

The cotton quality program in Australia

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CSIRO



Outline

- **CSIRO**
- **CSIRO and Australian cotton**
- **Premiums for fibre quality**
- **Fibre quality tools**



CSIRO

People 5019

Sites >50

Business units 9

Budget \$1.4B

>60% of our people hold university degrees; over 2000 hold PhDs; over 500 hold masters

We develop >750 postgraduate research students with our university partners



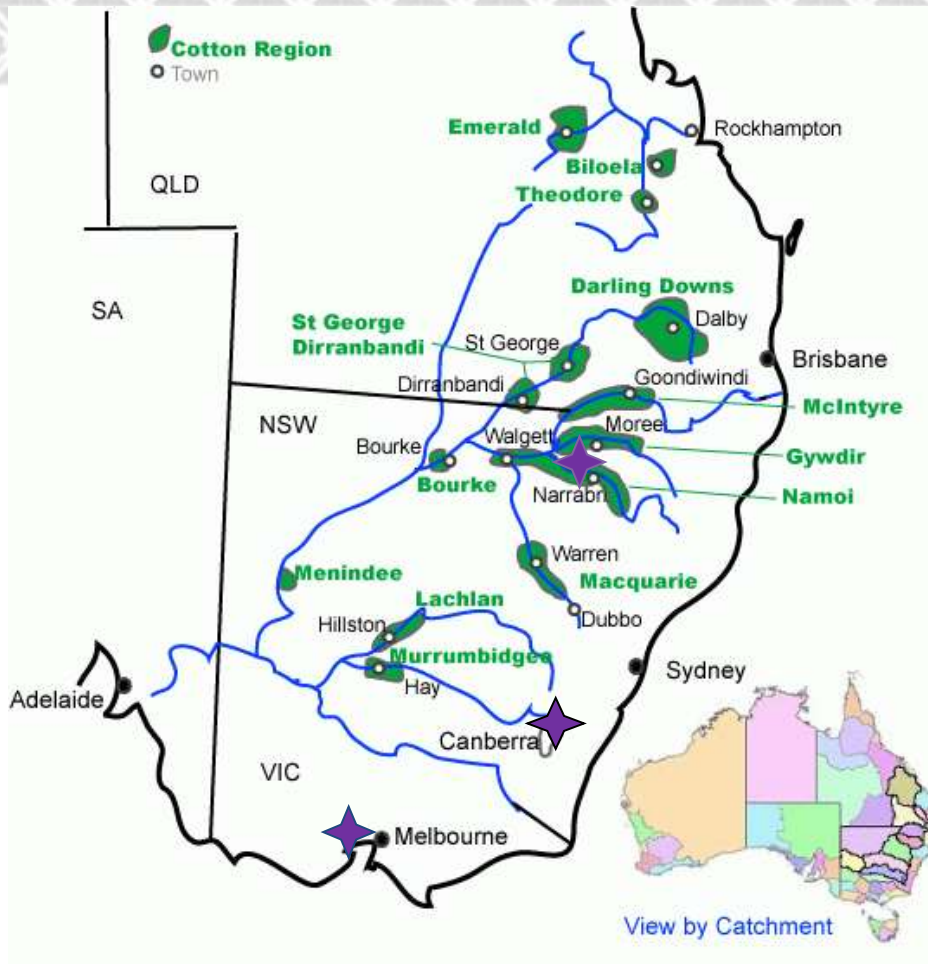
CSIRO cotton research

To develop a profitable and sustainable cotton industry based on:

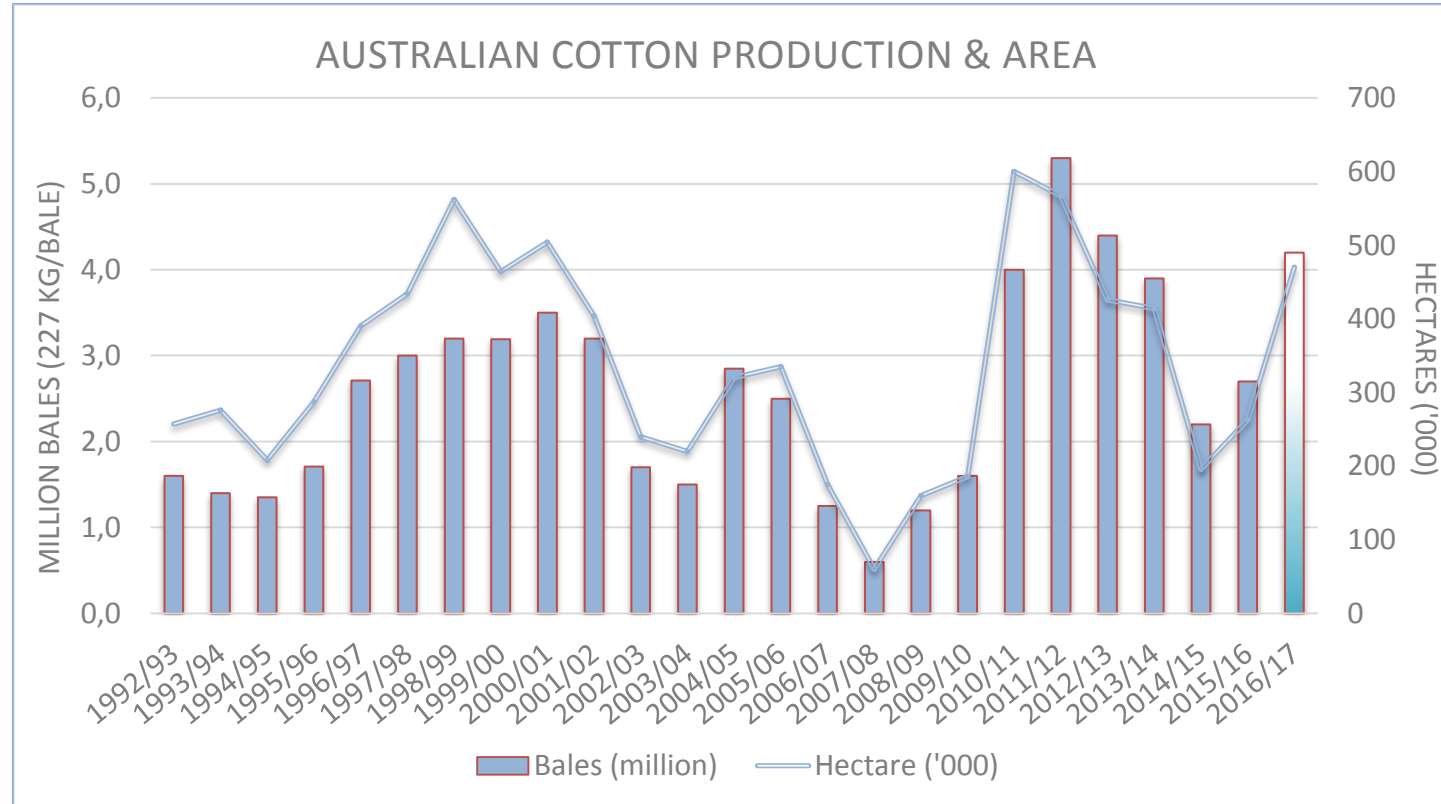
- Breeding high quality germplasm,
- Linked with biotechnology,
- Understanding production systems, and
- Improving post-harvest quality.

LONG TERM COLLABORATION IS ESSENTIAL

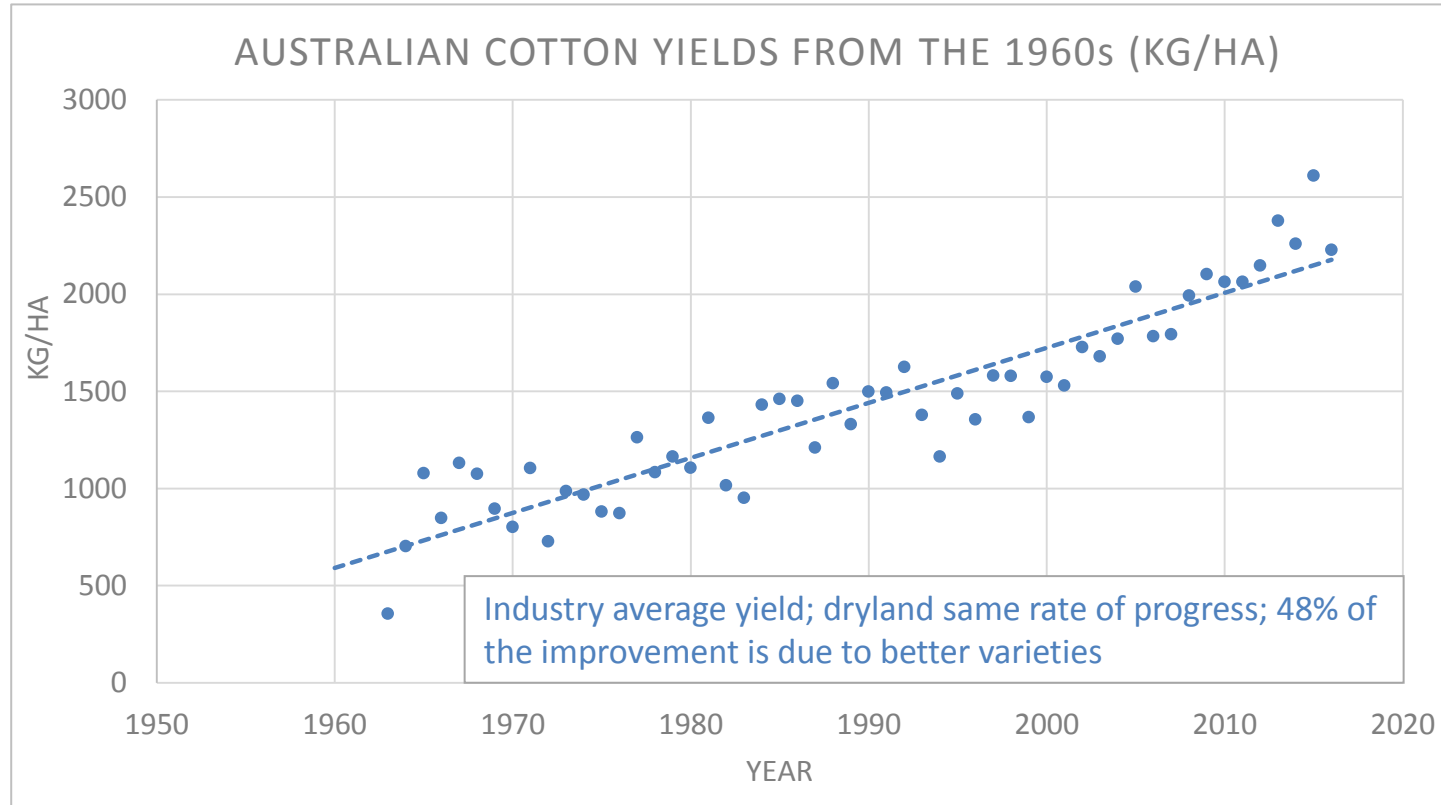


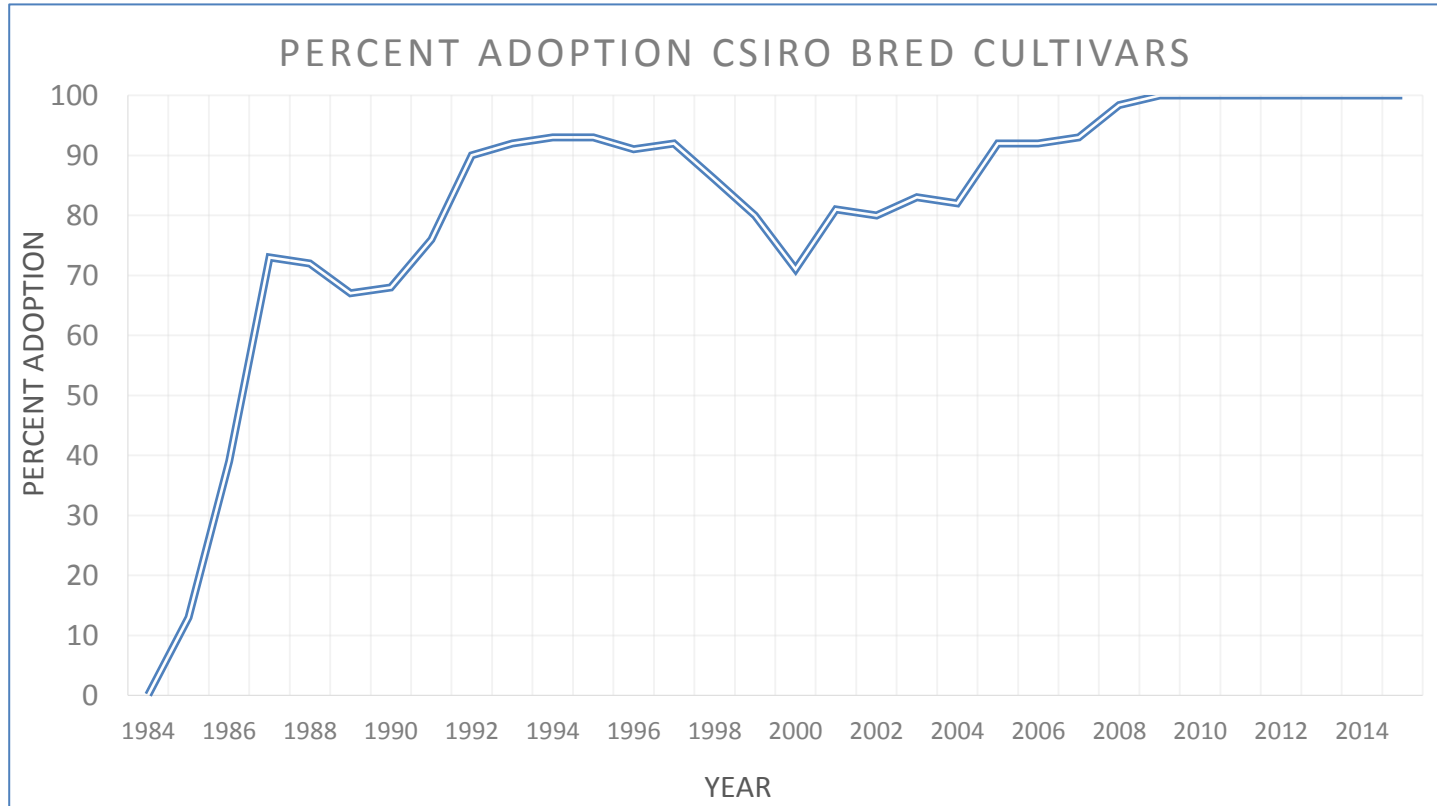


View by Catchment

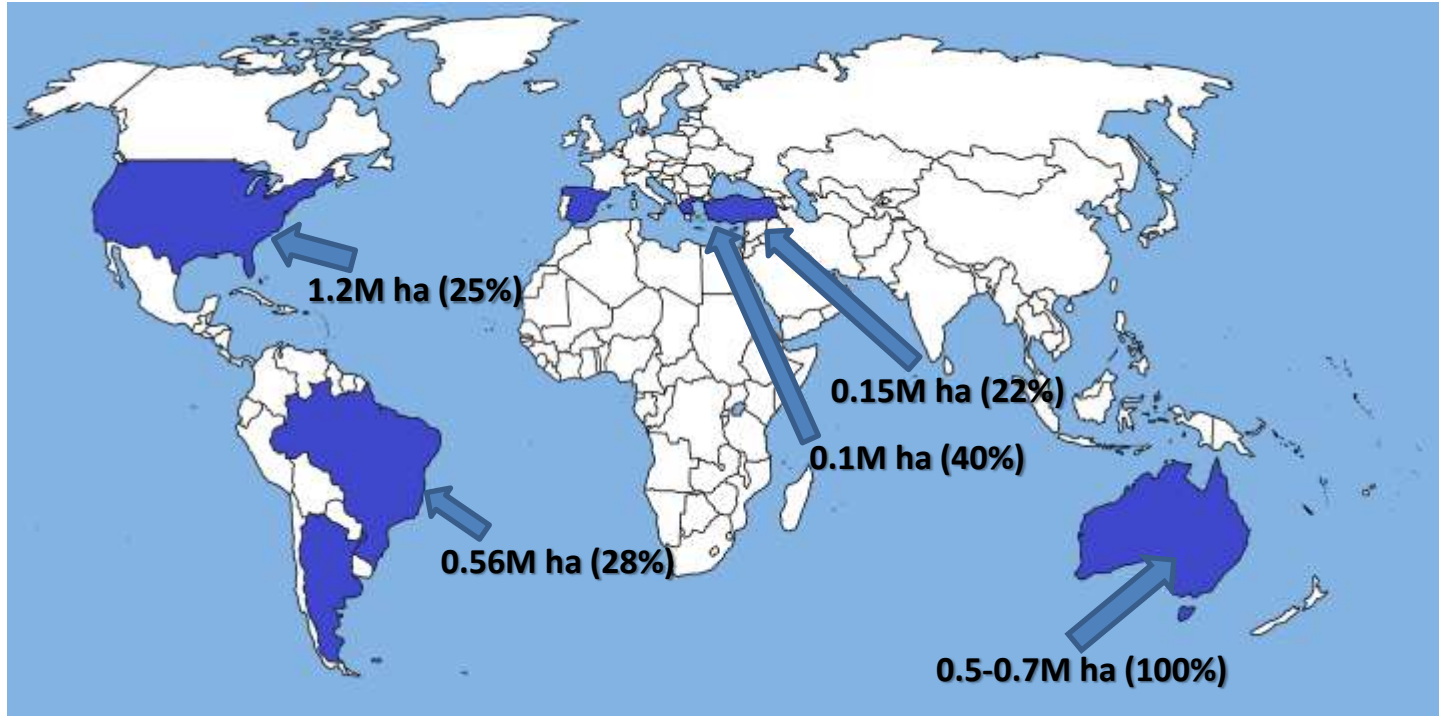


Source: COTTON AUSTRALIA and ABARE





Source: CSIRO

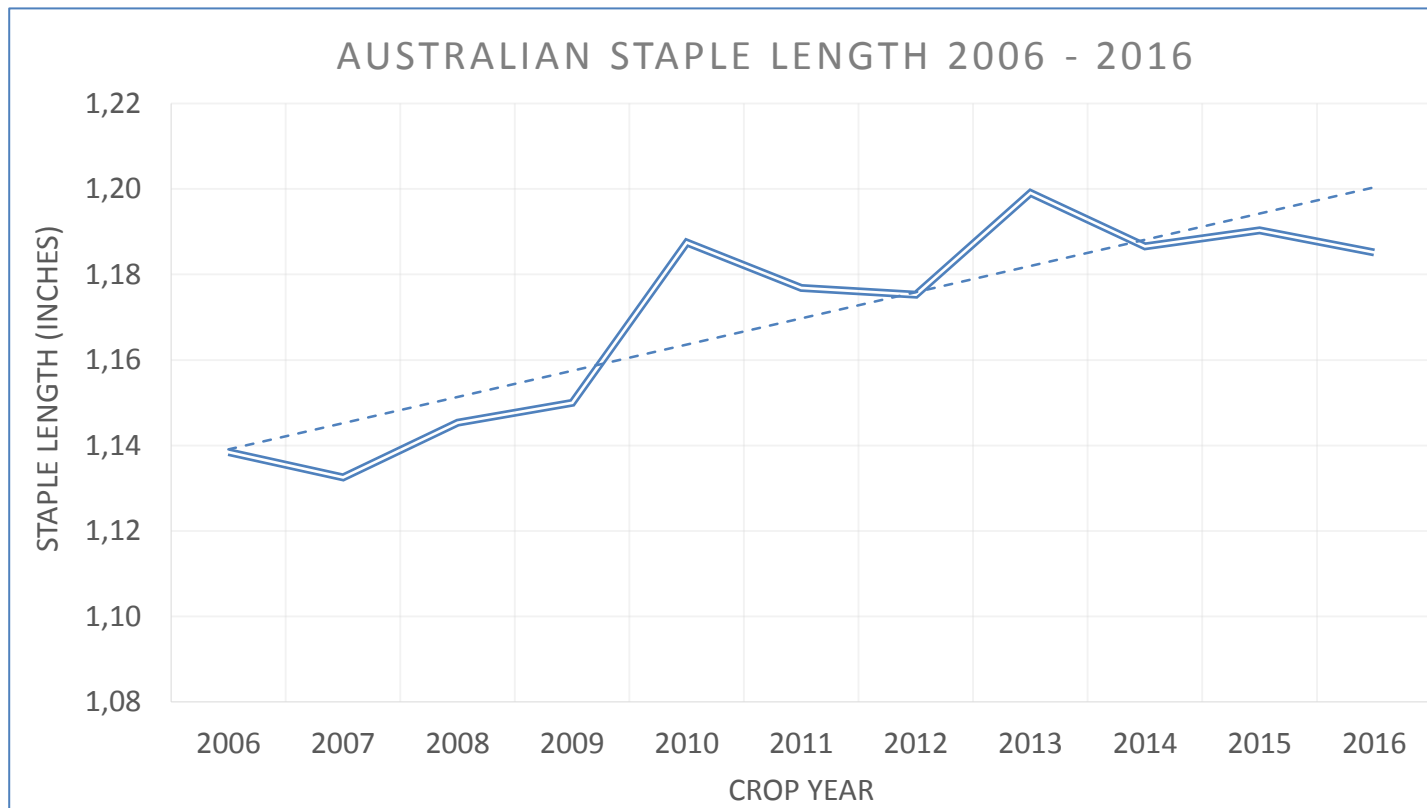


CSIRO cotton cultivar adoption - global

Var.	LEN (mm)	MIC	UNI (%)	STR (GPT)	SFI (%)	ELO (%)
AV. 6 years	30.7	4.3	81.6	31.3	<10	>6
Sicot 746B3F	30.7	3.9 - 4.7	>81	>30	<10	>6
Sicot 748B3F	31.5	3.9 - 4.7	>81	>31	<10	>6
Sicot 754B3F	31.8	3.9 - 4.6	>82	>31	<10	>6

Average CSIRO variety trials results (irrigated, dryland and semi-irrigated) last six years (Sicot 74BRF) plus new varieties in 2016/17

Source: CSD



Source: ACSA

Demand elasticity for Australian cotton

Average and distribution statistics on cotton prices between 2006 and 2014 for five competing growths; means tested using Tukey's post-hoc analysis

Variable	N	Mean	SE Mean	St Dev	MIN	MAX
AUE	1263	105.02 A	1.07	37.89	58.75	248.25
UZE	1251	102.87 A B	1.21	42.67	54.75	256.50
T1E	1235	99.28 B C	1.11	39.14	50.00	238.50
A index	1230	97.36 C	1.12	39.13	53.05	243.65
AZE	1145	96.77 C	0.90	30.52	56.75	235.00
S7E	996	88.82 D	0.74	23.22	55.00	178.00

Demand elasticity for Australian cotton

Price elasticities of demand for Australian and competing export growths

Variable	Elasticity (2006-2014)
AUE	-0.1221538*** (-3.07)
AZE	-0.5099434*** (-16.58)
S7E	-0.2561016*** (-12.94)
T1E	-0.1310576*** (-4.45)
UZE	-0.5019768*** (-27.09)
Observations (each growth)	1810**

*Note: Figures in parentheses are t-statistics; ***statistically significant at the 1% level;*

***includes use of predicted values in lieu of missing values for 2006-2014*

Fibre quality regime

- >100 crosses/year (7-10 years to commercial),
- Selection based on yield, disease resistance (transgenic or inherent) and fibre quality,
- Strong links between biotech, agronomy and post-harvest groups,
- Fibre quality tests = HVI, fineness and maturity, (elongation) and spin quality
- Best management practice.

Industry best management practice (BMP)

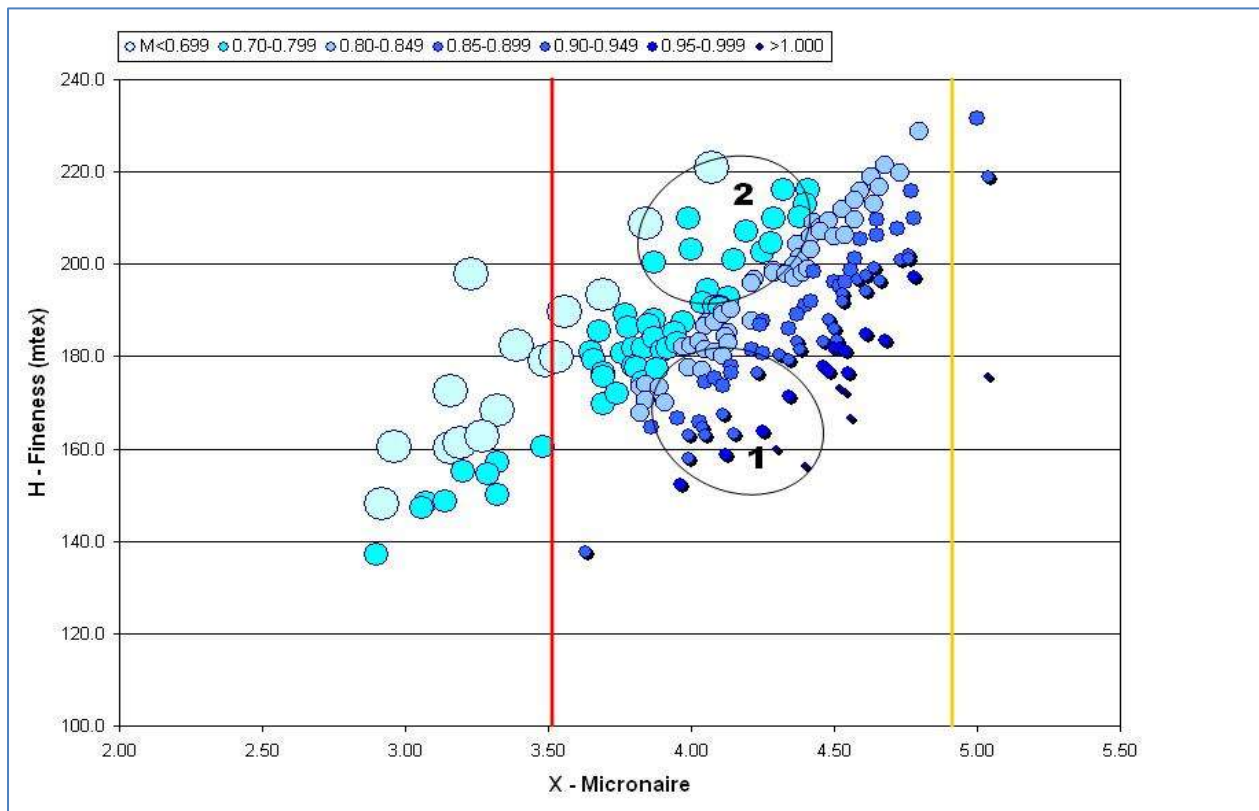
field

harvest

gin

HVI





Cottonscope



Fast (< 30 secs), accurate and direct method for measuring the fibre fineness, maturity and ribbon width of cotton.

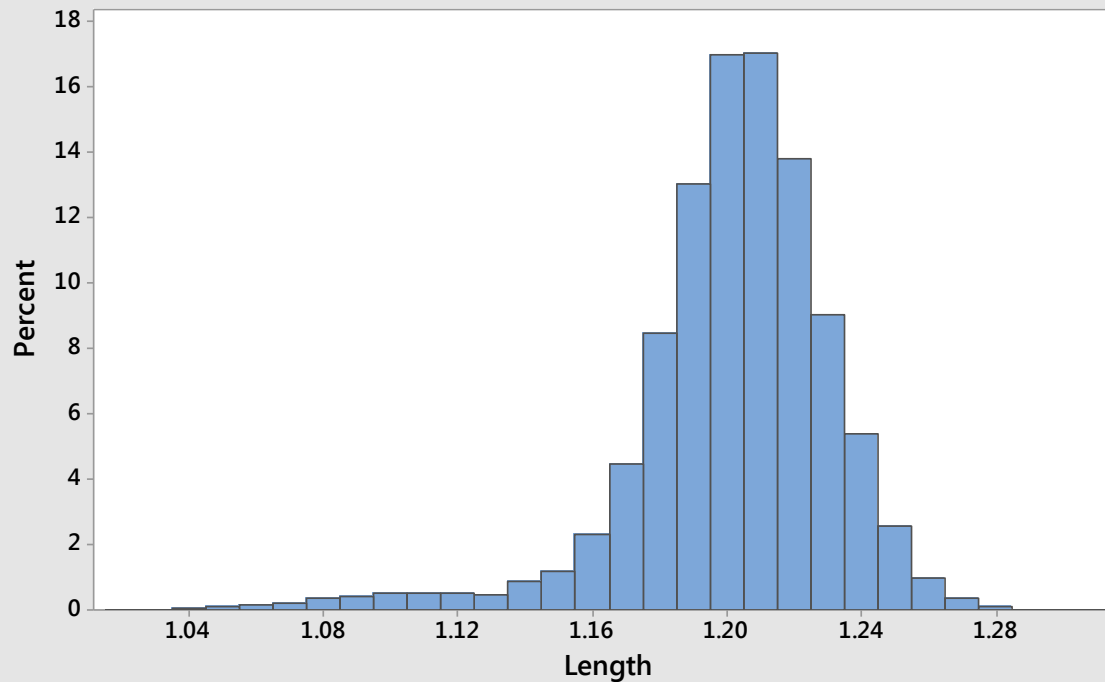
Small specimen; no need for conditioning samples for maturity or ribbon width.

Gives distribution of maturity and ribbon width values.

Calculates Micronaire value.

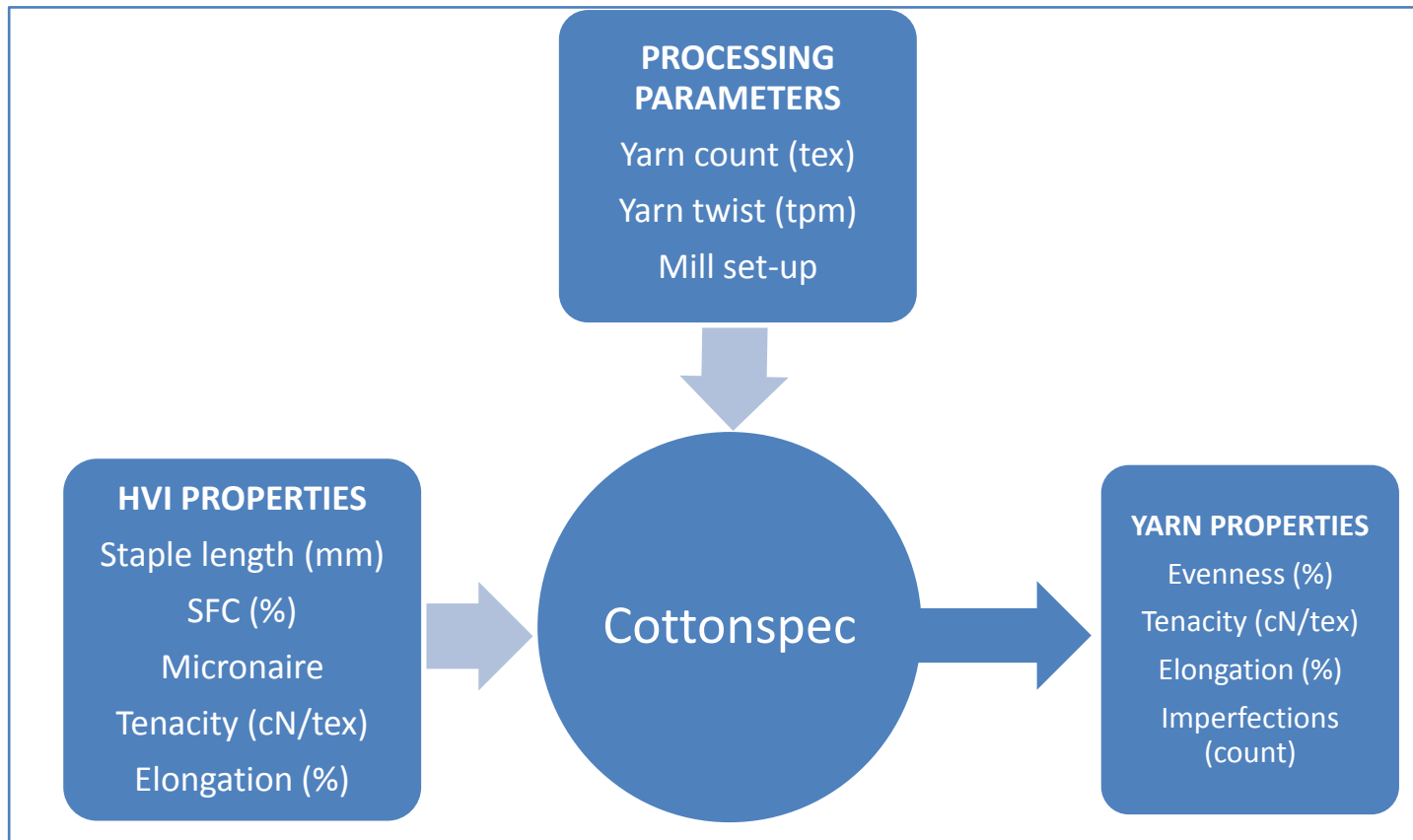
Calibrated using 104 international reference cottons produced by TTU.

Australian Fibre Length (UHML) - 2015/16 Season



Spinning ability

Length group	Percent of crop	<i>Average properties of each length group</i>				
		LEN	MIC	TEN	UNI	SFI
AUSTRALIA – 2015/16	100	1.21	4.39	31.6	82.1	9.0
AUSTRALIA (1.25 – 1.31)	4	1.28	4.22	32.9	83.3	6.5
AUSTRALIA (1.19 – 1.25)	75	1.22	4.39	31.7	82.3	8.8
AUSTRALIA (1.13 – 1.19)	18	1.16	4.32	30.2	80.9	10.4
AUSTRALIA (1.06 – 1.13)	3	1.10	4.20	28.5	79.6	12.0



Spinning ability - Cottonspec

Length group	Yarn count (Ne)	Cottonspec Tenacity cN/tex	Uster Statistics Rank	Cottonspec Yarn CV %	Uster Statistics Rank
AUSTRALIA	40	23.0	5	10.0	5
	50	22.1	45	11.4	5
	60	21.5	49	12.4	5
AUS. (1.25 – 1.31)	40	24.5	5	9.3	5
	50	23.5	35	10.7	5
	60	22.9	38	11.7	5
AUS. (1.19 – 1.24)	40	23.2	5	9.9	5
	50	22.2	44	11.4	5
AUS. (1.13 – 1.18)	40	22.1	5	10.3	5
	50	21.1	53	11.7	5



CONGRESSO
BRASILEIRO
DO ALGODÃO

OBRIGADO

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