LATE WINTER SOWING FOR EARLIER BOLL FILING

AUTHORS Paul Grundy[1] | Steve Yeates[2] | Jamie Iker[3] | Gail Spargo[1] Ngaire Roughley[1]
ORGANISATIONS [1]QDAFF | [2]CSIRO | [3] Spackman Iker Ag Consulting

17th australian COTTON conference
Our Fibre, Our Focus, Our Future

Prepared by CRDC on behalf of the 17th Australian Cotton Conference
www.australiancotton conference.com.au

Further Information
Paul Grundy
0427 929 172
paul.grundy@daff.qld.gov.au

Acknowledgements
Dougal Millar and Carlo Stanherlin, Orana farming. CRDC.

Australian Government
Cotton Research and Development Corporation

Queensland Government

CSIRO

Issue being addressed

Peak summer weather in the central Highlands region can be highly variable with potential for cloudy wet monsoonal influences or high temperatures and humidity which reduces a crops capacity to keep cool. We are investigating tactics to enable substantially earlier planting and crop development to reduce crop exposure during boll filling to mid to late summer conditions. This may improve the management of climatic risk for cotton production in the Central Highlands environment and lift aggregate yield potential and lint quality.

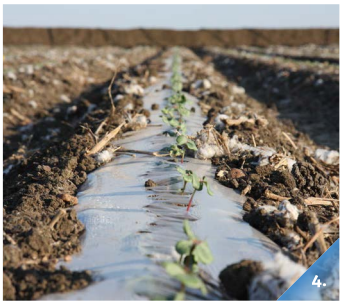
Key Findings

A Central Highlands climate analysis identified that the October to December period is ideal for boll filling. To capitalise on this opportunity test plantings were made during August and early September with and without biodegradable films to see if early season cool temperature constraints could be overcome and enable earlier establishment, boll filling and crop maturation.

Biodegradable films raised soil temperatures by 2oC enabling more rapid establishment and earlier flowering. August sown cotton flowered during mid to late October and was physiologically mature by early January thus avoiding boll filling during the peak summer period.

What impact will this have for the Australian Cotton Industry

The strength of the Australian Cotton Industry is underpinned by performance of each of its regions. Strategies that minimise climatic risk and improved the reliability of yield potential and lint quality for the Central Highlands would make a welcome contribution locally and for the broader Industry. This work has only recently commenced so it is too early to conclude the likely success that may accrue from earlier sowing and boll filling or the viability of late winter sowing. It is anticipated that this will become clearer over the coming seasons.



1. **SLOTS** in the film allow seedling emergence. The film warmed lifted the minimum soil temperatures by 2°C.

2. **COTTON** sown with film (right) flowered a week earlier than cotton without film (left).

3. **THE** film begins to degrade 6 weeks after application and is totally broken down by picking.

4. **TRIALS** in 2014 will deploy film on hills at a commercial scale.