



the cotton tale

September 2021

For those keeping a close eye on what is happening to soil temperatures at 8 am in the morning the trend of increasing soil temperatures looked promising about a week ago but currently a cold front has come across and soil temperatures have dipped.

As mentioned last month, a good start is critical to get an even established stand and get the crop moving through its development stages.

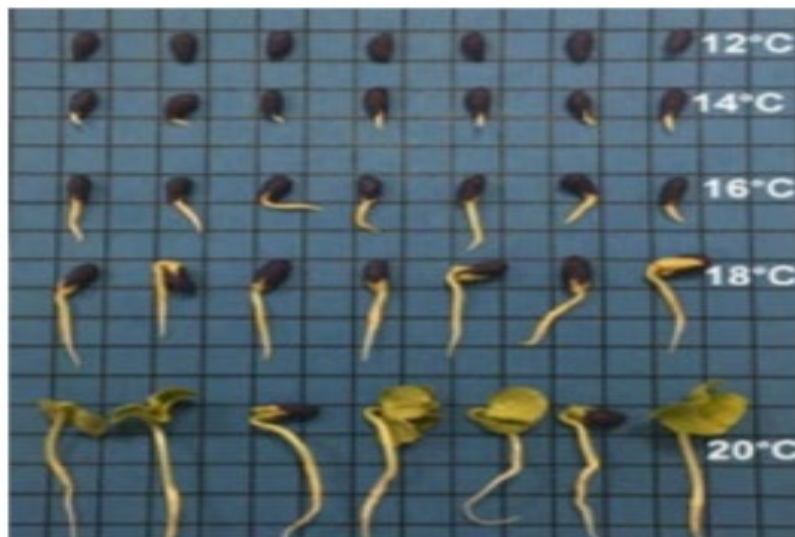


Figure 1: Difference in cotton seed germination and growth at 7-days at 12°C, 14°C, 16°C, 18°C and 20°C. Source: CSD Facts on Friday: [Factors that affect Cotton Establishment](#)

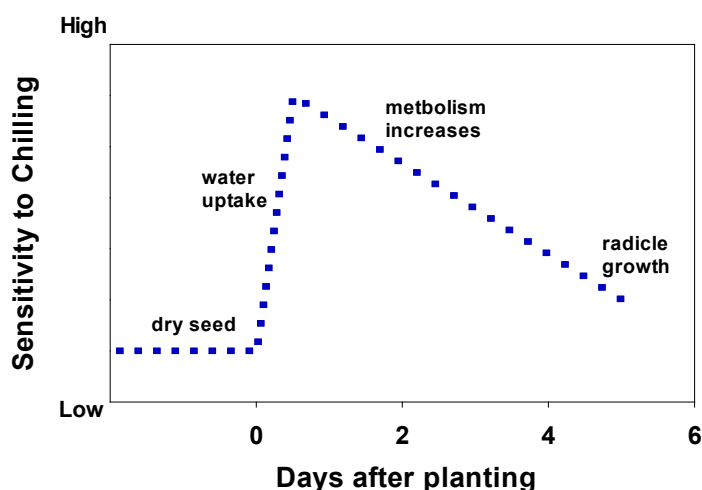
The figure above comes from an experiment using the CSD thermogradient table. In the field soil temperatures will have a daily range not a constant temperature but it highlights how low temperatures will delay development.

Chilling Injury (adapted from Hake et al. Cotton Physiology Today)

Cotton is a tropical plant and is sensitive to chilling. An example of chilling injury is when a banana (another tropical plant), chilled in the refrigerator, turns black and rots due to membrane disruption and the subsequent mixing of cell contents. Soil temperatures of less than 10 °C cause chilling injury to cotton. If this occurs at the most sensitive stage, when the seed is soaking up water, it can die after the root tip or radicle has pushed out a few centimetres or does not develop a normal tap root. Chilling within the first 5 days after planting often results in weak plants with delayed maturity and reduced yield. Graph 1 depicts the relative sensitivity of cotton to chilling injury. Dry seeds are highly tolerant to chilling, but as soon as it is placed in moist soil it begins soaking up water and enters its most sensitive stage. CSD members have access to the extensive FastStart™ soil temperature network that gives guidance on when you have the green light to water up the crop.

<https://www.csd.net.au/membership>

It can get tricky and every start is different. Management decisions need to be made and watering may start then have to stop. The preferred planting window in most southern locations is early to mid-October and can extend into the third week of October depending on weather conditions. See the attachment The importance of a good start by Michael Bange for planting windows for different locations.



Graph 1. Hake et al. Cotton Physiology Today

Cotton Research update 2021

Due to meeting restrictions the local cotton research update normally held in September each year has been summarised into a series of short presentations by local researchers. There are some key messages in each presentation so take the time to view each topic and if you need follow up with the researcher their contact details are at the end of each presentation

- **2021 Season review**
- Kieran O'Keefe, CottonInfo, Griffith.
- **Residual herbicides**
- Eric Koetz, NSW DPI, Wagga Wagga.
- **Emergence of Feathertop Rhodes grass and management in Southern NSW**
- Md Assaduzzaman, NSW DPI, Wagga Wagga.
- **GA3 and AVG Hormone experiment**
- Gabby Panazzolo, NSW DPI, Yanco.
- **Mirid monitoring 2021**
- Alison Young, NSW DPI, Yanco.
- **Silverleaf whitefly survey 2021**
- Alison Young, NSW DPI, Yanco.
- **Poultry litter management**
- Wendy Quayle, CeRRF Griffith, Deakin University.
- **Effect of poultry litter on N15 labelled fertiliser recovery and soil N mineralisation**
- Jackie Webb, CeRRF Griffith, Deakin University.
- **Soil Health under poultry litter amended and non-amended cotton systems**
- Rakesh Awale CeRRF Griffith, Deakin University.
- **Smart automation** – John Hornbuckle, CeRRF Griffith, Deakin University
- [Southern NSW cotton research update \(September 2021\) - YouTube](#)



August quiz answer – Masked Lapwing (Vanellus novaehollandiae)

September quiz – What is this and where is it located?



Regards Kieran

Disclaimer:

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