



Best Practice 

## Southern NSW Cotton Tale

**October 2016**

### **Welcome**

*After a number of good suggestions from growers and more office time lately I have decided to restart the monthly Cotton Tale newsletter. The plan is to publish the newsletter at the start of each month and bring a few interesting articles to your attention and let you know about upcoming events. Any feedback on the newsletter is welcome. I will still provide regular emails through the month so if you know of someone not on my network list please ask them to contact me at [kieran.okeeffe@cottoninfo.net.au](mailto:kieran.okeeffe@cottoninfo.net.au).*

### **2016-2017 season outlook.....**

The wet start to the planting season has been a major challenge for growers. It is the wettest September on record with 156.6mm.

It is important to remember however that we are only at the beginning of the planting window and there is still time through October to get soil temperatures above 14 degrees at 9am (daylight saving time) and a rising plane of forecast temperatures. The planting windows are outlined here in an excellent presentation from Mike Bange (CSIRO) which can be viewed [here](#).

If you haven't already check out the [CSD website](#) as it has the soil temp networks plus heaps of other useful tools.

The [CottonInfo website](#) is pretty handy as well. You can also [subscribe](#) to the e-newsletter to get the latest weather news from Jon Welsh as well as other timely information .

### **Research update**

CottonInfo recently coordinated a cotton research update at Yanco DPI. About 35 attended, mostly advisors and a few growers. Short presentations were given by DPI and Deakin Uni researchers on some of the current cotton projects under way in southern NSW. Two of the presentations are provided [here](#) and [here](#).

### **Starter fertiliser and what to do if you don't have it down...**

With such a wet lead up to the approaching cotton planting we may not be exactly where we would like to be in terms of fertiliser application this season.

By now we have a few different modes of action to get our nitrogen to the plant by the time it is needed, but what if we don't have any starter fertiliser down?

The first step would be to go back to basics and do some soil tests - you might need to take different soil types into account and do a few more tests than you otherwise would have to get a good handle of what is in the ground and where it is. As we know that P is not mobile in the soil it's pretty important it is where the roots can reach it.



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Amanda Thomas, CottonInfo REO at Warren, posed the question to researchers Brendan Griffiths and Oliver Knox who have been doing some research around the placement of P in different soil types across the cotton growing regions.

As with all information this is just to provide growers with some ideas of best management practices and some research that has been done over time. It is in no way agronomic advice. Thanks to Amanda in compiling this from the researchers.

**Brendan Griffiths,**  
lecturer in cotton  
production at UNE:



**Key messages:**

“Have a look at both your Colwell P in the surface, and your Colwell P and BSES P deeper in the profile which will give you some idea of whether you are immediately deficient, or if you may be able to get away with not applying for a season, and try to grow a crop on some residual or native P, possibly from deeper in the profile.”

***The question is then, if P is applied how do you go about doing so, and if we do what is the likelihood of getting a response?***

***- If soil tests show you don't have enough?***

“I would say that if you are deficient with respects to low Colwell P in the surface, and you have a lower BSES P at depth, probably an application of P with the seed, either as solid starter or as a liquid, at sowing would be better than doing nothing.”

***- If soil test say you should be okay?***

“If your Colwell is ok, and/or if you have reserve BSES P levels that are OK, you may get away with running the gauntlet and not applying for this season, as the logistics of application and getting P to where we need it for a response may outweigh the

benefits or simply not be logistically possible.”

***What if we can only get it on top of the bed?***

“The trap that we could fall into would be to apply our P shallow into the bed. As I have been saying in my presentations, in order to get a response to applied fertiliser P we must at least apply it to an area in the profile where we know our roots will be active.

“If we apply fertiliser P higher in the profile it is likely to be in area that is dry for a large part of the season, and if the soil is dry our roots are not going to be working in that area, so my thoughts in this instance is that you are wasting your money even if your soil is deficient with respects to P.

“This might help fill up the pools for the following seasons but in respect to getting response for this season would be unlikely from the research we have seen.”

***Can we side dress it and get a result?***

“In the work that Richard Flavel and Chris Guppy, and Mike Bell and David Lester and I have done, and using the standard method of applying using a side dressing shank and dropping the P into slot at the bottom, I would have say the answer would be that is fairly unlikely.

“The issue, again, is it seems in all of our work, is that cotton doesn't see these bands of P in the soil, and so it seems is fairly unlikely to pick it up.

“In saying this, it does seem, anecdotally, that a lot of the Southern soils do not always seem to be behaving chemically in the same manner as the Northern vertosols that we are all familiar with, and in which all of our research work has been done”.

***What about if we have drip or overhead irrigation?***



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Brendan says “the other caveat to what I have been talking about is in either overhead or drip irrigation, where you will be having a greater proliferation of roots closer to the surface, and have the upper profile wetter, for longer during the season so you may have a greater chance of increasing your uptake of late applied fertiliser P.”

### **Dr Oliver Knox Senior Lecturer, School of Environmental & Rural Science.**

#### ***What if we don't have P down prior to planting?***

Once again, Oliver suggest doing some soil samples ASAP (deep would be best). “If you have good Cowell P levels and good K levels then in theory it should get you across the line”. However, he says “both are largely immobile and I would suggest a replacement increase at the end of the season.



“If K is a bit short then there are options to consider in crop application, but you'd need to have the roots active high in the soil (i.e. under a lateral) to likely see any benefit or failing that go foliar.”

He also says to “remember some of the pre applied N may be getting lost due to the wet conditions so factor this in when doing your N budgets for the season”. As the peak demand is not until later in the season we have options of side dressing or water running N.

### **Dr Chris Dowling, Back Paddock**

I spoke to Chris re the above and he agrees with the above points but has a few tips to make sure we remember if we are doing a post planting application.

- In theory cotton appears to have the ability to respond to P applied after emergence as a result of it being indeterminate in fruiting habit i.e. yield is

not less affected by low nutrient supply in its vegetative stage. Have a look at these references:

- [Cotton Response to Multiple Applications of Phosphorus Fertilizer](#)
- [Performance of fertigation technique for phosphorus application in cotton](#)
- “Disturbance and or pruning of the root system voids any potential P response so application method must be non-damaging or repaired before start of squaring.”
- “We saw a response in a side dress trial at Moree in 1990s in a sidedress application on a very low P soil low PBI, was better than not applying, but not as good as preplant. It was flushed immediately after application. Beds were explored for the location of white roots and bands were placed 5cm outside that zone. Application was aimed at being ASAP after crop establishment but before squaring likely to give best response.”
- “Would be careful with fert in seed trench (nominally 4 g/m MAP). Most safety data based on older larger seeded varieties, no telling what will happen with smaller seed varieties and a rapid soil drying post sowing.
- If you are unsure of your soil N supply post wet conditions i.e. how much of the preplant N is left, deep N sampling in crop, before squaring, is an option providing sample collection is feasible. Less than 10 per cent of the crops total N requirement is taken up by squaring and this can be accounted for in making N decisions.

#### ***What does the research say are the optimum rates of N, P and K in high yielding cotton crops?***

Nutrilogic is the best place to start as you can input your soil test results and particulars such as your region, soil type and yield targets and get the required levels. [Click here to access it](#) (you might have to register on the CottAssist site if you haven't before. Once you a registered it will

remember you each time you go in and very easy to navigate from there).

The [CottonInfo website](#) also has some great links to research papers and a direct link to SOILpak.

And [myBMP](#) has a great collection of useful info in the soil health module. Its quick and easy to register.

## ***'Mite' have a few resistance issues this season!***

### ***Abamectin resistance in Two Spotted Mite now common.***

Prior to 2010-11, Abamectin resistance was rarely seen in Two Spotted Mite (TSM) populations. Since then, resistance has regularly been detected, and is at concerning levels.

The 2015-16 resistance testing results of TSM by Dr Grant Heron, NSW DPI, showed six of the nine populations tested had resistance. Percent susceptibility ranged from 44 to just 25 per cent susceptible.

These results for Abamectin suggest restraint in usage is now required. A common use pattern for Abamectin has been to apply in combination with mirid sprays as an 'insurance spray'. Mirid sprays can be disruptive of beneficials so the inclusion of Abamectin reduces the risk of subsequent mite outbreaks. However, this practice may ultimately lead to Abamectin failure against mites.

In general, the numbers of TSM in crops across most regions has dramatically reduced. This would suggest that insurance sprays against mite outbreaks in most situations may be unnecessary, and may be having a negative impact by increasing the levels of Abamectin resistance.

Issues to consider:

- Spraying mirids below threshold may increase the chances of flaring other pests, such as mites and SLW

- The use of an 'insurance' spray against mites at below threshold values may increase the risk of resistance
- Correct identification of mites is important as the strawberry mite and two spotted mites don't cause the same amount of damage.

### **Things to remember:**

- Control pests at or above industry recommended thresholds
- When making spray decisions and insecticide choices, consider the impact on beneficials and risk of flaring non-target pests

More information on insect thresholds, control options and impact on beneficials can be found in the [Cotton Pest Management Guide](#).

### **Video of the month**

[Here is a link](#) to a presentation on the latest science on carp management in Australia including the carp herpes virus project. The presentation is given by Senior Fisheries Manager, Matt Barwick, with NSW DPI. The link has been provided by Stacey Vogel, the CottonInfo NRM Technical Specialist.

### **Advisors please note**

I have extra hard copies of the 2016-17 Cotton Pest Management Guide and the 2016 Australian Cotton Production Manual. If you want some copies for your growers please let me know.

Hope you enjoyed the first edition of the Cotton Tale. Let me know if you have any ideas/photos/feedback for next month's edition.

### **Cheers Kieran**

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