

# Australian Cotton Presentation

West Texas Ag Chem Meeting  
Stewart Brotherton and Sam Lee  
Cotton Seed Distributors  
14 September 2023

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# Introduction

- Members of Cotton Seed Distributors (CSD) Extension Team
- Industry representatives who work closely with growers, to extend information and get the best out of their cotton crops
- Visiting to learn more about US cotton systems and **collaborate** (e.g. WUE)
- Reciprocal trip following a visit by Cotton Incorporated and US researchers early 2023



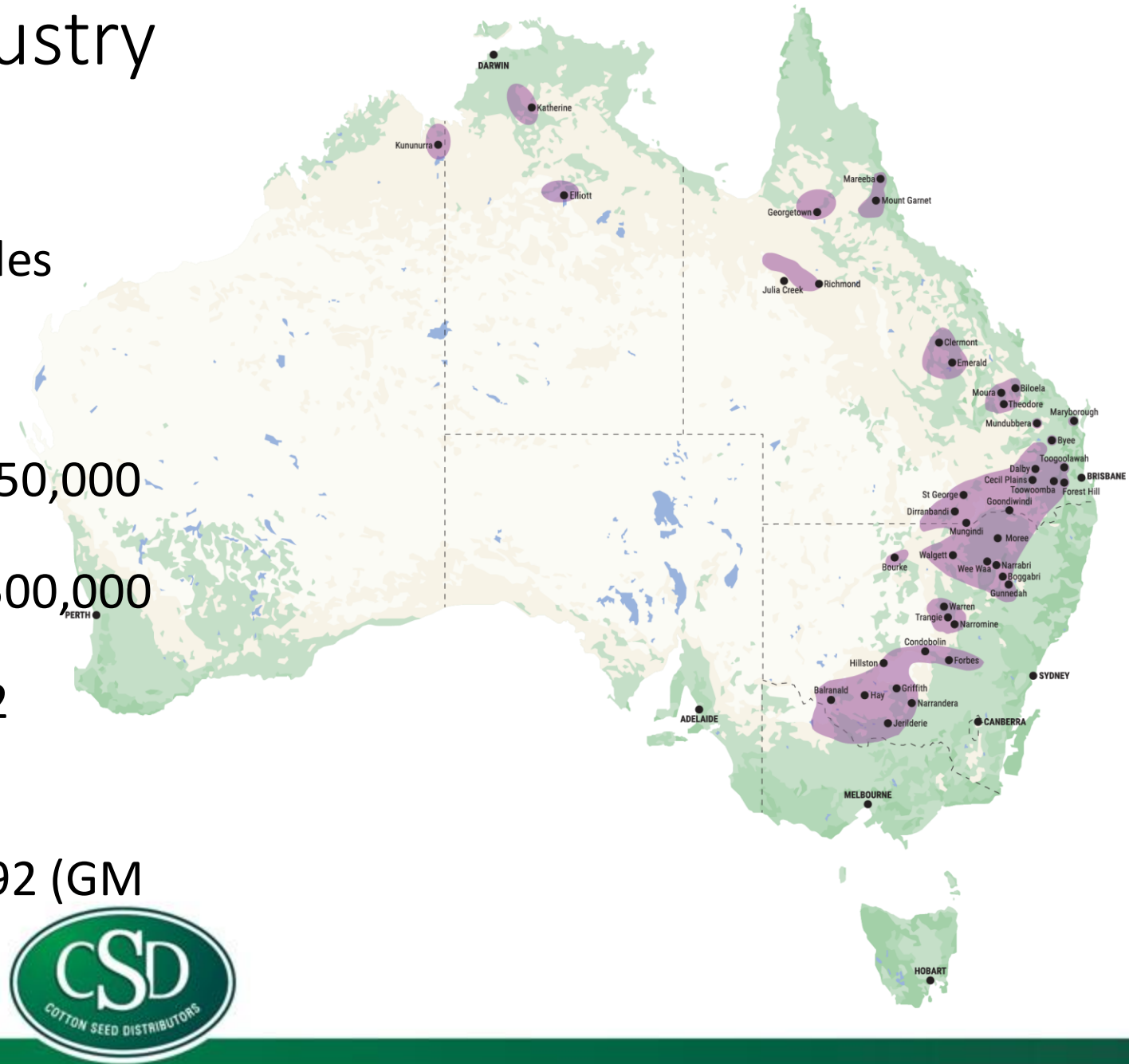
# Who is CSD and what do we do?

- Member owned, not for profit company
- Board of Directors (10) – 7 growers
- Started by a group of like-minded growers in 1967 – US connections!
- Numerous teams – seed increase, lab and QA, production, extension, growth and development, research, digital and data
- Cotton Breeding Australia (CBA) – CSIRO
- Global industry partnerships – Bayer, Syngenta
- Working with growers to get the best out of the crop



# The Australian Cotton Industry

- 1500 Australian farmers grow cotton
- Range of climatic regions
- Average production of 3 to 5 million bales annually
- Average annual production irrigated – 700,000 acres approx.
- Average annual production dryland – 250,000 acres approx.
- Total production range – 220,000 to 1,500,000 acres (seasonally dependant)
- Average irrigation requirement 27 to 32 inches/acre – majority surface water
- 50% increase in WUE since 1992
- 95% reduction insecticide use since 1992 (GM and IPM)



# Australian Cotton Industry Extension Team

## INTRODUCING THE CSD EXTENSION TEAM

**CSD EXTENSION MANAGEMENT TEAM**

- PETER WHITE**  
Extension & Market Development Lead - AUS  
Based in: Nami  
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- SAM LEE**  
E&D Manager - WA, NT & QLD  
Based in: Darling Downs  
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- JANELLE MONTGOMERY**  
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Based in: Gwydir  
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- COMING SOON**  
E&D Manager - NSW

**Regional Team Members:**

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E&D Agronomist  
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E&D Agronomist  
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E&D Graduate Agronomist  
Nami  
0455 125 500
- Adelaide:**
  - COMING SOON**  
E&D Agronomist  
Southern NSW

The CSD Extension team aims to deliver highly specific, targeted knowledge and information to cotton growers and industry which drives beneficial practice change to Australian cotton growers.

So, if you want to discuss your growing options, find out more information on our tools, get access to the latest trial data, or simply talk about all things cotton, give your local Extension team member a call today.

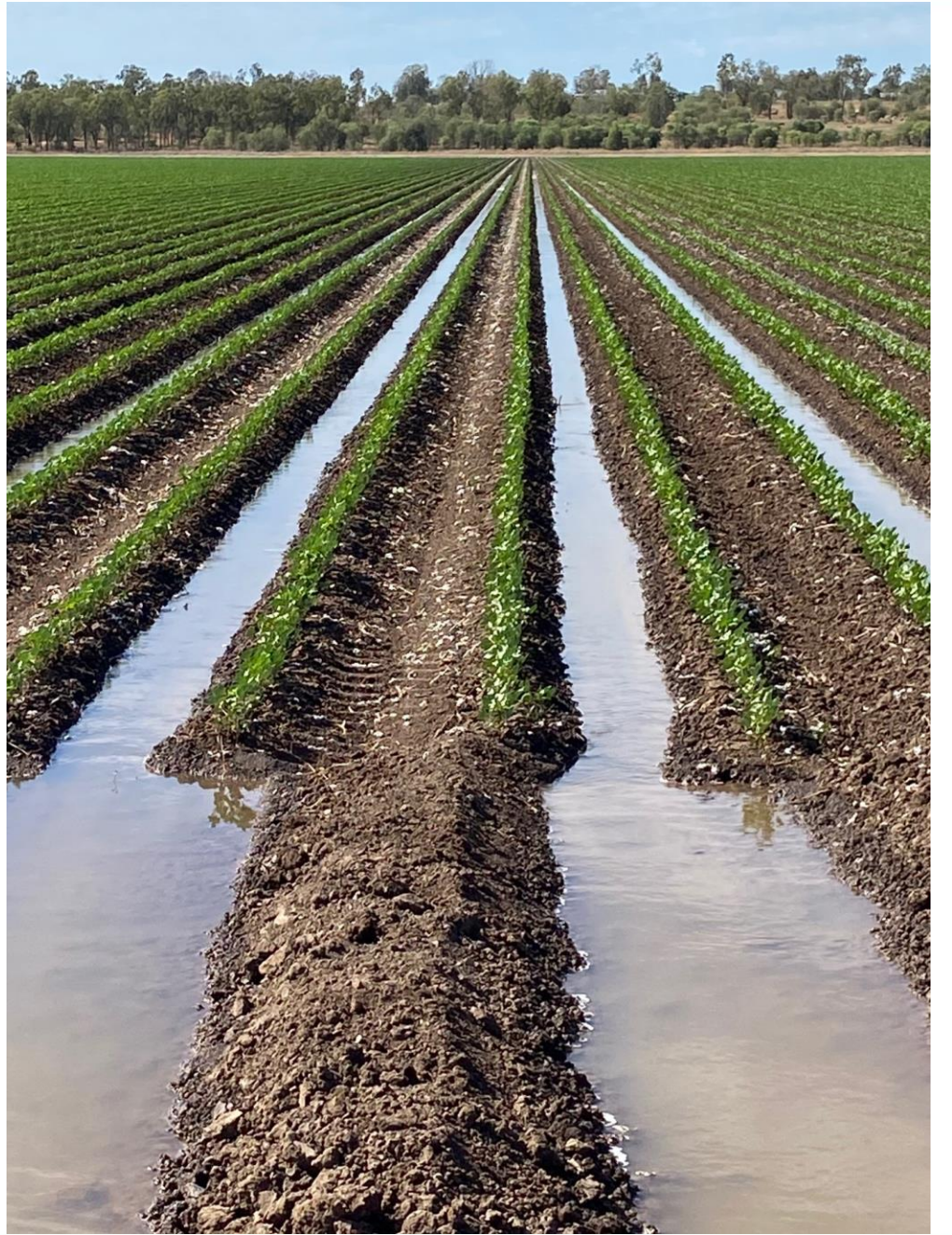
- Team of 20 industry experts from a wide range of backgrounds
- Geographic spread to cover entire cotton industry
- Extensive variety trial program
- Ambassador Network - 70+ growers/season, 8 seasons
- Data collection at various crop stages
- Extensive data network helping to deliver industry tools – 300,000+ data points and 2000+ sites!!



# Irrigated cotton in Australia

- 10-year average irrigated yield – 4.7 bales/acre
- Yields ranging from 3 bales/acre to 8 bales/acre
- Strong focus on WUE and NUE
- High levels of interaction with consultants and agronomists
- Intensively monitored crop e.g. growth regulators, nutrition
- Strong adoption of IPM and IWM
- All crops are picked – no cotton strippers in irrigation
- Strong use of automation, canopy temp sensors, soil water monitoring
- Wide range of irrigation - bankless, furrow/siphon, overhead systems









# Dryland (rain grown) cotton in Australia

- 10-year average dryland yield – 1.5 bales/acre
- Yields ranging from 0.5 bales/acre to 4.5 bales/acre
- Large range of soils and PAWC – heavy clay soils
- Cotton only planted into good moisture profile
- Highly variable climate and vast range of conditions
- In-crop rainfall ranging from 4 inches to 40 inches!
- Strong focus on water use efficiency and risk mitigation – opportunity planting
- Wide range of row configurations depending on farm system and wheel tracks e.g. 80”, double skip, wider spacings
- Fallow monitoring for moisture conservation - rotation
- Planting into cover crops and stubble retention to conserve moisture
- Use of automation/robotics e.g. SWARM Farm sprayers

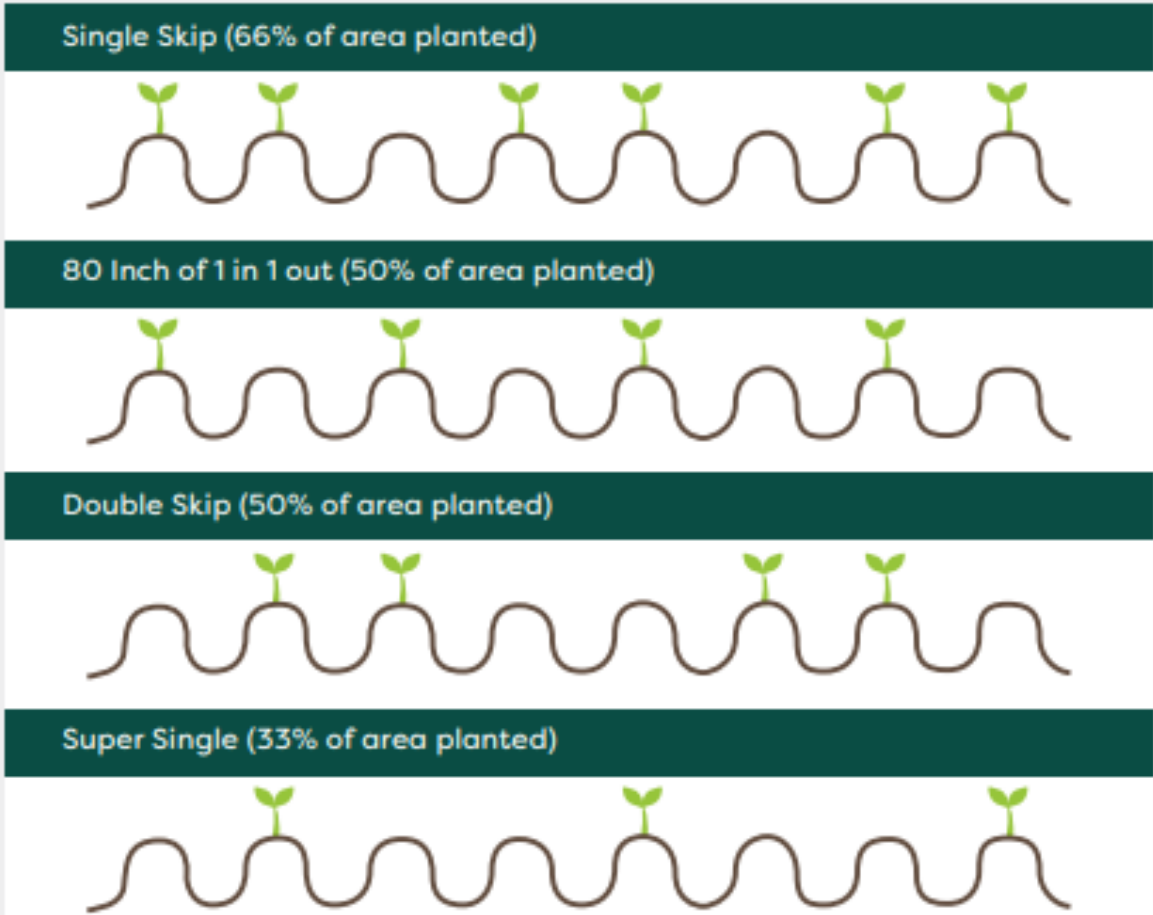


# Skip-row irrigated cotton in Australia

- Controlled traffic systems – focus on wheel tracks for compaction
- Planting into long fallow for moisture retention – 2 to 3 years or longer
- Planting into cover crops and stubble retention to conserve moisture
- Used where soil fertility and moisture availability is non-optimal
- Multiple configurations – 60”, single skip etc.



# Dryland (rain grown) cotton in Australia



Wide row configuration – 10 foot spacing

Figure 3: Row configuration guide

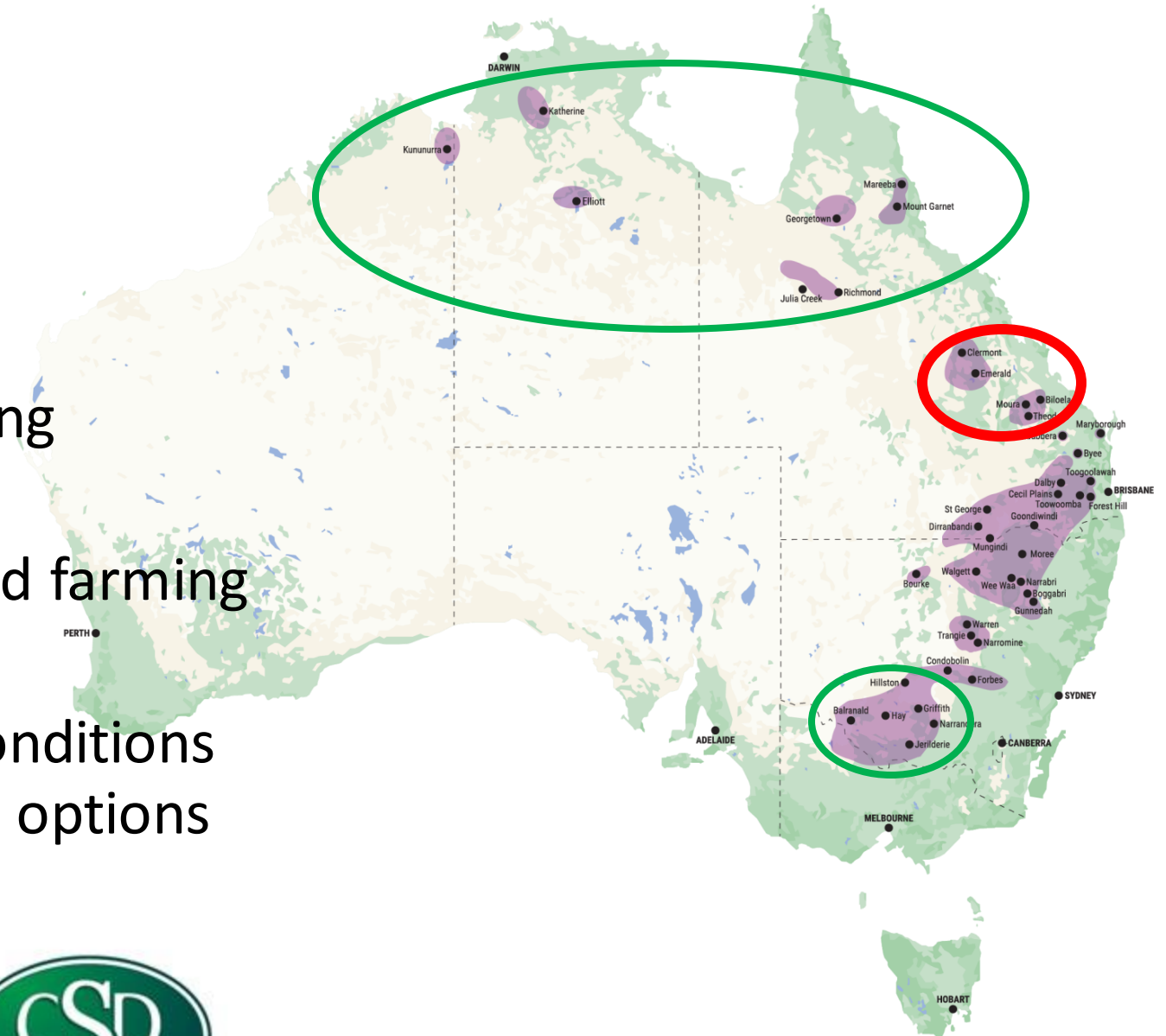






# Expansion of the industry

- Bollgard technology has allowed for expansion of the industry
- Cotton moving south into rice growing regions
- Cotton moving north into grazing and farming country
- Technology and changing climatic conditions have led to growers looking at other options – LONG SEASON COTTON



# Long season cotton

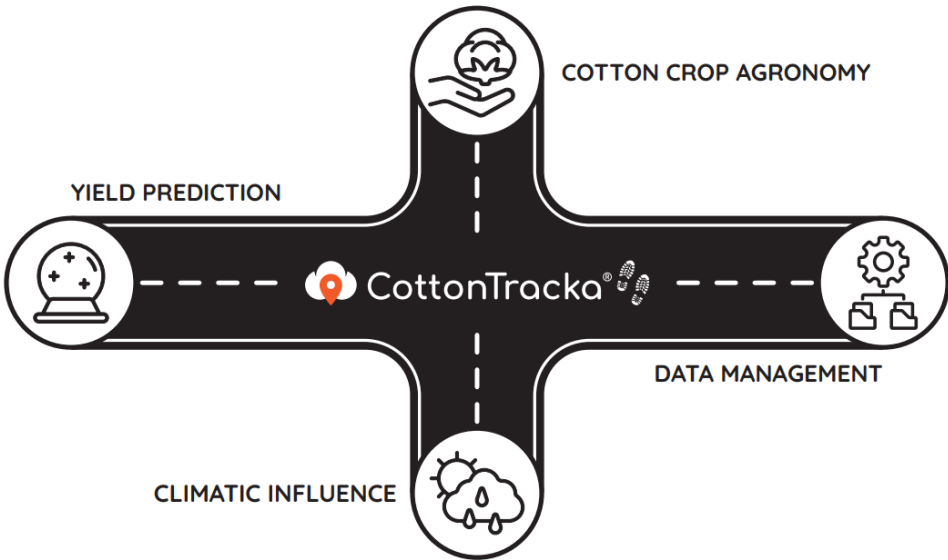
- Sustainable change for Central Queensland cotton
- ‘Walk away’ and ‘Long season’ cotton systems
- Water and nutritional efficiencies – WUE, NUE
- Use of tools and monitoring – canopy temp, soil water monitoring



# ‘Walk away’ cotton — “HOLD YOUR NERVE”







CottonTracka
BETA VERSION
Add data

- Trackas
- Properties
- Fields
- FIELD 5
- Dashboard
- Overview
- Data modules
- Downloads
- Daily weather
- Quality data
- Nutrient & MC
- Irrigation
- Bug tracka dashboard
- Bug tracka
- Map
- Share

Field 5

Home

First Flower date	BARRY estimate yield (b/ha)	No. nodes first fruit branch	First Flower 1st pos. retention
07 December	10.4	4.0	95.0

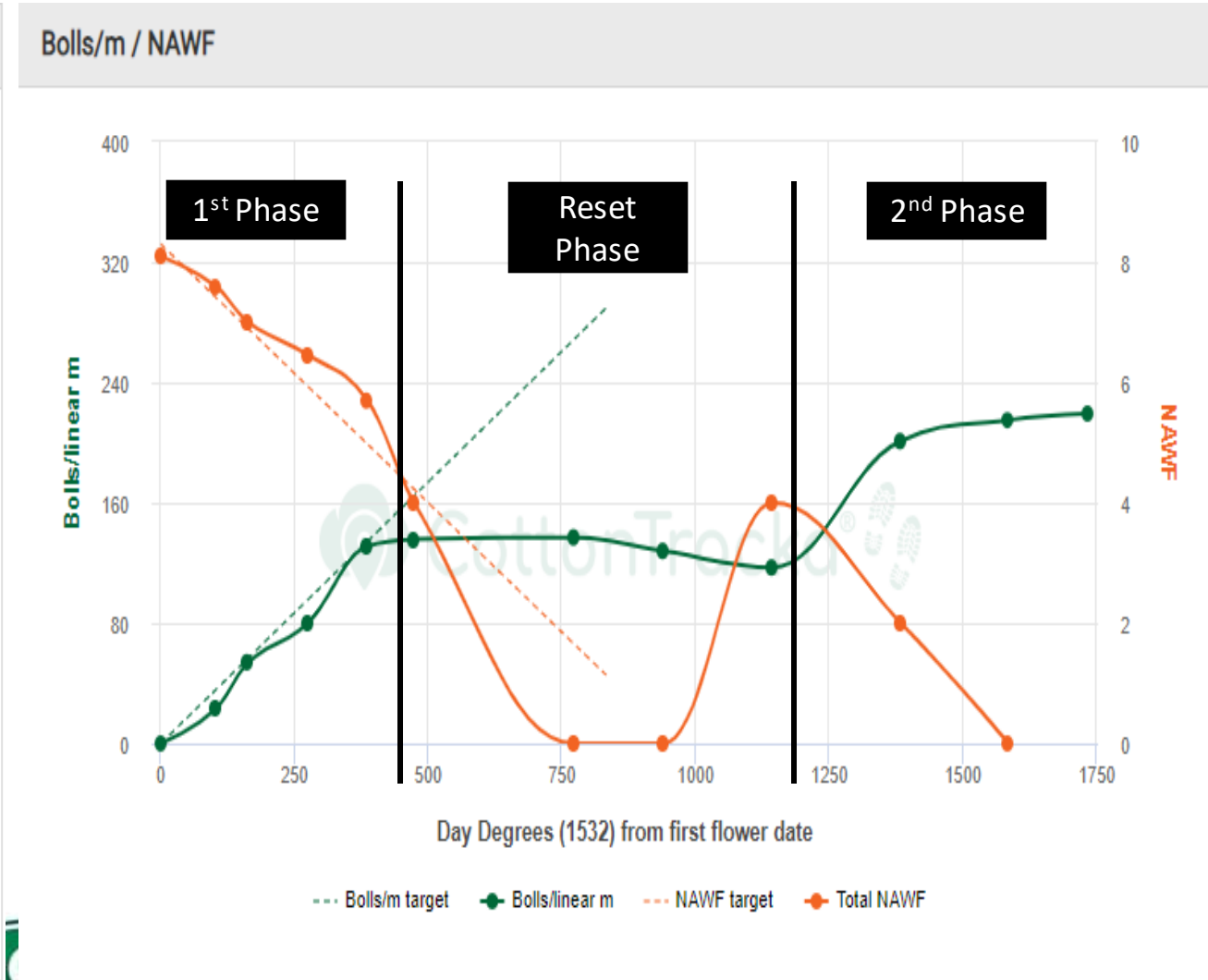
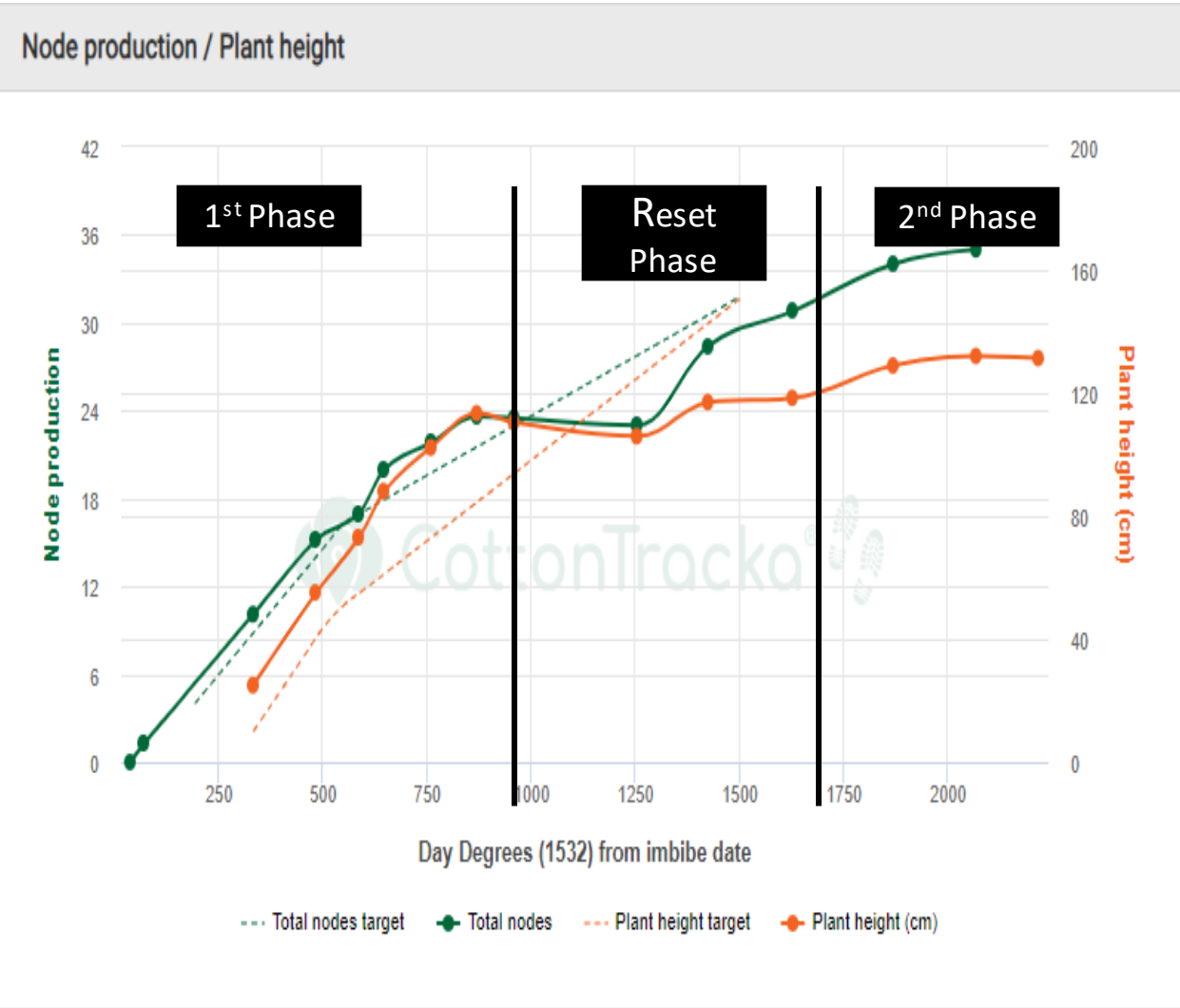
Node production / Plant height

Bolls/m / NAWF

**CottonTracka sits at the intersection of cotton crop agronomy, data management and environmental influence**

It performs in real time, in your field, in your environment, transforming your field observations into easy to interpret visual displays to assist with field management

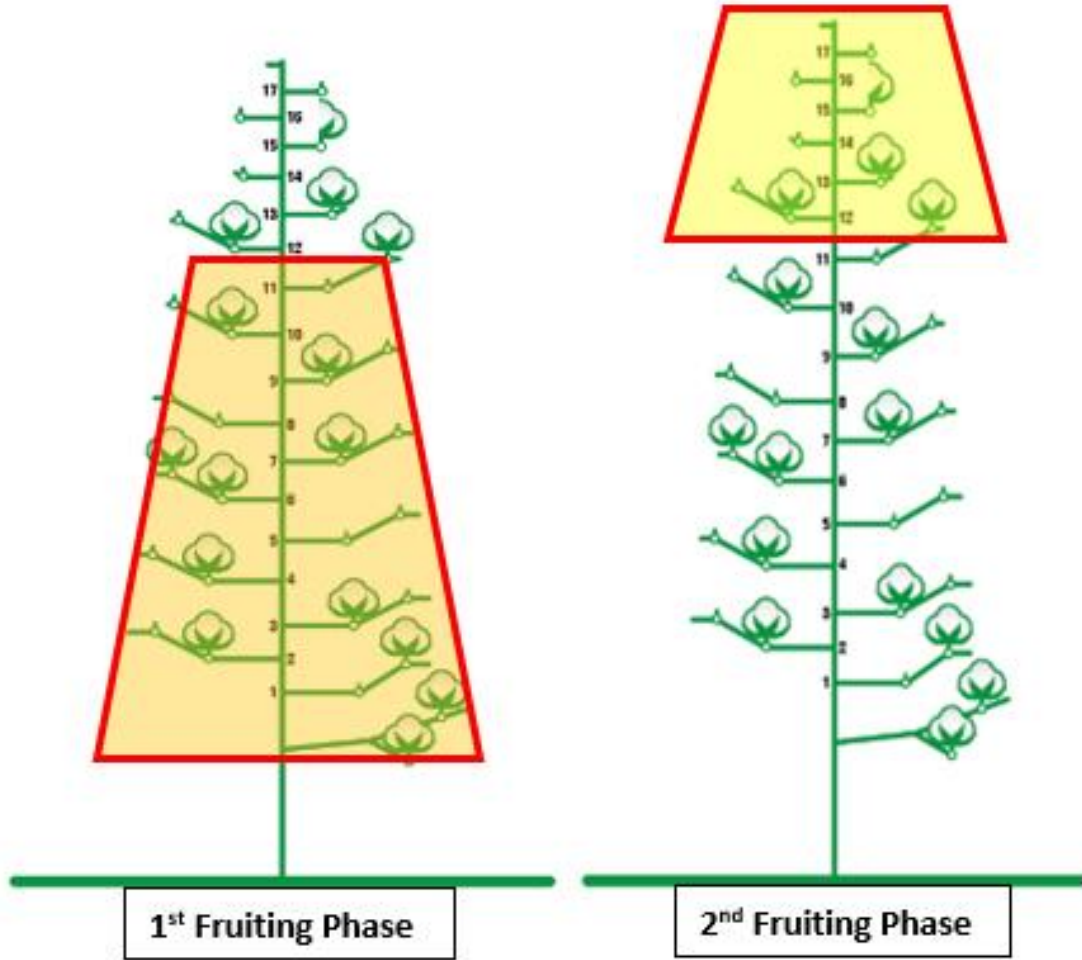
# Long season cotton - CottonTracka<sup>®</sup>



# Long season cotton



# Long season cotton



# Long season cotton



Result = 8.5 bales/acre!!!

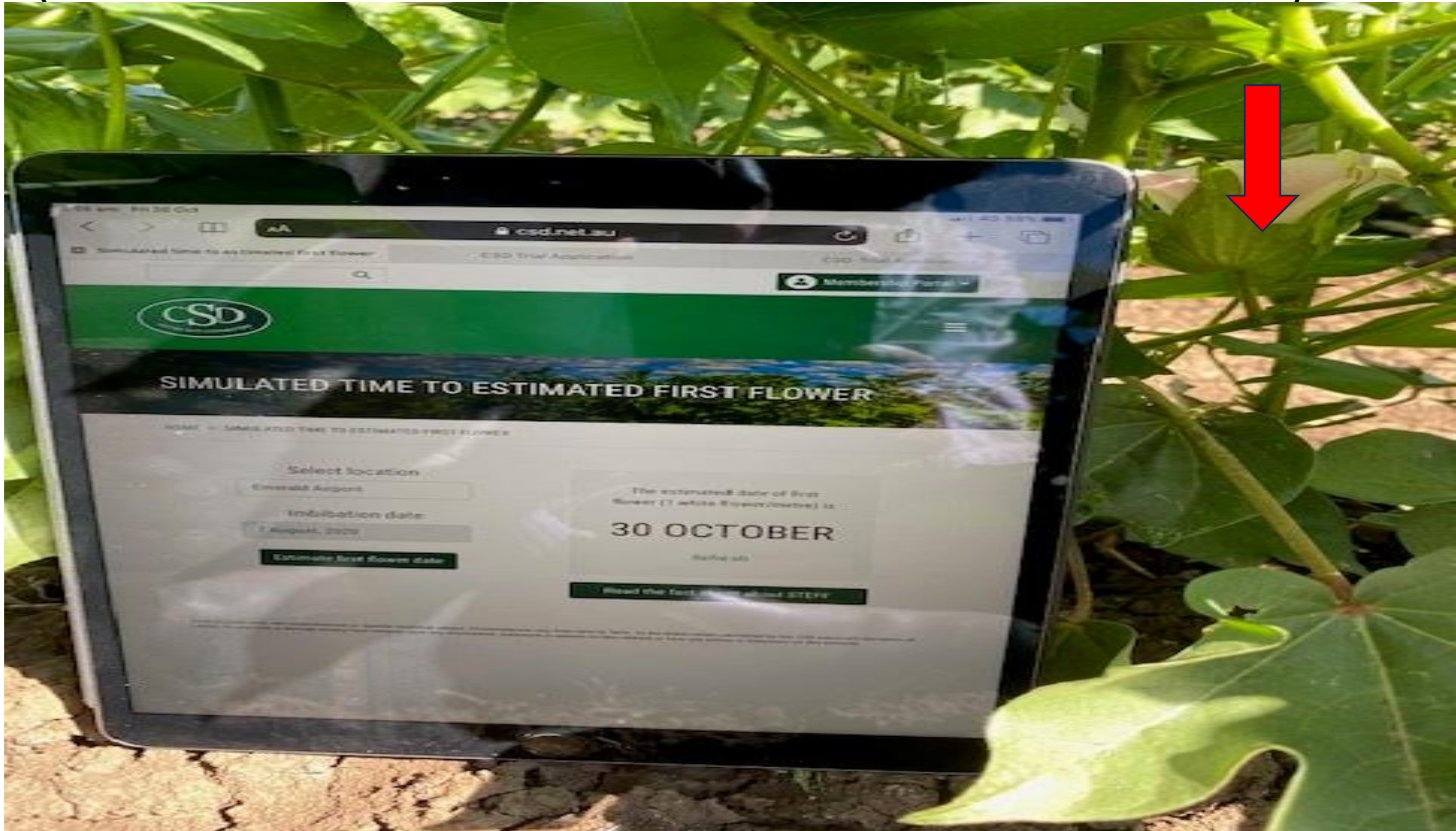


# CSD Tools

- Developed with the extensive CSD database from industry trial work
- WUE, NUE & yield driven by use of tools
- CottonTracka®
- STEFF – Simulated Time to Estimated First Flower
- BARRY - Biometric Agronomy for Realising Representative Yield
- CSD Extension collection of data for C-CROP and Ambassador program to drive efficiencies and build tools



# STEFF (Simulated Time to Estimated First Flower)



# BARRY (Biometric Agronomy for Realising Representative Yield)

Biometric Agronomy for  
Realising Representative Yield



Introduction

Potential Yield

Data & Map

## CSD Ambassador Potential Yield Model

### Inputs

#### Cultivation Type

Irrigated

#### Region

Northern

#### Treatment

Sicot 746B3F

#### Snapshot

End of Season

### Crop Snapshot

Name	Value
Final Boll Count m <sup>2</sup>	165
Overall Boll Lint Weight (gm/boll)	2.3
Grower Est. Irrigation Water App (ML)	9
Length of Season (days)	174
Days of Flowering	35
Total Rainfall (mm)	243
Hot Days > 40 C	6
Yield (b/ha)	14.8 ± 1

↓ CSV

↓ TXT





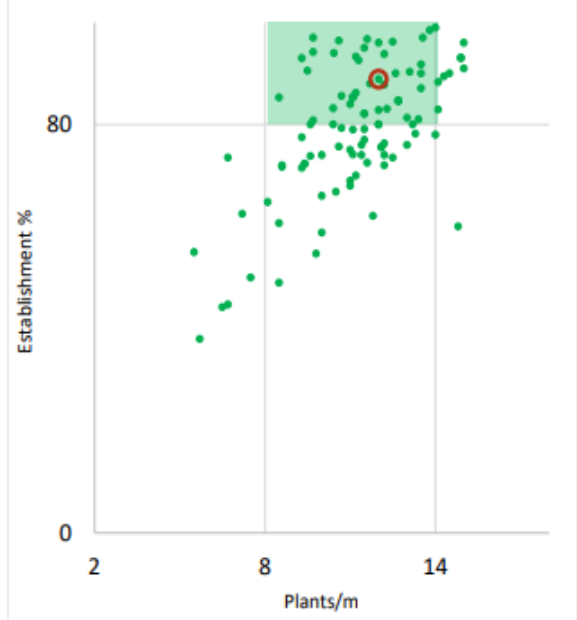
# C-CROP (CSD Cotton Crop Optimisation Tool)



## CSD Cotton Crop Optimisation Program

Name	Property	Field	Variety
Aussie Farmer	Out Back	Field 1	Sicot 748B3F

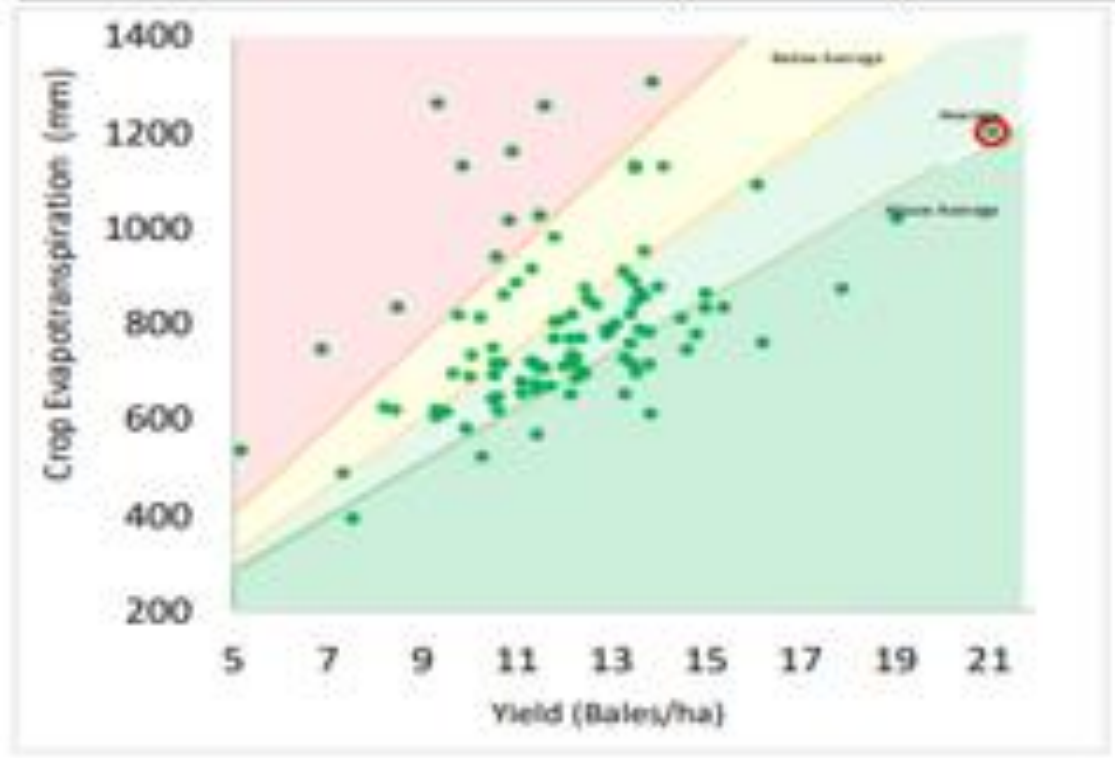
Cotton Establishment	Your result	Score
Plants/m	12	10
Establishment %	88.9	



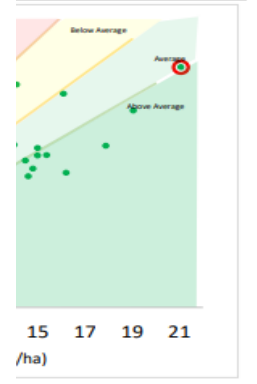
Score Breakdown	
Cotton Establishment	
First Flower Yield Estimate	
Nitrogen Use Efficiency Score	
Water Use Efficiency Score	
The Yield Equation Score	
Season Length Efficiency Score	
Fibre Quality Score	
Yield	

First Flower Yield Estimate	
FF Day Degrees (DD1532)	
Plant Height (cm)	
1st Pos Retention %	
NAWF	9.1
NTFFB (nodes to first fruiting branch)	6.7
Squaring Nodes	9.7

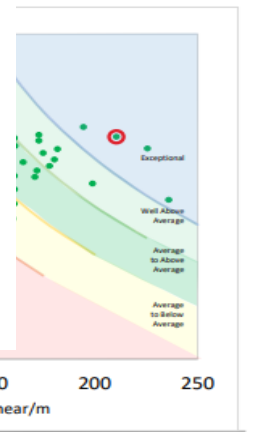
Water Use Efficiency Score	Your result	Score
Kg lint/mm	3.98	8
Crop Etc (mm)	1202.0	



Your result	Score
3.98	8
1202.0	



Your result	Score
211	6.0
5.42	



# Thank You

