



# the cotton wrap

## August 2020

**Plant health top tips – AUGUST: Time to start pre-season planning: Consider your IPM strategies for managing pests and beneficials.**



Our top 12 plant health tips:  
**8#** Undertake pre-season planning to consider strategies on pests and beneficial species.

**With the 2020-21 season approaching, now's the time to be undertaking pre-season planning to reflect and consider strategies on how to manage pests and beneficials.**

Integrated pest management (IPM) uses knowledge of pest biology, behaviour, and ecology to implement a range of integrated tactics to suppress and reduce pest outbreaks and reliance on insecticides for their management. IPM supports the long-term management of pests, maintains profitability, reduces the risk of insecticide resistance, and minimises risks to human health and the environment. See link to full information [here](#).

### What are some of the ways to plan for next season's pest management strategies?

1. Review last season's IPM approach.
2. Communicate your IPM goals. Sit down with your consultant and discuss your IPM and crop goals for the season.
  - Do you have any yield targets?
  - What level of damage is tolerated?
  - Has insecticide choice had a large impact on your IPM strategy throughout the season?
  - What impact does your product choice have on beneficials and bees?
  - How well do you know your enemy?

3. Get the latest guides and IPM related information. Keep an eye on the mailbox this month as the 2020-21 Cotton Pest Management Guide is released alongside the spring edition of CRDC's *Spotlight Magazine*.

## CSD AMBASSADOR UPDATE (season review 2020)

Angus Marshall – CSD Agronomist has provided us with an update on how the CSD Ambassador sites went this season.



### Lower Namoi

End of Season Overview	Solid Plant
Final plant height (cm)	94.3
Final squaring nodes	19
Total nodes	25.7
1st flower retention (%)	51
Final bolls/m <sup>2</sup>	141
Overall boll lint weight (g/boll)	1.95
Yield (b/ha)	11.51
Staple (decimal)	1.2
Staple (imperial)	39
HVI class colour	31
HVI class leaf	2
Micronaire	4.3
Strength (gms/tex)	32.3
Gin turn out (%)	41
Uniformity (%)	82
Total irrigations (In-crop only)	7
Water use (ML/ha)	6.8
Total rainfall (mm)	373
Effective rainfall (mm)	238
Applied ML WUE	1.7
Kg lint/mm	3.3

## CSD AMBASSADOR UPDATE (season review 2020)

Angus Marshall – CSD Agronomist has provided us with an update on how the CSD Ambassador sites went this season.



### Upper Namoi

End of Season Overview	Solid Plant
Final plant height (cm)	87
Final squaring nodes	17
Total nodes	25
1st flower retention (%)	45
Final bolls/m <sup>2</sup>	118
Overall boll lint weight (g/boll)	1.95
Yield (b/ha)	9
Staple (decimal)	1.2
Staple (imperial)	38
HVI class colour	21
HVI class leaf	3
Micronaire	4.3
Strength (gms/tex)	32
Gin turn out (%)	40
Uniformity (%)	82
Total irrigations (In-crop only)	2
Water use (ML/ha)	5
Total rainfall (mm)	332
Effective rainfall (mm)	106
Applied ML WUE	2.2
Kg lint/mm	1.95



## DISEASE UPDATE

### Reoccurring wilt: Possible new cotton disease

QLD DAF pathologists are currently investigating a likely new pathogen as the potential cause of dying plants reported in Central QLD, Gwydir, and Namoi cotton fields.

Over the past couple of seasons, this pathogen has presented on multiple farms in the Central QLD region with reoccurring patches of dying plants leading to a report. The same pathogen under investigation was isolated in NSW from dead plants sampled from the Namoi and Gwydir valleys.

Known endemic diseases have been ruled out. Symptoms have similarities to the high priority exotic disease Texas Root Rot, and this has been ruled out as the causal pathogen, along with other industry high priority exotic diseases.

While a formal identification is pending, indicators suggest it has potential to be an important disease. Further work is ongoing to link whether this pathogen in Central QLD, the Gwydir and the Namoi is the cause of dying plants in each valley. **Further information and details from the investigation will be provided to industry as it becomes available.**



Have you seen fields with the following symptoms?

- The odd plant or patches of plants that wilted and suddenly died with dead leaves usually remaining on the plant.
- Reoccurring patches of dying plants getting larger over past seasons with no explanation for plant death i.e. seasonal conditions.
- Dying plants can be amongst healthy plants.
- Bronzing of leaves and petioles.

- Reddening of the roots and root decay i.e. if plants are pulled out of the soil, the taproot snaps due to root decay.
- May see reddening of the vascular tissue.
- Stem canker/lesions may be present.

*Keep an eye out for these symptoms this coming season. If you have concerns or plants expressing symptoms, contact your state pathologist:*

**QLD DAF: Dr Linda Smith 0457 547 617**

**NSW DPI: Dr Duy Le 0439 941 542 or Dr Karen Kirkby 0428 944 500**

*We are encouraging growers and consultants to send in any suspected samples for diagnostics to assist with determining the potential extent of the issue across cotton growing regions.*

## LONG FALLOW DISORDER

### It is a whole Soil Biology thing

There have been some recent concerns about Long Fallow Disorder and impacts on this season's cotton. Dr Oliver Knox is a Soil Scientist at the University of New England and he is also CottonInfo's Soil Health Tech Lead, has written a great article in the latest [Spotlight Magazine](#) (Winter 2020, pp 21-22). It's also available as a [CottonInfo Blog](#). His key points are as follows, but I highly recommend reading the full article.

- **30 years of cotton research de-bunks the theory that during long fallows the arbuscular mycorrhizal (AM) fungi decrease over time causing Long Fallow Disorder (FLD).**
- The lack of AM colonisation is a **symptom of LFD and not a cause.**
- AM will survive in soil, so long as there are no wetting and drying cycles.
  - During the drought you would not have had these cycles, so AM is still there.
- Latest research suggests LFD is due to all organisms that make up the soil biology competing for organic matter and nutrients after extended dry periods.
  - Some soil biology (bacteria, fungi, nematodes, and other invertebrates) can enter a survival stage during dry times and 'sleep' until it becomes wet again.
  - Some soil biology will die but will not decay until its wet again.
- Once the drought breaks, the dead biology decays releasing nutrients that feeds the surviving soil biology – suddenly, the soil biology takes off, feasting on these nutrients and numbers multiplying. Things are out of whack for a while because the soil biology is competing for the nutrients that the plant is also after. BUT it does not last forever.
  - Biology **will** return to a more balanced system
  - How quickly it returns depends on initial levels of soil biology, moisture, temperature, soil nutrition etc.
- So why did one grower get the best start to his crop in a corner of a field where the weeds had previously gotten away? The weeds were basically acting like a cover crop and providing

extra organic matter into the system so a faster recovery of the soil biology after the drought broke. The soil biology would have got back into balance quicker than the rest of the field which had no cover.

- While we do not encourage weeds, it is an example of how beneficial plant cover can be.

### **What can you do to overcome the effects of LFD?**

Unfortunately, it is inevitable that some fields will experience signs of LFD after this prolonged drought and given no cover was possible, being so dry for so long. However, it is due to the rapid expansion of the soil biology, all the microorganisms needing a feed! It's not because of a reduced population of AM.

- Keep improving your soil health.

*A healthy soil is the lifeblood of your farm. Good soil structure and nutrition levels are essential (Oliver Knox).*

Cotton Industry Soil Health Best Practices include:

- Establish measures to prevent or minimise erosion in susceptible areas, including a monitoring plan to keep an eye on progress
- Monitor your soils for structural issues like compaction, hard setting, salinity and sodicity and adopt infield practices to minimise potential problems
- Use soil tests and field history information to determine nutrient input requirements
- Employ the most appropriate and efficient nutrient application methods and timing
- These management practices will help build your soil health.

Please find Oliver's full blog - Understanding the real nature of long fallow disorder [here](#).

### **How Healthy is my Soil?**

A simple 1<sup>st</sup> step in looking at your soil health is just burying some cotton undies 5cm under the soil surface and digging them out 8 weeks later to see the amount of microbial activity. You could bury some undies in several fields or in some native areas and compare. If there is not much left of the undies you have good biological activity, which indicates healthy soil. These same soil organisms can break down plant materials in much the same way.

They MUST be cotton undies, microbes do not touch nylon or polyester – obviously feel and taste yuck! CottonInfo has run the “Soil your undies” campaign for a few years now and we have mapped where we have buried our undies on the CottonInfo website [here](#). There is a load of great photos showing variation in the breakdown of the undies. You'll see in some fields all that's left is the elastic waist band which is nylon and hasn't been touched. For further information see the CottonInfo Soil You Undies factsheet [here](#).



## Natural Resource Management (NRM)

CottonInfo will be setting up long-term biodiversity monitoring sites in each of the cotton regions. We possibly have undervalued the importance of biodiversity on our farms in the past. There is some terrific research showing the benefits of our natural areas on and surrounding our farms. We will use these monitoring sites to raise awareness of their importance.

## Cotton Management “Virtual” Tours (CMT) Launched

Reminder that the usual CSD roadshow or Cotton Management Tour (CMT) has been delivered online this year due to COVID restrictions.

The virtual tour was launched on July 13 and for the Gwydir and Macintyre. You would have received an email from Bob Ford or Angus Marshall (CSD E&D agronomist) with links to key videocasts, downloads and variety information. Alternatively, the CMT page on the CSD website can be accessed at <https://www.csd.net.au/cmt>.

Some components of the CMT are restricted. To access these, you will need to be a CSD member as restricted access to the website commenced on July 1. You can become a member at <https://www.csd.net.au/membership>.

## FUSCOM

FUSCOM this year will be held online this year, so please keep an eye out for a formal announcement coming soon.

## DATES FOR THE DIARY

**CCA Regional Workshop** in Goondiwindi (is being livestreamed)  
Wednesday 2<sup>nd</sup> September @ 10.30am – 3.30pm

**Upper Namoi CGA AGM** (Will be an online meeting)  
Thursday 3<sup>rd</sup> September @ 3pm

Cheers,

**Elsie Hudson**

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