



the **cq cotton call**

June 2023

Welcome to the June Edition

What's been happening?

As we near the end of the 2022-23 season I am sure there are many growers and agronomists excited to see paddocks picked and started preparation for the next season which seems so close and just around the corner. There have been positive outcomes and yields from picking in the past couple of months and definitely some great weather conditions to help with great cotton quality heading into the gins, which is fantastic. As rain is predicted for the coming days, I hope it falls where the winter crops are needing it.

Cotton Australia hosted two business resilience workshops in conjunction with accounting firm BDO across CQ in the past 2 months. The program has been structured to remove as much of the paperwork burden as possible, and once a fully compliant Farm Business Resilience Plan is completed, you can apply for a maximum grant of \$50,000 (total project expenditure \$200,000) to implement aspects of your plan that will allow your business to better perform during the next drought. While there are many eligible activities, as a rule for irrigation farmers, projects that improve the efficiency of your irrigation are likely to succeed. If you missed these, you can find more details on the program here -

<https://www.qff.org.au/projects/farm-business-resilience-program/>.

Following the workshop in Moura we had a dinner for Kelly Becker for her service as the Dawson Valley Regional Manager. Kelly finished with Cotton Australia in this role just prior to Easter. I have only been involved and working with Kel for a short time, (wish it was longer!!) but she is a huge asset to the valley and look forward to still seeing her around at different things and continuing to support growers in their cotton journey.



is a joint initiative of



As we near the start of the next season and busy prepping ground don't forget to RSVP to the CSD forums being held on the 18th and 19th of July in CQ. These forums will focus on regional specific subjects on nutrition, nematodes, long season cotton, research funding opportunities and much more! Keep a look out as more information on our speakers and program will be available.

Also, the Toowoomba Cotton Collective is coming up quick so jump on and grab tickets! It is to be held from the 1st August to 3rd August and delegates will have the opportunity to tour Darling Downs cotton farms, hear from industry experts during conference sessions and visit the trade hall with the latest gadgets and equipment on display. On Wednesday night the national cotton industry awards will be held at the Armitage Centre, at the Empire Theatre.

Dates for the diary

- 18 July:** CSD Growing Better Mastering Cotton Forum, Moura [Form \(hsforms.com\)](https://hsforms.com)
19 July: CSD Growing Better Mastering Cotton Forum, Emerald [Form \(hsforms.com\)](https://hsforms.com)
2-3 August: Cotton Collective, Toowoomba Qld [Cotton Collective 2023 | Eventbrite](https://www.eventbrite.com.au/e/cotton-collective-2023-tickets-70885598824)
TBC August: Soil Health and Nutrition Workshops- Central Highlands, and Dawson Valley Regions
5-7 September: AACCS Cotton Research Conference, Toowoomba QLD

Information and Topics

Preparation for next season starts well before you plant the seed

This past season, pest management has been particularly challenging in some regions with the increased numbers of aphids in many fields, outbreaks of solenopsis mealybugs on new farms, and silverleaf whitefly making a comeback in some areas. Cotton bunchy top disease (CBT) has also been detected in numerous locations in northern NSW and across Queensland.

Crop managers now have a critically important responsibility to focus on farm hygiene this winter and prevent a ruinous start to next season by **breaking** the green bridge that would otherwise allow aphids, mealybugs and CBTD to survive.

Effective crop destruction coupled with the removal of cotton volunteers, ratoons and weeds from fields and adjacent farm areas is a highly effective defence against pest and disease carry-over.

On farms where mealybug have been detected it is critical that crop destruction is 100% effective, and that weeds and cotton are controlled during the winter months to destroy overwintering populations and thus prevent new infestations next season. Nearly all hot spots of mealybug in cotton are caused by a ratoon or volunteer cotton plant that provided a green bridge for the outbreak. For mealybug control, it is often as simple as breaking the bridge to defeat this pest.

For CBT, the abundance of diseased plants (albeit at low levels) in many crops, will have created a reservoir of this disease within the farming system. Coupled with the recent abundance of aphids, a proportion of which are carrying concerning levels of insecticide resistance, there is now a clear risk for widespread CBT disease and aphid insecticide resistance for the coming season.

Ensuring 100% effective crop destruction and control of ratoons in adjacent field areas is your best defence for not only lowering the viral load within your farming system, but importantly also removing potentially resistant aphid vectors. Aphids reproduce asexually, effectively cloning themselves. This means that once resistance becomes entrenched, it is very difficult to overcome.

Whilst it is not feasible to eliminate all potential hosts within the broader farming landscape, controlling weeds and feral cotton within areas directly adjacent to fields greatly limits the opportunity for crop re-infestation the following season. For CBT disease, earlier crop infection equals greater yield impact. Removing green bridges in the immediate cropping area better avoids early crop infestation.

Listen to this CottonInfo podcast from Paul Grundy – CottonInfo Tech Lead for IPM, about crop hygiene and winter clean-up https://www.buzzsprout.com/1857956/12739124?fbclid=IwAR3vnTowu9sHb6Mdk-57_eNwn8nb1aR3Vjs4maVFub6SlofiZNCIKtFbjOw

Effect of residual herbicides applied at camera spray rates during fallow on the subsequent cotton crop

Graham Charles, Eric Koetz & Jeff Werth

NSW DPI & QDAF

Work supported by CRDC.

Camera sprayers have increased in popularity with overall big reductions in chemical use in fallow fields. High chemical rates can be applied to individual weeds when several nozzles fire. This can have residual chemical carryover effects on the following cotton crop.



Herbicide	Active	Group	Rate
Balance	isoxaflutole	27	100g/ha
Sharpen	safufenacil	14	34g/ha
Starane Advanced	Fluroxypyr	4	900ml/ha
Valor	flumioxazin	14	140g/ha
2,4-D amine	2,4-D amine	4	1.6 L/ha
Voraxor	safufenacil + trifludimoxazin	14	240 ml/ha

All herbicides were applied at 1X, 2X, 4X and 8X rates on 30 Jul 2021. Cotton planted 7 Oct 2021, Sicot 714B3F.

Seedling damage assessment 3rd November 2021

Herbicide	Plant stand	Plant size

Balance 4X & 8X	Reduced at 8X	Reduced
Sharpen 4X & 8X	Reduced at 8X	Reduced
Starane Advanced 4X & 8X	Reduced	Reduced
Valor – all rates	-	-
2,4-D amine	-	-
Voraxor	Reduced at 2,4,8 X	Reduced

Yield and Maturity

Herbicide	Yield	Maturity
Balance 4X & 8X	Reduced at 8X	delayed
Sharpen 4X & 8X	Reduced at 8X	delayed
Starane 4X & 8X	Reduced at 8X	delayed
Valor – all rates	-	delayed
2,4-D amine	-	-
Voraxor – all rates	Reduced at 2,4,8 X	delayed

Take home message:

- Be conservative with residual herbicides, especially at high (camera sprayer) rates.
 - Often when two or more nozzles fire the rates are considerably higher than the already high permit rate.
- Be wary of combinations of herbicides, they may have reduced safety margins.
- The more herbicides, the more chances for damage.
- Be aware of potential additive effects when using residuals in summer crop after applying residual herbicides in the winter phase and vice versa.
 - Some interactions can linger longer in the soil.

The critical period for weed control in cotton (CPWC)

Graham Charles, NSW DPI Weed scientist, has conducted extensive mimic weed trials from 2004 to 2015 using millet as a substitute for grass weeds and sunflower as a substitute for large broadleaf weeds.

The research concluded where large broadleaf weeds are present, a high level of weed control must be maintained throughout much of the cropping season in high-yielding cotton to ensure crop losses do not exceed the cost of weed control.

This research has shown that high-yielding cotton crops are very sensitive to competition from grasses and large broadleaf weeds, but the CPWC had not been defined for smaller broadleaf weeds in Australian cotton. Field

studies were conducted over five seasons from 2003 to 2015 to determine the CPWC for smaller broadleaf weeds, using mungbean as a mimic weed. Mungbean was planted at densities of 1, 3, 6, 15, 30, and 60 plants/m² with or after cotton emergence and added and removed at approximately 0, 150, 300, 450, 600, 750, and 900 degree days of crop growth (GDD).

Mungbean competed strongly with cotton, with season-long interference; 60 mungbean plants/ m² resulted in an 84% reduction in cotton yield.

The researchers concluded that a high level of weed control must be maintained throughout the cropping season in high-yielding cotton where broadleaf weeds are present at densities of 1 or more plants/m² to ensure crop losses do not exceed the cost of weed control.

Weeds present at lower densities will still need to be controlled before they set seed, to protect lint quality, to avoid difficulties at harvest, and to manage herbicide resistance by greatly reducing the number of seeds in the weed seedbank over time.

Cotton growers will need to adopt a more integrated approach to weed control, replacing glyphosate with alternative control tools, especially where glyphosate-tolerant and resistant weeds are present. These tools might include applications of residual herbicides such as diuron, metolachlor, pendimethalin, prometryn, and trifluralin, as well as POST applications of clethodim and haloxyfop.

In addition, cotton growers should be using spot spraying, interrow cultivation, and hand hoeing to ensure weed escapes are removed before they set seed.



Caption: Growers need to include residual herbicides in fields with high weed numbers and not rely on glyphosate alone. As a rule of thumb, if weed numbers are increasing over seasons or mid-season exceed 10 weeds m² (as in this field), growers need to be including additional residual herbicides in their system.

- For an update on the CQ Weeds Research currently being undertaken by QDAF's Jeff Werth, keep an eye out for the next edition of the CottonInfo newsletter. Not subscribed? You can do it for FREE here [Subscribe | CottonInfo](#)

Kind Regards
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