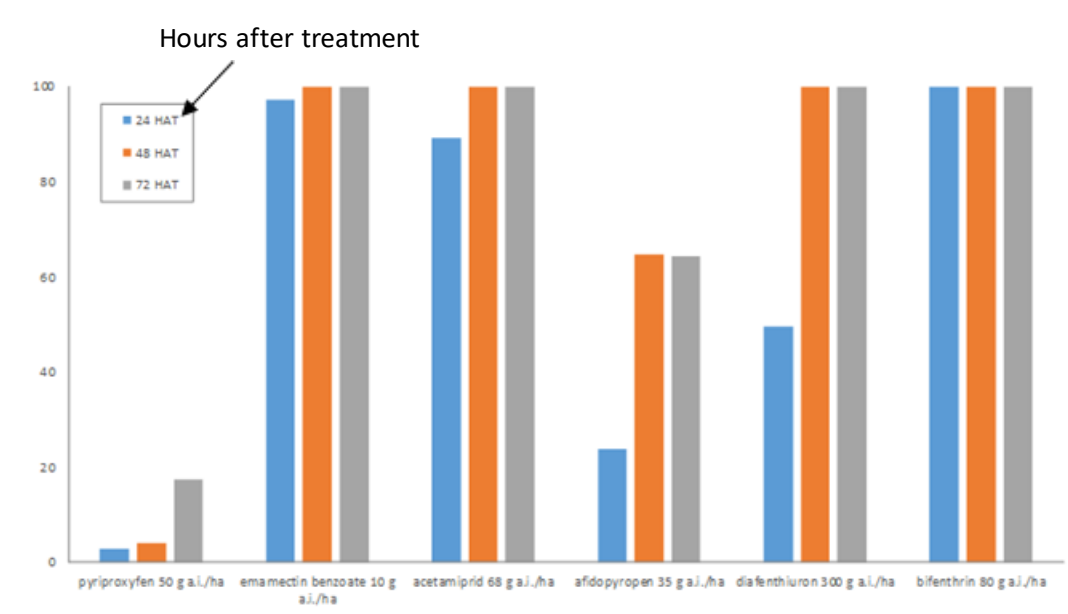
Date	2018	2017	2016	Average
Hot Days	13	9	19	11.5
Cold Shock	1	2	6	2.7

Pyriproxyfen (Admiral) 30-Day Window

- **Moree:** Based on average irrigated plant (1st week November), the Gwydir CGA has set the 30-day Admiral application window from **28th January 2019 – 28th February 2019**. This can be revised at subsequent AWM meetings (next AWM meetings 9th and 10th January)
- **Mungindi:** Based on average irrigated plant (end Oct/Start Nov), the Mungindi CGA has set the 30-day Admiral application window from **25th January 2019 – 25th February 2019**.
- This window is very important to reduce the risk of widespread Pyriproxyfen resistance and potential product failure.
- Jamie Hopkinson, Entomologist, QDAF has provided the **results from the 2017/18 SLW Pyriproxyfen resistance program**.
 - 4 SLW populations resistant (R), 2 in the Gwydir. A 3rd Moree SLW population have suspected resistance (R?). See results below. Resistant populations in red circle. Moree populations - MO18, 1, 2 & 3.
 - The susceptible population is the control, never been exposed to Pyriproxyfen. You can see that they get a 100% kill a lot quicker and at a lower dose (<0.1PPM) compared to the exposed SLW populations across the industry.
- LC₅₀ is the lethal concentration to kill 50 percent of the population and provides a measure to compare between regions and season. Results for last three seasons in table below:
 - The lower the LC50 the better. The range in LC50 found within sampled population provides a baseline for comparison. Eg in the Gwydir the baseline jumped dramatically between 15/16 and 16/17. Still relatively high in 17/18 compared to other valleys but not the jump we saw previously (a good thing).
 - The Gwydir does have a pyriproxyfen resistance issue, so the 30-day admiral application window is very important.
 - Jamie also shared preliminary results of experiments examining toxicity of insecticides on *Eretmocerus hayati* (Parasitoid Wasp of SLW, lays its eggs into the 1st and 2nd stage SLW nymphs. On hatching the larva bores into the SLW nymph, then

waits for the SLW to pupate. It then releases digestive enzymes which dissolve the SLW innards which are used by the wasp larva to complete development!)

Location	Pyriproxyfen Resistance Factor (LC ₅₀)		
	Season 2015/16	Season 2016/17	Season 2017/18
Central Queensland	<1-2	<1	<1
St George	4.1-5.3	9.3-15.4	9-37.3
Goondiwindi & Border Rivers	<1-15.2	5.4-24.7	4.1-8.9
Gwydir valley	1.7-68.2	13.4-113.1	14.2-28.3
Namoi valley	5-5.3	14.8-64.4	1.7-4.6
Macquarie valley	-	-	4.6
Southern NSW	1.2	2.4	1.7



- These preliminary results would be considered worse case, with lab methodology being quite severe.
- Pyriproxyfen (Admiral) has lowest toxicity level on *Eretmocerus hayati*.
- Diafenthiuron (Pegasus). Shows less impact in 1st 12hrs as the chemical undergoes chemical conversion which is acted by sunlight. Takes 24 hrs to become active. Good reminder that Pegasus isn't going to work well in cloudy weather. Need it to convert quickly to do its job, hence need sunlight.

Weeds – Get them small, Get them early

- It a critical time for weed control.
- Ideally get them small and get them early.
- Volunteer cotton is a dangerous weed, difficult to kill and it's a disease and insect host.
- Herbicide resistance a growing problem, **remember 2+2+0**, ie the Cotton herbicide resistance management strategy (HRMS) 2 non-glyphosate tactics in crop, 2 non-glyphosate tactics in fallow and leave no survivors.
- Know what you are dealing with – get your weeds tested for resistance to Glyphosate and Group A herbicides
 - Bayer Herbicide Resistance Testing Program. Test 5 major weeds in cotton systems for resistance to three critical herbicides (RR , Verdict, Select). Contact Tom Luff M. 0400 491 902
 - CRDC/CottonInfo Weed Surveys, conducted annually. Resistance testing all weeds, Glyphosate and Group A herbicides. Contact Janelle Montgomery M. 0428 640 990
- Paraquat resistance has been detected in tall fleabane samples collected in industry weed surveys, another clear reminder to manage weeds according to the cotton industries Herbicide Resistance Management Strategy (HRMS). Testing found these samples were able to survive a double-knock of Glyphosate followed by Paraquat. Read the full story in the Summer 2018-19 edition of CRDC Spotlight Magazine available at <https://www.crdc.com.au/publications/spotlight-magazine-summer-2018-19>, page 22-25.
 - Remember NO SURVIVORS! If you are seeing survivors it is really important that they do not set seed.
- Rebates - Roundup Ready Plus Program
 - To encourage the use of alternate herbicide chemistry to help slow or prevent development of glyphosate resistance, growers are being offered rebates for using participating products on Roundup Ready Flex cotton fields this season. See <http://www.roundupreadyplus.com.au/>
 - For more information contact: Tom Luff, Bayer M. 0428 640 990 or Andrew Dayas, Syngenta M. 0428 252 429.
 - Program Guide attached.
- Further information:
 - CottonInfo Weed Control case Studies <https://www.cottoninfo.com.au/publications/weeds-case-studies-control-strategies>. The CottonInfo REOs went on farm with cotton growers in late 2017 to investigate how they are managing the threat of resistant weeds.
- Having trouble with weed ID? Check out The Weeds of Australian Cotton app:
 - <https://itunes.apple.com/us/app/weeds-of-australian-cotton/id1411068388?mt=8>

Keep the spray on the weeds

- It is important that chemical users "keep the spray on the weeds" not only from an efficacy standpoint but also to prevent off-target injury to crops.
- Many of the causes of off-target spray drift are a result of:
 - Poor equipment set up.
 - Product selection of high volatility products.
 - Application in environmental conditions which are not suitable.
- The CottonInfo team have put together an information flyer on the recommendations for safe application of sprays during the summer month. Available on the CSD website: <http://www.csd.net.au/resources> or SOS Macquarie website: <https://www.sosmacquarievalley.com.au/resources>

Changes To 2,4-D Chemical Use

- The APVMA have implemented new instructions to mitigate the risk of spray drift, which restricts the application of 2,4-D herbicides.
- The full instructions can be found here <https://apvma.gov.au/node/32941>
- The basics are covered at <https://grdc.com.au/resources-and-publications/resources/spray-drift> including:
 - Do not spray when a surface temperature inversion is present
 - Applicators must now use at least a Very Coarse (VC) spray quality
 - When using a boom sprayer, boom heights must be 0.5m or lower above the target canopy
 - Downwind buffers now apply (typically less than 50m, subject to rate and product being applied) between application sites, downwind sensitive crops and environmentally sensitive aquatic areas
 - Additional record keeping is required. Operators need to update spray records, with greater detail, within 24 hours of application and keep these records for a minimum of two years.
- Also refer to the “keep the spray on the weeds” flyer discussed above.
- GRDC Webinar on 2,4-D changes, please see the attached link that contains the recording <https://grdc.com.au/news-and-media/webinars/spray-drift-webinar>

Dates for Diary

AWM Meetings

- **Gwydir West AWM**
 - Date: Wednesday 9th January 2018
 - Time: 4:00pm
 - Location: **Mallawa Racecourse, Mallawa.**
 - Directions: <https://goo.gl/maps/3JQ1Q7z14vH2>
 - Refreshments sponsored by Bayer (Tom Luff, Regional Business Manager)
- **Gwydir North East AWM**
 - Date: Thursday 10th January 2019
 - Time: **4:00pm**
 - Location: Auscott Midkin Office
 - Refreshments sponsored by AgNova Technologies Pty Ltd (Pieter Kwint, Area Manager)

Bankless Irrigation Field Day

- Date: Wednesday 6th February 2018
- Supported by NWIAL (North West Irrigation Australia Regional Committee), Gwydir Valley CGA, CottonInfo, NWLLS and NSW DPI Sustaining the Basin

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