



Gwydir crop check

2nd December 2022

Day Degree

Table 1: Seasonal Information based on 10th November planting date (Source: [Cotton Seed Distributors](#))

Summary Seasonal comparison

	2022	2021	2020	2019	2018	10 year mean
Base 12	221.4	241.8 ▲	370.9 ▲	300.2 ▲	251.7 ▲	284.4 ▲
DD1532*	131.6	152.6 ▲	230.9 ▲	185.3 ▲	164.0 ▲	181.0 ▲
Cold shock days ($\leq 11^{\circ}\text{C}$)	5	4 ▼	0 ▼	2 ▼	1 ▼	1.6 ▼
Days above 36°C	0	0	15 ▲	10 ▲	0	5.1 ▲
Nights above 25°C	0	0	0	0	0	0.4 ▲
Days above 40°C	0	0	5 ▲	1 ▲	0	1.2 ▲
Total rainfall (mm)	8.6	152.2 ▲	0.2 ▼	30.4 ▲	49.0 ▲	35.2 ▲
Total radiation (MJ/m ²)	512.7	419.3 ▼	588.1 ▲	577.7 ▲	549.8 ▲	490.6 ▼
Average temperature (°C)	21.7	22.6 ▲	28.9 ▲	25.5 ▲	23.4 ▲	24.8 ▲

* Experimental calculation.

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Climate observations and data are obtained via the State of Queensland SILO patched point dataset.

Accumulated day degree 'targets' after seed imbibed

Cotton development	DD Base 12** (Industry standard)	Experimental DD 1532
Emergence	80	50
First square	505 ^a	339
First flower	777 ^a	584
First open boll	1527 ^a	1077

^a Please note that DD Base 12 targets to first square, first flower and first open boll will increase by 5.2 DD for EACH cold shock event - please adjust your target accordingly. Targets relate to specific developmental events.

** Source: Australian Cotton Production Manual 2019 (page 8).



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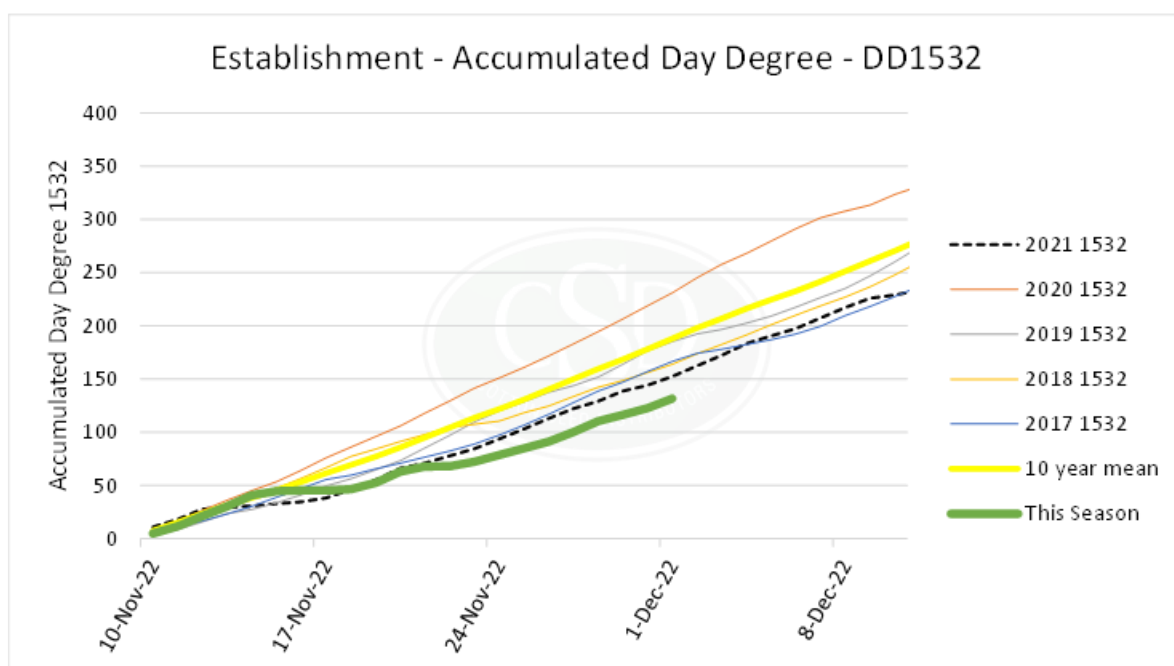


Figure 1: Day Degree comparison using the DD 1532, planting date 10/11/22 Source www.csd.net.au/ddc

Day degrees (1532 system) for the season have been slow to accumulate, which is not surprising with the average temperature being 3°C below the 10-year average. This, when combined with the 5 cold shocks ($\leq 11^\circ\text{C}$ and 3 times the 10-year average of 1.6) has made for slow growing conditions.

Around 15-20% of the Gwydir area was planted early Oct, before the flood, with a planting opportunity between 10th and the 19th October. The flooding in Moree occurred from 22/10/22 – 25/10/22, some people were back planting within leveed areas closer to Moree from the start of November onwards, with the largest area of irrigated cotton planted in the fortnight from the 10th November.

Dryland has been challenging to get in with flooded country, then harvest, lack of people and short windows in between rain events during October and early November. A few hot and windy days have also dried the surface out. Establishment has been patchy, some dry seed still in the ground. Our dryland cotton crops/fields are needing a drink at present. Dryland area may back due to these conditions and time is running out.

As you know cotton need heat units to drive growth and development and this season we are below average (Figure 1). This will push back our 1st flower date. You can use the [CSD STEFF](#) (Simulated time to estimated



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first flower) Tool to estimate the date of first flower. Assuming your crop was planted into rain moisture on the 10th November, the estimated time to first flower is 15th January (usually we would reach first flower by Christmas). Open the STEFF webpage (you will need to be a [CSD member](#) to access STEFF), select your location and imbibition date (time when seed absorbs soil or irrigation water) and the first flower date for your crop will be estimated. Further information: [STEFF fact sheet](#).

AREA	Gwydir Valley
Crop Stage	<p>Irrigated Cotton:</p> <ul style="list-style-type: none"> Emerging to 10 nodes and squaring <p>Dryland:</p> <ul style="list-style-type: none"> Dry seed to 6 nodes Still a lot to go in, but logistics with harvest and labour shortages has been challenging Some fields now too dry to plant Establishment variable – some fields planted just prior to the flood have required a replant, whereas other dried down and the seed has germinated with a reasonable establishment! The later sown cotton that coincided with some warmer days is up and away. The quick turn around, a lot of back to back and poor seed bed preparation in some fields along with the cooler weather has impacted establishment this year.
Irrigation	<ul style="list-style-type: none"> Much of the cotton was planted on rainfall, but the warm winds and a few hot days have dried things out and most crops have received their 1st irrigation in the last fortnight and the later sown crops watered up.
Insects/Beneficial	<ul style="list-style-type: none"> The wet year has provided a “green bridge” supporting a range of insect pests. There has been high incidence of heliothis egg lays on some of the early cotton, but of no consequence in the Bollgard varieties. Mites have been commonly observed across the valley, but moderate thrip numbers are keeping them in check (mostly). Remember we do have moderate level resistance to Abamectin in the Gwydir - 30% of mite populations surviving in 2021/22. If you have used Abamectin for mite control, subsequent monitoring will be important. The IRMS (Insect Resistance Management Strategy 2021/22) states no more than 2 applications in a season. Generally, mites are controlled by beneficial insects such as thrips, big-eyed bugs, lady beetles, damsel bugs, so early season chemical choice is important.



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Insects/Beneficial	<ul style="list-style-type: none"> • Mirid nymphs numbers building. • Apple dimpling bugs about • Low level of beneficial insects
Weeds	<ul style="list-style-type: none"> • Fleabane, Barn Yard Grass, Feather Top Rhodes Grass and Sow Thistle
Spray Drift	<ul style="list-style-type: none"> • Some reports of spray drift (2, 4-D) onto Cotton has been reported in the Gwydir
Disease	<ul style="list-style-type: none"> • Black root rot • Rhizoctonia • Fusarium
Comments	<ul style="list-style-type: none"> • "Growth very slow, we are way behind where the crop needs to be" • "Mites and mirids are coming from the Canola Stubble"



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Seasonal Day Degree and historical data is sourced from Cotton Seed Distributors Day Degree Calculator found at www.csd.net.au/ddc. For more specific day degree and crop management detail for your farm, field and variety check out CottonTracka® at www.cottontracka.com.au