CottonInfo **Information** *when you need it*

the gwydir grower

11th November 2021

FLOOD WATCH

What can I say, so disappointing for our winter harvest, but everyone is in the same boat (pardon the pun). Ozforecast provide a summary of the latest rainfall around Moree: https://ozforecast.com.au/cgi-bin/weather.cgi?location=Moree.NSW&pagetype=rainfall

Location/Distance (km)		Last Update (UTC+11:00)	Rain (mm) >9am Yest.	7-Day
Local Stations				
Moree	-	06:40	53.0	70.4
CSD Field Site Near Glen Prairie (Moree)	7.5 NW	06:45	24.8	52.2
Muldoon (Moree)	13 SSW	06:45	27.0	41.8
CSD Field Site Near Baroma Park (Pallamallawa)	20 E	06:45	29.0	47.2
CSD Field Site Near Morcott (Moree)	22 WNW	06:45	12.8	15.6
CSD Field Site Near Macquarie (Pallamallawa)	23 ESE	06:45	62.0	94.0
Currawee (Ashley)	28 N	06:45	30.8	63.4
Carrington	29 SW	06:45	19.2	50.0
The Gully	31 WNW	06:45	33.0	89.4
Jymoomah (Gurley)	32 S	06:45	19.0	56.2
CSD Field Site Near Cudgildool (Moree)	33 W	06:45	14.8	40.2
Koreen (Gurley)	35 SSE	06:45	0.2	1.0
Westerly Stations				
Reno (Mallawa)	35 SW	06:45	7.0	34.2
Northerly Stations				
Cockatoo	37 NW	06:45	32.6	65.8
Noblew/Wirega (Garah)	38 NNW	06:45	23.0	44.5
Kinimo/Braemar	54 N	06:45	34.4	96.4
Easterly Stations				
New Lawn	38 SE	06:45	35.4	59.6
Southerly Stations				
Carlemon (Gurley)	38 S	06:45	21.2	70.2
Ningadoo (Gurley)	39 SSW	06:45	10.0	44.2
Killaloo (Bellata)	42 SSW	06:45	0 ?	0.4 ?
Gunnadoo (Millie)	43 SSW	06:45	12.2	45.8
Koiwon (Bellata)	43 SSW	06:45	9.0	31.0
Tookey (Bellata)	45 S	06:45	0.6 ?	6.7 ?
Terry Hie Hie	47 SE	04:00	48.0	74.0
Yarrabindi (Yatta)	47 SSE	06:45	27.6	78.4
Karamea	49 SSE	06:45	32.0	105.7
Ellematta (Millie)	49 SW	06:45	14.4	32.8
Malaraway (Millie)	50 SSW	06:45	12.8	55.2
Springfield (Bellata)	51 SSW	06:45	11.4	38.2
Dobikin (BED)	51 SSW	06:45	14.0	65.4

Weather station observations courtesy Bureau of Meteorology , Cotton Seed Distributors , Wilkinson Farming , Geoff Dunlop, Mike Montgomery and Curra Farming , Culloden Lands PTY LTD , Peter and Janice Jackson , Orlando Farms , AMPS , R&B Farming , G McPherson , Auscott Limited , Fulton-Kennedy PS , MF & AJ Sullivan and AMPS Research , Koiwon Enterprises , Tom McCullough , M & W Manchee , Inverness Farming Enterprises , CSIRO Ag & Food , Kinimo/Braemar & AMPS Research

Just in preparation for the next few days, I've listed some organisations/websites you may like to follow to keep in the loop with expected water levels:

GVIA – This table comes from their website: https://www.gvia.org.au/the-gwydir-valley/the-gwydir-valley/history-of-flooding/. It's a handy reference to see what heights rivers got to in past floods.

Below is a key comparison of the big floods and these are generally ones that are regarded as 1:100 year flood events, our key events.

When a flood warning is issued, we often compare predicted heights to these key events which are largely reported by the Bureau of Meteorology in meters.

River Height in meters

Gauging Location	2021	2016	2012	2011	1976	1955
Gwydir at Gravesend	14.9	8.739	15.668	13.266	16.01	17.34
Gwydir at Pally	10.5	7.668	10.518	10.105	9.237	NA
Gwydir at Yarraman	7.35	6.95	7.512	7.326	7.5	NA
Mehi at Moree	10.43	4.172	10.68	10.206	10.59	NA

River peak flow rate in megalitres per day

Gauging Location	2021	2016	2012	2011	1976
Gwydir at Gravesend		58,058	341,849	181,547	264,662
Gwydir at Pally	162,263	56,006	169,186	141,701	145,838
Gwydir at Yarraman	85,804	47,100	141,136	78,017	N/A
Mehi at Moree	46,546	5,769	55,778	58,710	N/A

Latest River Heights for the NSW North West on the BOM: http://www.bom.gov.au/cgi-bin/wrap_fwo.pl?IDN60145.html.

They provide a summary of latest heights:

Station Name	Time/Day	Height	Tendency	Flood Class	Recent Data
Gwydir River to Copeton Dam					
Gwydir R at Yarrowyck	6.00am Thu	0.51	rising		Plot | Table
Gwydir R at Bundarra	6.15am Thu	2.01	rising	below minor	Plot | Table
Copes Ck at Kimberley	3.00am Thu	0.98	steady		Plot | Table
Central Gwydir to Moree					
Gwydir R D/S Copeton Dam	6.15am Thu	1.27	steady		Plot | Table
Gwydir R at Pinegrove	5.00am Thu	2.29	steady		Plot | Table
Halls Ck at Bingara	5.00am Thu	0.96	falling		Plot | Table
Myall Ck at Molroy	10.00pm Wed	0.61	rising		Plot | Table
Horton R at Horton Dam Site	4.00am Thu	0.78	steady		Plot | Table
Horton R at Rider	6.00am Thu	2.50	falling		Plot | Table
Gwydir R at Gravesend	6.00am Thu	4.51	rising	below minor	Plot | Table
Gwydir R at Pallamallawa	5.00am Thu	1.77	steady	below minor	Plot | Table
Gwydir R at Yarraman Br	3.00am Thu	1.47	steady	below minor	Plot | Table
Mehi R at Chinook	6.00am Thu	1.34	steady		Plot | Table
Mehi R at Moree	6.00am Thu	1.66	steady	below minor	Plot | Table
Lower Gwydir River					
Mehi R at Combadello Weir D/S	6.00am Thu	184.82	steady		Plot | Table
Carole Ck at Garah	4.00am Thu	174.51	steady		Plot | Table
Gwydir R at Millewa	6.00am Thu	1.78	steady		Plot | Table
Tycannah Ck at Horseshoe Lagoon	6.00am Thu	1.74	steady		Plot | Table
Moomin Ck at Glendello	6.00am Thu	2.43	steady		Plot | Table
Moomin Ck at Clarendon Br	6.00am Thu	1.49	steady		Plot | Table
Moomin Ck at Alma Bridge	6.00am Thu	1.17	steady		Plot | Table
Moomin Ck at Moomin Plains	6.00am Thu	0.97	steady		Plot | Table
Mehi R U/S Ballin Bora Ck	6.00am Thu	0.51	steady		Plot | Table
Thalaba Ck at Belarre	6.00am Thu	0.82	steady		Plot | Table

If you look at the plot it provides a great graph showing where the height is in comparison to minor, moderate and major flooding.

For real-time river heights and volumes: https://realtimedata.waternsw.com.au/
You can 'favourite' the key sites you want to follow and quickly get the latest information to check how quickly a site is rising and if its getting anywhere near previous flood heights.

Flood Warnings: https://www.ses.nsw.gov.au/
The latest SES flood bulletin for the Gwydir River https://www.ses.nsw.gov.au/flood-bulletins/nsw-ses-flood-bulletin-gwydir-river-01/

Crop Check

Crop Stage

Almost all the Gwydir irrigated cotton crop was planted between 5th – 30th October (earliest plant I have heard was a dryland crop on 25th September, but the bulk started planting after the rain on the long weekend in October). The earlier crops were sown on rain moisture, but as the month progressed and temperatures warmed up the decision to plant into or above moisture and taking the gamble of forecast rain was more difficult, crops planted after the 20th October were watered up. The rain sown crop needed a 'flush' by end October. To date I have heard of very little replant, apart from the odd field which missed the forecast rain and establishment ended up patchy.

A reasonable area of dryland is also in the ground now.

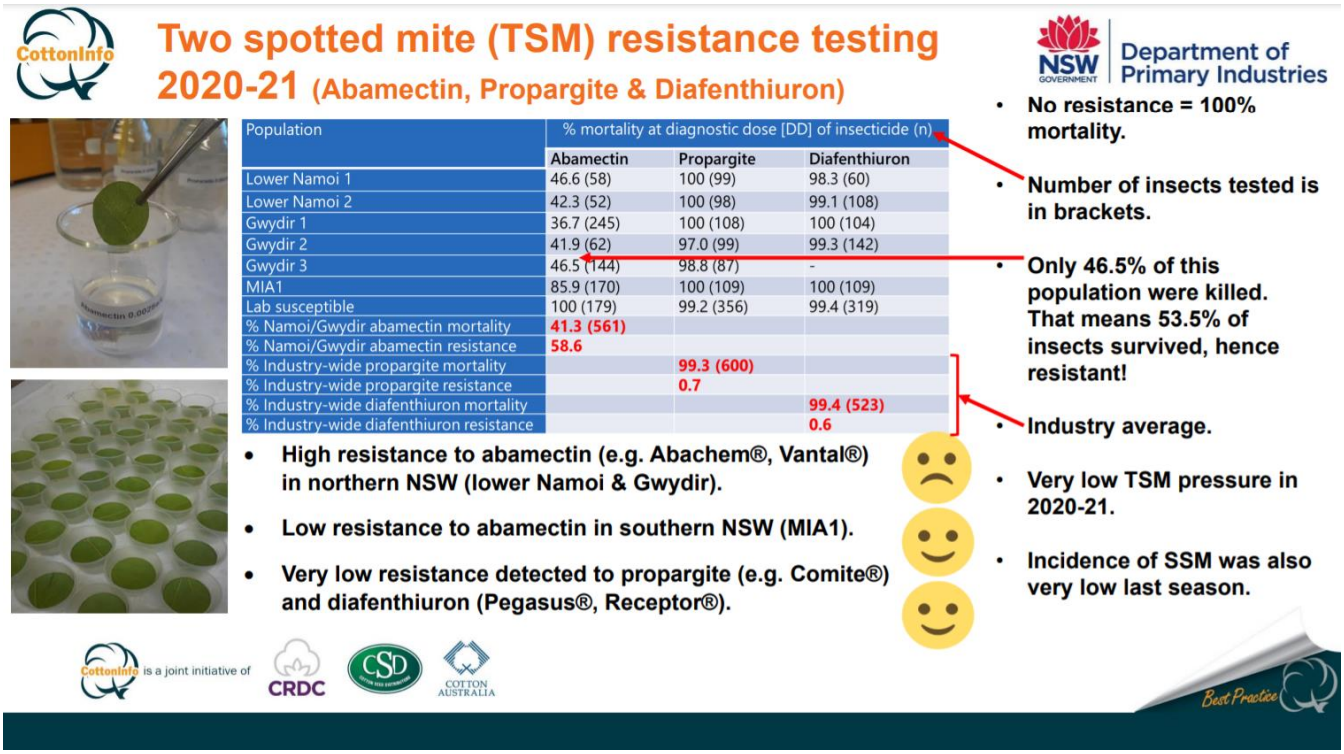
All in all, the 2021/22 Gwydir cotton crop is away with a reasonable start.

INSECTS/BENEFICIALS

Everyone is wondering what this season will bring us in terms of pest pressure. With such a wet, green winter, both pests and beneficials have probably had opportunity to sustain their populations. We have seen aphids in canola, heli's in chickpeas and mites in fababeans.

- Thrips have been active – Check out the lastest CottonInfo e-news Thrip damage – when should I be worried.
- Small amount of wireworm damage reported
- Aphids and mites were in the Faba beans crops and I have had reports of mites (2-spotted) moving into young cotton. Remember thrips are also active and as you know thrips eat mite eggs. I sampled some leaves in one field and thrips out-numbered mites 10-1.

Abamectin has been used on some young cotton in the region. It's important to remember that in the **Gwydir Valley mites have a high resistance to Abamectin** as shown here.



That figure comes from the NSW DPI 2020-21 Insecticide resistance testing results for 2 spotted mite (TSM) Source: https://www.cottoninfo.com.au/blog/resistance-monitoring-202021-season

On average 58.6% of the tested populations in the Gwydir survived, hence resistant to Abamectin. If you have used this product for mite control, subsequent monitoring will be important. The IRMS (Insect Resistance Management Strategy 2021/22) states no more than two applications in a season.

Generally, mites are controlled by beneficial insects such as thrips, big-eyed bugs, lady beetles, and damsel bugs, so early season chemical choice is important.

For a full wrap of the Cotton Industries 2020/21 insecticide resistance monitoring check out this factsheet: Resistance Monitoring 2020/21 season

If you want the details it's provided in powerpoint presentations provided by Dr Lisa Bird, NSW DPI and Dr Jamie Hopkinson, QDAF available on the CottonInfo website:

Resistance surveillance in major insect pests of cotton

Insecticide resistance monitoring in Silverleaf whitefly (SLW)

Below are some comments from CCA survey on lessons from 20/21 season (soon to be published). They might provide some reassurance for early season pest management decisions.

1. A reminder that with the right season and water being available the cotton plant has an amazing ability to compensate for early fruit loss. *2. Nothing beats a kind weather season for high yields!*
Less concerned about early season retention. Should probably be using more Pix and less insecticide.
Inspired by how well cotton can recover and yield very high after very low fruit retention at 1st flower.
Sometimes a lack of retention early can play in your favour. In the spring of 2020 we were seeing fruit retentions of around 60% heading into first flower. Despite this when it started raining over New Year the plant didn't shed a great deal of fruit it kept it then started packing on bolls leading to favourable yields of 15+ bales/ha.

WEEDS

We are seeing the usual suspects in irrigated fields - barnyard grass, milkthistle, peachvine, pigweed and bladder ketmia. Dryland fields also seeing some feathertop rhodes grass, windmill grass and liverseed grass.

I finally have the 2020 Gwydir Weed Resistance testing back! The delay was unavoidable due to a key lab technician being unwell and off work for an extended time. The good news is they are well and back to work and got straight onto our samples. The CottonInfo Weeds Technical Lead, Eric Koetz, sent me the results last week. Reports will

go out to all those that sent in samples in the next few days. A total of 76 seed samples were collected right across the valley including Milkthistle, Barnyard Grass, Feather Top Rhodes Grass and Windmill Grass. The results are provided in the table below.

Weed	No. Samples	Resistant		Susceptible		Not Viable
		Glyphosate	Group A	Glyphosate	Group A	
Milk Thistle	25	2	0	21	25	2
BYG	32	7	0	25	32	0
FTRG	16	2	0	7	16	7
Windmill Grass	2	2	0	0	2	0
Peach Vine	1	0	0	1	1	0
TOTAL	76	13	0	54	76	9

Resistance is real, with almost 20% of samples showing resistance to glyphosate (applied at 1.4L/ha of 570g-ai.)
The good news that no resistance was detected in any of the 76 weed samples for Group A Haloxyfob (100ml/ha of 520g-ai) and Clethodim (250ml/ha of 240g-ai).

There was a good result for milkthistle in 2020 with all samples controlled by glyphosate at 1.4L/ha of 570g ai, only 2 of the 25 samples had resistance.
Of all the milkthistle samples we received from the Gwydir in 2019, all were susceptible to glyphosate applied at 360g ai/ha and 2,4-D at 1050 ai/ha.

Eric Koetz and Graham Charles, NSW DPI, are continuing to test weed seed for herbicide resistance as part of their CRDC project DAN2004: Improved management of weeds in cotton and grains farming systems. Please send in your samples or get in contact with me and I can grab some samples for you. You want a good half to a full cup of seed.

Disease
Disease surveys have begun the in the Gwydir. We got in eight fields before the rain. Generally, disease incidence was relatively low. Rhizoctonia was present, but plants growing through. Black Root Rot was present but at low levels. Alternaria was scarce. The only concern before this rain was the fact we found fusarium in four of the eight fields. They were known fusarium fields, but we haven't always seen it show up this early.

It was spotted by seeing the odd dead or dying plant across the fields, and on closer inspection the chlorosis on the leaves was present. When you split the stem you can see the brown discolouration inside.

The disease surveys are carried out by Duy Le, Cotton Pathologist, NSWDPI and CottonInfo.



Unfortunately, the weather conditions we are currently facing are conducive to disease. If you need anything sampled for identification, please give me a call and we can arrange sampling.

What have the researchers been up to in the Gwydir

Anhydrous Ammonia Inhibitor Trial

The Cotton Growers Association in collaboration with AFF, B&W Rural and CottonInfo have a trial looking at an Anhydrous Ammonia Nitrification Inhibitor. We know, depending on the conditions (soil temperature, moisture levels and depth of application), more than 50% of pre plant N can be lost. The anhydrous inhibitor slows nitrification; that is, it slows down the conversion of ammonium to nitrate (the mobile form) therefore potentially reducing nitrogen losses, for the first three months after application. Ideally, we want to apply N when the plant demands it, but our farming systems and logistics don't allow this. So, if we have to put on N early, perhaps this technology will help reduce our early season N losses.

Anhydrous Ammonia was applied on the 10th September. Soil cores were taken before application and will be taken again as soon as I can get on the field (three months since application). Thanks to Ed Seccombe, AFF Telleraga for hosting this trial.

I'm also collecting the tailwaters for N analysis. 1st Irrigation 30th October 2021.

Seed Treatment Trial

Amy Clark, Field Biologist with Syngenta, based in Gunnedah, is running a seed treatment trial in the Gwydir. This includes a wide mix of treatments for disease and insect protection. Amy has been doing germination and establishments counts at various times over the last four weeks.

Irrigation Optimisation Trial in St George

This season, CottonInfo, in conjunction with local cotton growers Craig Saunders and Lucas Wuersching, researchers from USQ, GL Irrigation, Gwydir Valley Irrigators Association, NSW DPI and Padman Stops are conducting an evaluation of a bankless irrigation system. This project has been implemented with assistance from the CRDC and the host growers.

The project will evaluate the application efficiency, the distribution uniformity and the requirement efficiency of a tail water backup, bankless irrigation system. The data captured will enable calculation of key water related indices for comparison against industry benchmarks.

The resultant system performance and water productivity details will enable growers to better evaluate the system and its suitability to their circumstances. It will also provide the grower with detailed information on how the system might be managed to achieve certain outcomes.

Bug Checker Training Workshop

I have been trying to organise a bugchecking workshop in the Gwydir. COVID dependent, I will aim to get one up in the last week of November. This will be presented by Sandra Williams and Tanya Smith from CSIRO, Narrabri.

Please let me know if you have checkers keen to attend.

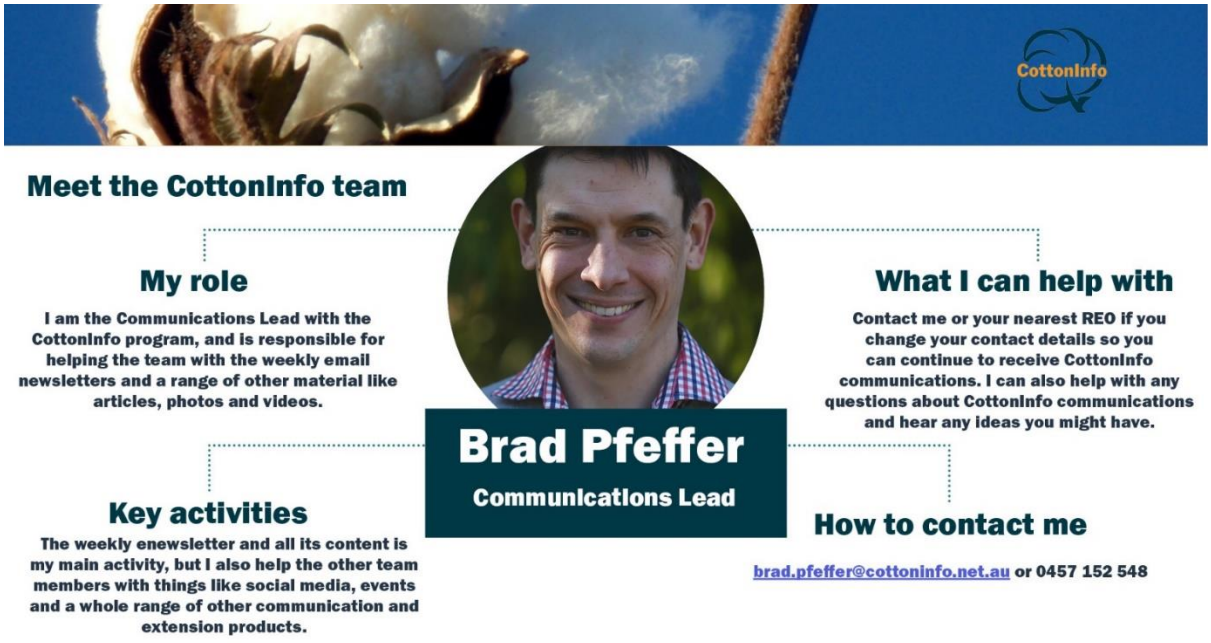
Cotton 101

Can you tell the difference between a vegetative and a fruiting branch? This short video shows what to look for:
Distinguishing between vegetative and fruiting branches in young crops - YouTube

CottonInfo on Facebook

The CottonInfo team is now on Facebook. You can search for us by typing "CottonInfo", "@CottonInfoAust" or click on the above icon. We look forward to sharing photos and videos from our trials and activity through Facebook, similar to the information we already share though Twitter (@CottonInfoAust).

Introducing CottonInfo Communications Manager



Welcome Emma Lambeth

- **CottonInfo's new CottonInfo Regional Extension Officer, Namoi, Walgett & Bourke**

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Regards

Janelle

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