

# Profitability Trends



Customised  
Farm Management



**BOYCE**  
CHARTERED ACCOUNTANTS

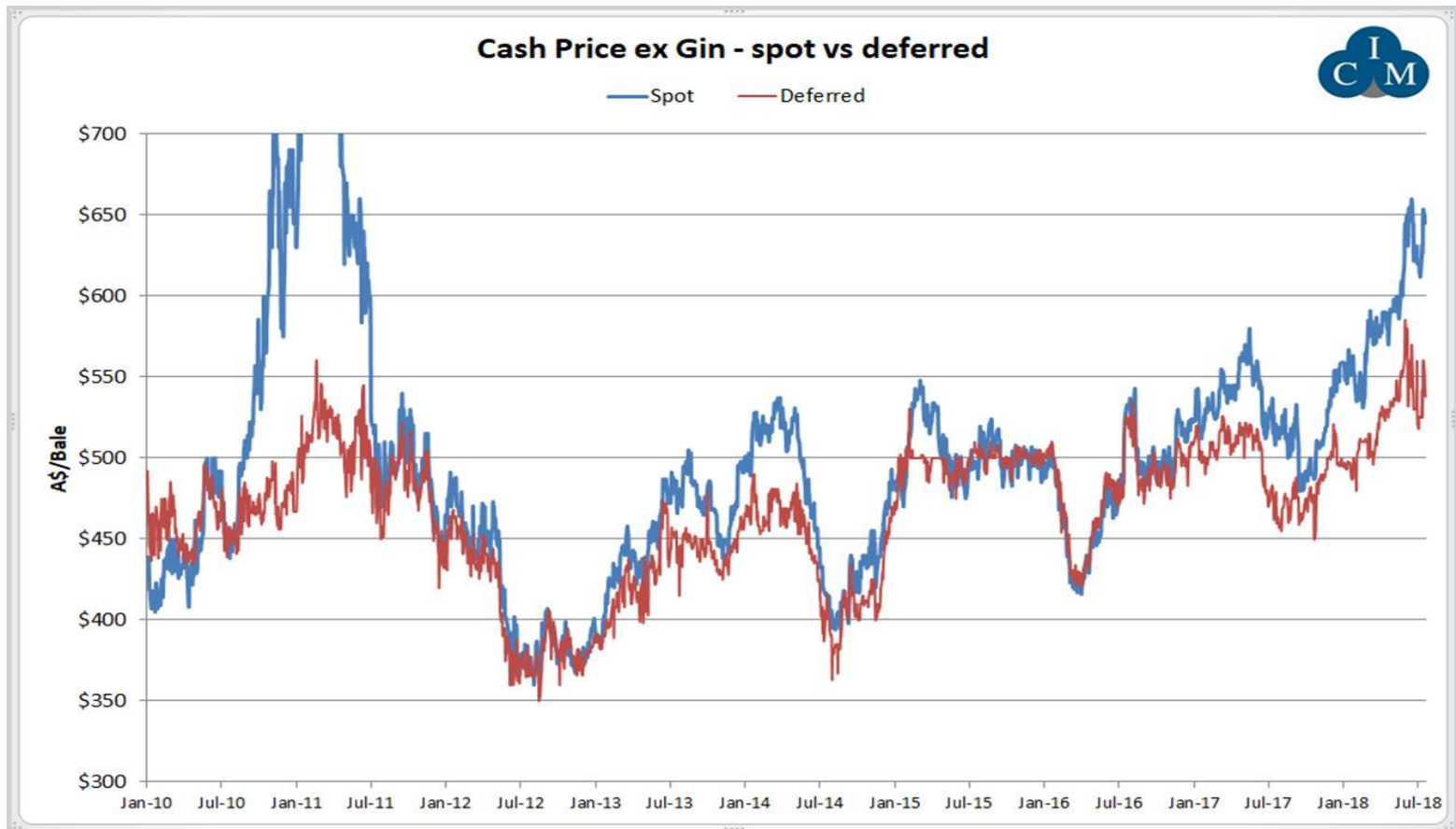
Knowledge. Insight. Experience.

- 1. Benefits of certain water with respect to price.
- 2. How to use your limited water?
- 3. Being at the forefront of technology adoption and the impact of that decision on profits.
- 4. Understanding Terms of Trade.

- **Benefits of certain water with respect to price.**

Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Average profit	
Lint	4,027	4,265	4,758	5,256	4,866	4,712	4,709	6,133	6,449	5,404	6,466		
Yield	10.62	9.58	10.24	10.04	9.71	10.69	10.24	12.59	12.95	10.59	11.8		
Price	379	445	465	524	501	441	460	487	498	510	548		
Profit	- 1,562 -	497	86	1,559	804	410	711	1,899	1,706	1,557	2,516	835	100%
If price	525	525	525	525	525	525	525	525	525	525	525		
Then profit is -	14	268	704	1,574	1,036	1,310	1,378	2,376	2,056	1,713	2,245	1,331	159%
Profit													
Difference	1,549	765	618	15	232	900	667	477	350	156 -	271	496	<b>59%</b>

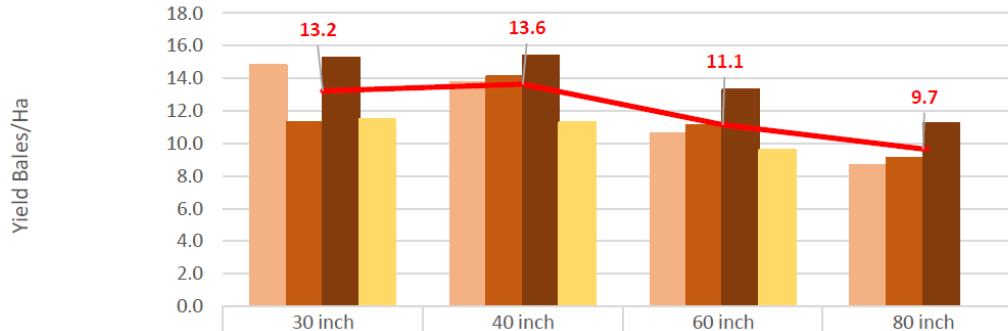
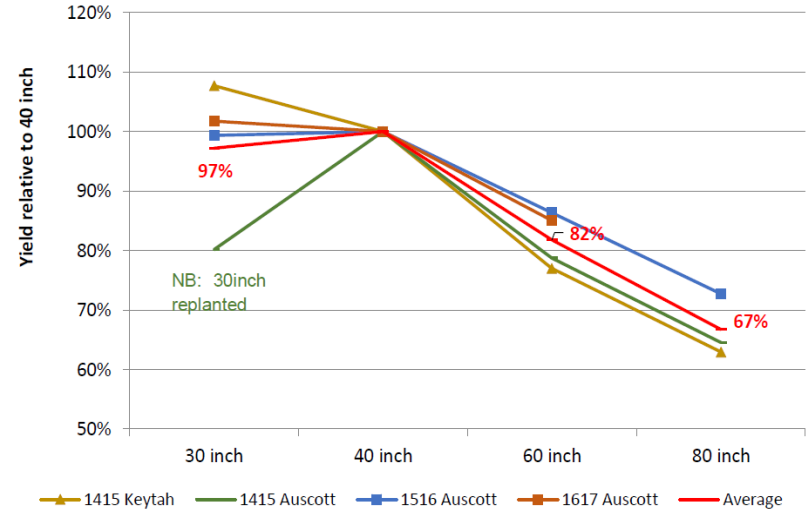
- **Benefits of certain water with respect to price.**



- **Benefits of certain water with respect to price.**
- The figures from the CCA show that being able to achieve a price of \$525 since 2008 would have improved average profit by 60%.
- You need to have a framework to manage production risk, and then have a marketing strategy to sit over the top of this.
- The more certain your water is, the earlier your production risk model 'starts', allowing more time to make a good price for any crop year.
- If more certain water allows you more time to market any particular crop consider the value of that water.

- How to use your limited water – Yield

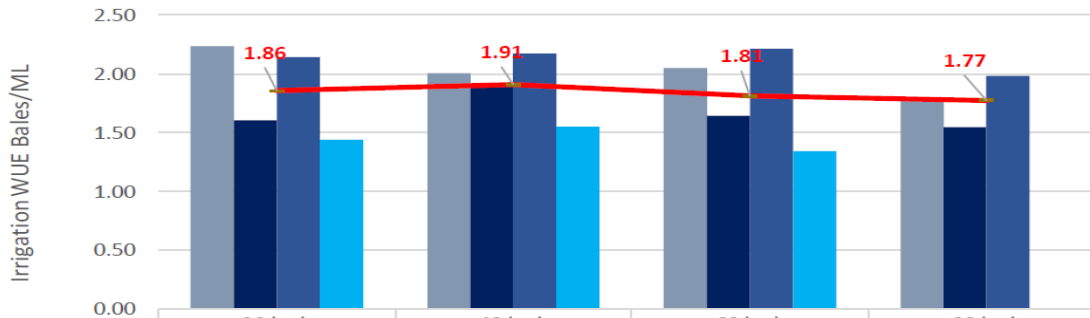
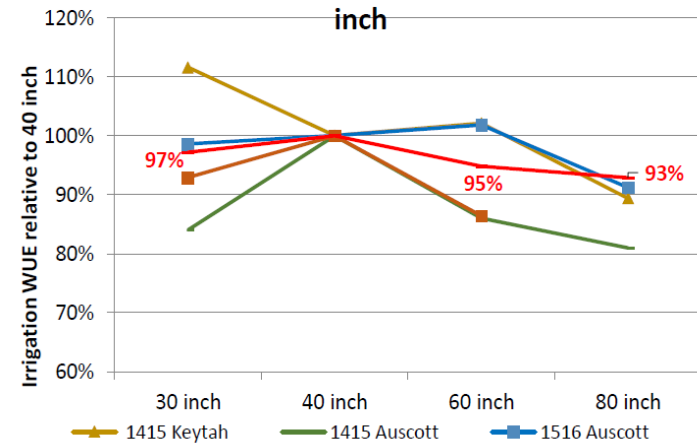
Yield Relative to 40 inch



	30 inch	40 inch	60 inch	80 inch
1415 Keytah Bales/Ha	14.8	13.7	10.6	8.7
1415 Auscott Bales/Ha	11.3	14.1	11.1	9.1
1516 Auscott Bales/Ha	15.3	15.4	13.3	11.2
1617 Auscott Bales/Ha	11.5	11.3	9.6	9.7
Average	13.2	13.6	11.1	9.7

- How to use your limited water – WUE

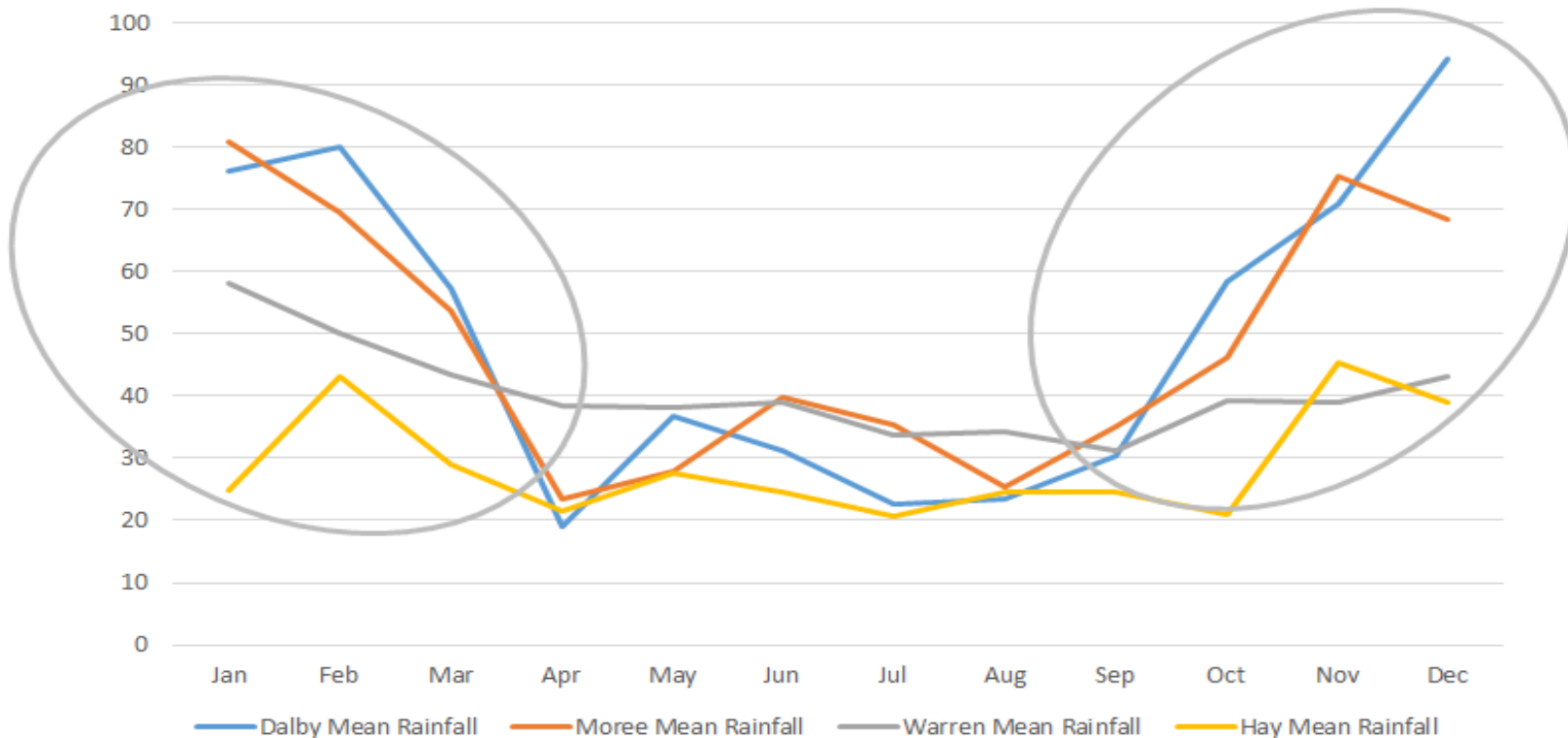
Irrigation Water Use Efficiency Relative to 40 inch



	30 inch	40 inch	60 inch	80 inch
1415 Keytah	2.24	2.00	2.05	1.79
1415 Auscott	1.61	1.91	1.64	1.55
1516 Auscott	2.14	2.17	2.21	1.98
1617 Auscott	1.44	1.55	1.34	-
Average	1.86	1.91	1.81	1.77

- **How to use your limited water – Climate/Rainfall changes risk profile**

Mean Monthly Rainfall





## How to use your limited water Configuration, Water, Rainfall, Risk and Return

### Assumptions

MLs of Water Available	1,000	
Cotton Price/B	\$500	
Rainfall Timing Efficiency	50%	
Cost of Production/B	\$361	Boyce Comparative Analysis

Configuration	30"	40"	60"	80"	60" *	80" *	60" **	80" **	
B/Ha		13.9	13.6	11.1	9.7	10.2	8.8	9.3	7.9
B/ML From Irrigation		1.94	1.91	1.81	1.77	1.81	1.77	1.81	1.77
B/ML From Rainfall						0.905	0.885	1.81	1.77
MLs/Ha Needed		7.16	7.12	6.13	5.48	5.13	4.48	4.13	3.48
Ha's Grown		140	140	163	182	195	223	242	287
Toal Bales Grown		1940	1910	1810	1770	1,986	1,968	2,248	2,279
Total Revenue	\$970,000.0	\$955,000.0	\$905,000.0	\$885,000.0		\$983,772.3	\$1,124,128.3	\$1,139,310.3	
Cost Of Production	0	0	0	0	\$993,206.63	2	3	4	
Total Production Costs	\$700,340.0	\$689,510.0	\$653,410.0	\$638,970.0		\$710,283.6			
Profit Before Overheads	\$269,660.0	\$265,490.0	\$251,590.0	\$246,030.0		\$273,488.7			
	0	0	0	0	\$276,111.44	1	\$312,507.68	\$316,728.28	
\$'sage Return Above Fully Irrigated 40"	\$4,170.00	0	-\$13,900.00	-\$19,460.00	\$10,621.44	\$7,998.71	\$47,017.68	\$51,238.28	
%age Return Above Fully Irrigated 40"	1.57%	0.00%	-5.24%	-7.33%	4.00%	3.01%	17.71%	19.30%	

\* Rely on and receive 1ML/Ha from rainfall @ 50% efficiency

\*\* Rely on and receive 2ML/Ha from rainfall @ 50% efficiency

## How to use your limited water Configuration, Water, Rainfall, Risk and Return

### Assumptions

MLs of Water Available	1,000	
Cotton Price/B	\$600	
Rainfall Timing Efficiency	75%	
Cost of Production/B	\$361	Boyce Comparative Analysis

Configuration	30"	40"	60"	80"	60" *	80" *	60" **	80" **	
B/Ha		13.9	13.6	11.1	9.7	10.6	9.3	10.2	8.8
B/ML From Irrigation		1.94	1.91	1.81	1.77	1.81	1.77	1.81	1.77
B/ML From Rainfall						1.3575	1.3275	2.715	2.655
MLs/Ha Needed		7.16	7.12	6.13	5.48	5.13	4.48	4.13	3.48
Ha's Grown		140	140	163	182	195	223	242	287
Total Bales Grown		1940	1910	1810	1770	2,075	2,066	2,467	2,533
Total Revenue		\$1,164,000.00	\$1,146,000.00	\$1,086,000.00	\$1,062,000.00	\$1,244,771.93	\$1,239,790.18	\$1,480,430.99	\$1,519,758.62
Cost Of Production		\$5,017.90	\$4,909.60	\$4,007.10	\$3,501.70	\$3,842.05	\$3,341.81	\$3,678.70	\$3,182.07
Total Production Costs		\$700,340.00	\$689,510.00	\$653,410.00	\$638,970.00	\$748,937.78	\$745,940.42	\$890,725.98	\$914,388.10
Profit Before Overheads		\$463,660.00	\$456,490.00	\$432,590.00	\$423,030.00	\$495,834.15	\$493,849.75	\$589,705.01	\$605,370.52

\$'sage Return Above Fully Irrigated 40"	\$7,170.00	0	-\$23,900.00	-\$33,460.00	\$39,344.15	\$37,359.75	\$133,215.01	\$148,880.52
%age Return Above Fully Irrigated 40"	1.57%	0.00%	-5.24%	-7.33%	8.62%	8.18%	29.18%	32.61%

\* Rely on and receive 1ML/Ha from rainfall @ 50% efficiency

\*\* Rely on and receive 2ML/Ha from rainfall @ 50% efficiency

- **How to use your limited water Configuration, Water, Rainfall, Risk and**

### Assumptions

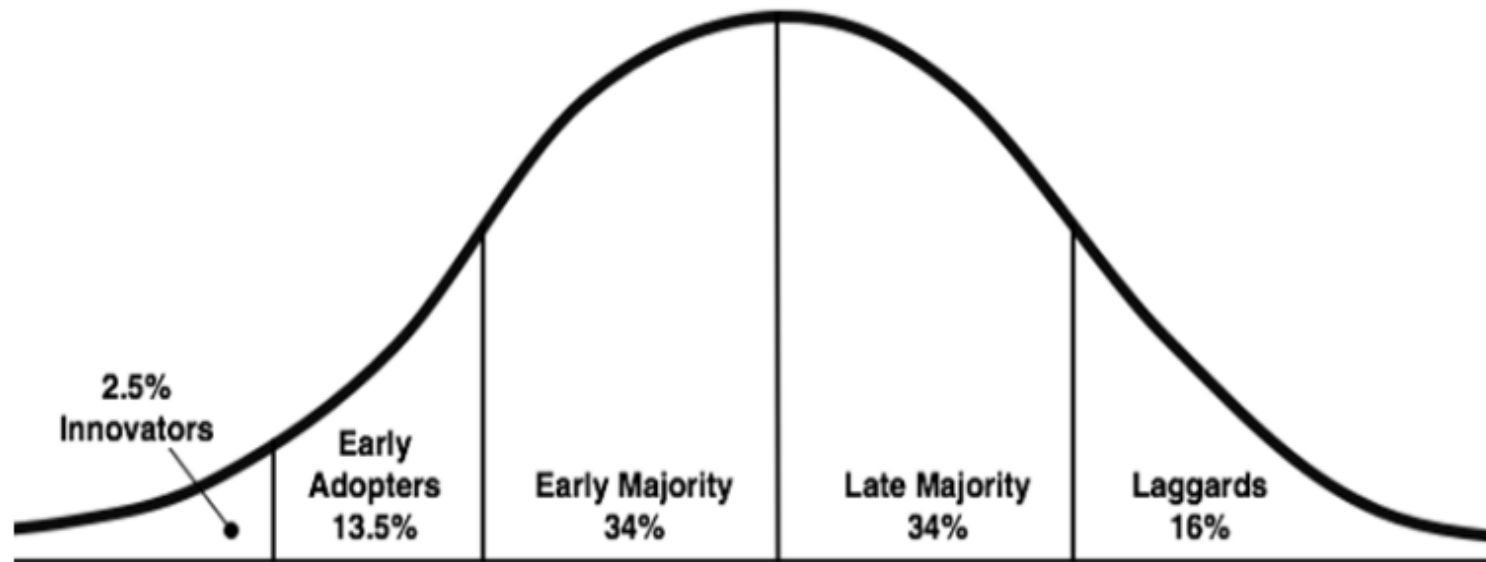
MLs of Water Available	1,000	
Cotton Price/B	\$650	
Rainfall Timing Efficiency	100%	
Cost of Production/B	\$361	Boyce Comparative Analysis

Configuration	30"	40"	60"	80"	60" *	80" *	60" **	80" **	
B/Ha		13.9	13.6	11.1	9.7	11.1	9.7	11.1	9.7
B/ML From Irrigation		1.94	1.91	1.81	1.77	1.81	1.77	1.81	1.77
B/ML From Rainfall						1.81	1.77	3.62	3.54
MLs/Ha Needed		7.16	7.12	6.13	5.48	5.13	4.48	4.13	3.48
Ha's Grown		140	140	163	182	195	223	242	287
Total Bales Grown		1940	1910	1810	1770	2,163	2,165	2,687	2,787
Total Revenue		\$1,261,000.00	\$1,241,500.00	\$1,176,500.00	\$1,150,500.00	\$1,405,837.23	\$1,407,308.04	\$1,746,233.66	\$1,811,706.90
Cost Of Production		\$5,017.90	\$4,909.60	\$4,007.10	\$3,501.70	\$4,005.40	\$3,501.56	\$4,005.40	\$3,501.56
Total Production Costs		\$700,340.00	\$689,510.00	\$653,410.00	\$638,970.00	\$780,780.37	\$781,597.23	\$969,831.31	\$1,006,194.14
Profit Before Overheads		\$560,660.00	\$551,990.00	\$523,090.00	\$511,530.00	\$625,056.86	\$625,710.80	\$776,402.35	\$805,512.76
\$'sage Return Above Fully Irrigated 40"		\$8,670.00	0	-\$28,900.00	-\$40,460.00	\$73,066.86	\$73,720.80	\$224,412.35	\$253,522.76
%age Return Above Fully Irrigated 40"		1.57%	0.00%	-5.24%	-7.33%	13.24%	13.36%	40.66%	45.93%

\* Rely on and receive 1ML/Ha from rainfall @ 50% efficiency

\*\* Rely on and receive 2ML/Ha from rainfall @ 50% efficiency

- **Being at the forefront of technology adoption and the impact of that decision on profits.**



Source: Everett Rogers Diffusion of Innovations model

Source: <http://blog.leanmonitor.com/early-adopters-allies-launching-product/>

- **Being at the forefront of technology adoption and the impact of that decision on profits.**

**Current infrastructure / system is a sunk cost. Not counted.**

## **ANALYSIS**

**Current annual operating costs in relation to the old system**

## **VERSUS**

**Capital cost of new technology and budgeted annual operating costs.**

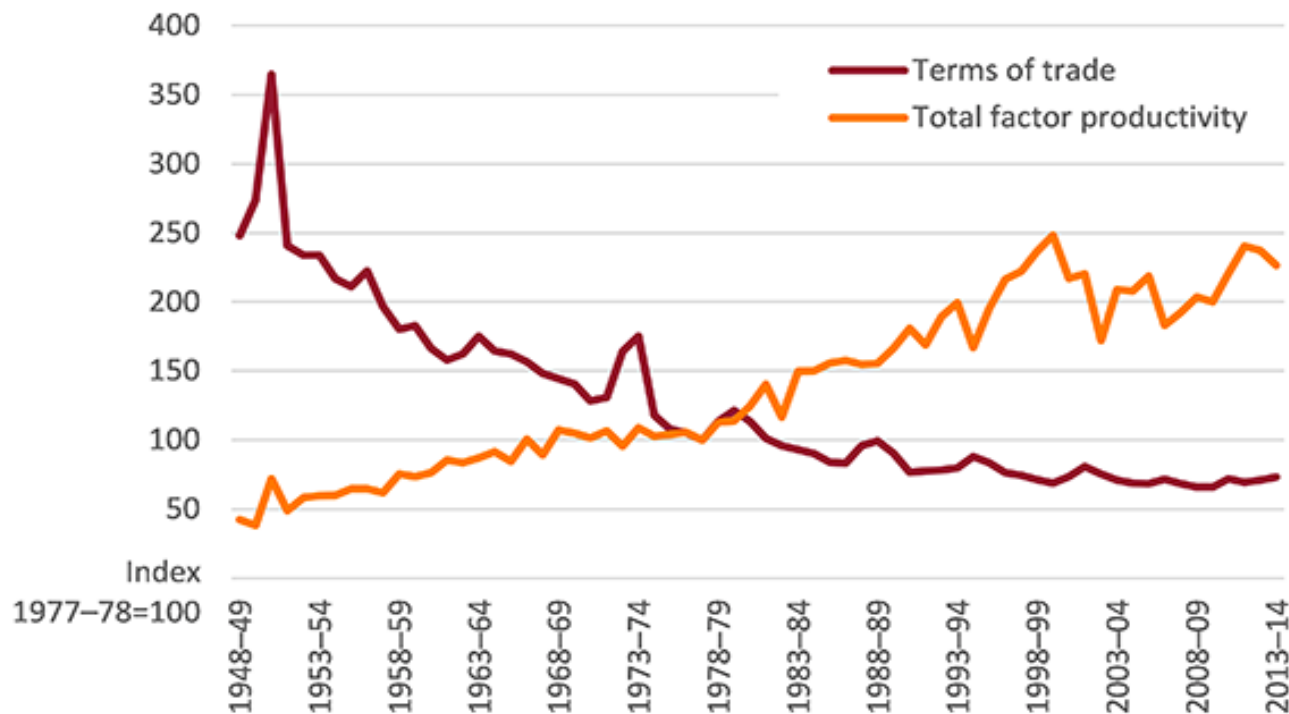
## **IN ESSENCE**

**Yearly Operating Cost Saving**

**Capital Outlay of Adoption**

- **Understanding Terms of Trade and what that means for your farm profitability.**

**Agricultural total factor productivity and farmer terms of trade, Australia, 1948–49 to 2013–14**



- **Understanding Terms of Trade and what that means for your farm profitability.**

## **TOTAL GROSS MARGIN EQUATION**

-Yield X Price.

-Number of applications X volume per application X Price on input.

## **GROSS MARGIN EQUATION (EX PRICE)**

-Yield.

-Number of applications X volume per application.

- **Understanding Terms of Trade and what that means for your farm profitability.**

To look at where profit comes from against the backdrop of falling Terms of Trade, you must look at;

- Yield,
- Volume of inputs, and
- Number of times inputs are applied.

Yield will probably always be 'king', but its appropriate to look at inputs – changing the amount applied and the number of applications.

Even though you understand and accept the deterioration of Terms of Trade, this does not mean you have to be apathetic in respect of price.



