

# “Transformational” technologies driving diversification

Prof Ross Kingwell

10 October 2018



# From LITTLE things BIG things grow

In 'transforming' agriculture we sometimes affix our gaze to the bold, even the bizarre

BUT.....

*don't forget about the one percenters*

# What are agricultural one percenters.....and why do they matter?

Suppose you are a wheat producer and your farm-gate wheat price is \$250 per tonne; your wheat yield is 2 tonnes per hectare and your entire costs of production amount to \$475 per hectare.

Your profit per hectare calculation is:

$$\begin{aligned}\text{Profit} &= \text{Wheat price} \times \text{Wheat yield} - \text{Wheat costs of production} \\ 25 \text{ (\$/ha)} &= 250 \text{ (\$/t)} \times 2 \text{ (t/ha)} - 475 \text{ (\$/ha)}\end{aligned}$$

So if you had 2,000 hectares of wheat your profit would be \$50,000.



# What are agricultural one percenters.....and why do they matter?

Now imagine, like a good footy player, you capture various improvements that each are one percenters. You lift your wheat price by 1% through skilfully avoiding price downgrades. You improve your crop yield by 1% through better timeliness of sowing and slightly better weed control. And you lower your costs of production by 1% through negotiating some better prices for some inputs and by slightly reducing inputs on your worst, very low-yielding fields.

What's the impact on profit?

Do these three 1 percenters lift profit by 3% or 9% or 27%?



Profit improves by 59%!!!  
Really? How come? Look at the figures.



		No change	A 1% lift in the wheat price, a 1% increase in wheat yield; plus a 1% decline in production costs	
price	\$/t	250	252.5	
yield	t/ha	2	2.02	
costs	\$/ha	475	470.25	
Profit	\$/ha	25	39.8	59% increase

If this farmer grew 2,000 hectares of wheat his overall profit would jump from \$50,000 to \$79,600 (a 59% jump in profit).

# So Remember

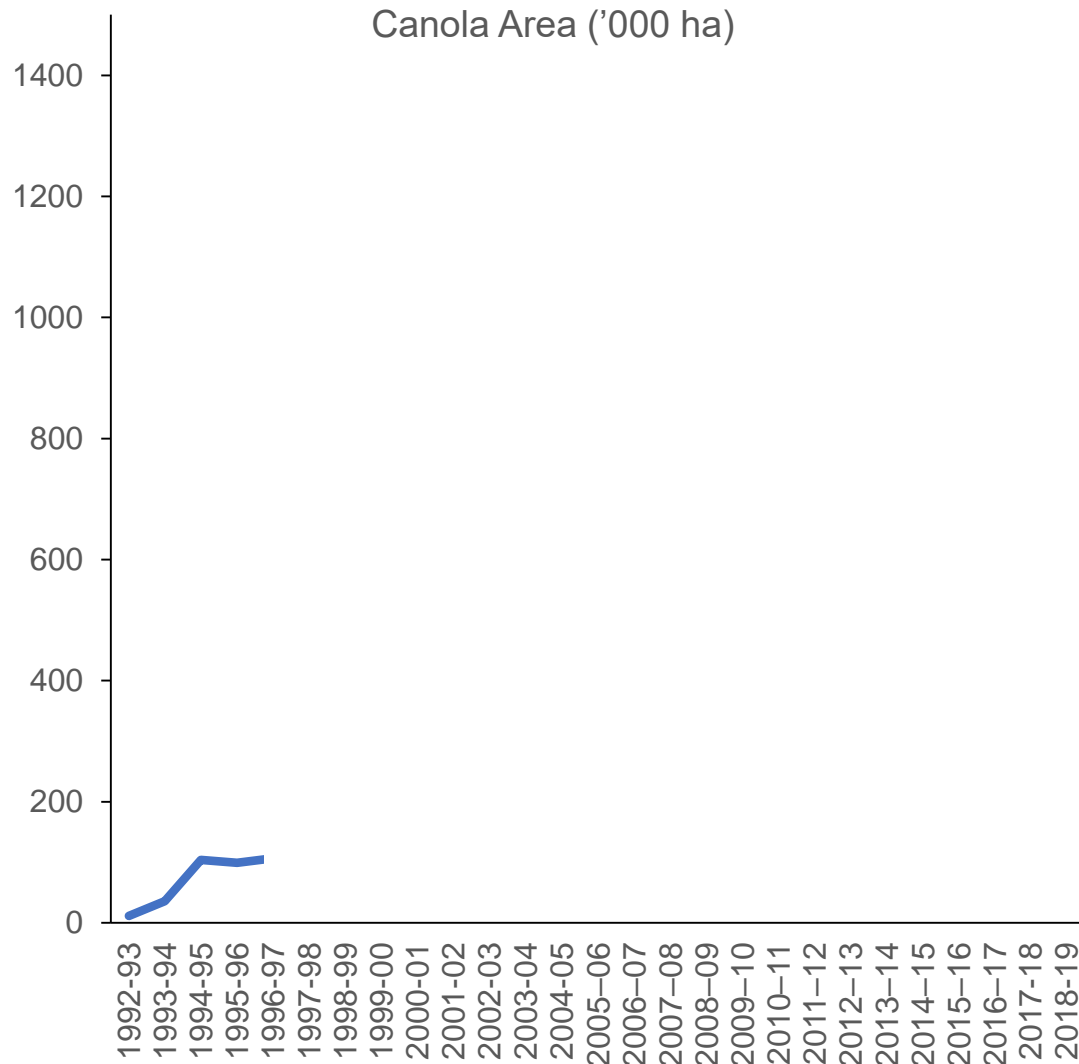
Businesses can be transformed by  
relentless small “Transformations”



Some “transformations” are only  
evident in retrospect

# The example of canola in WA





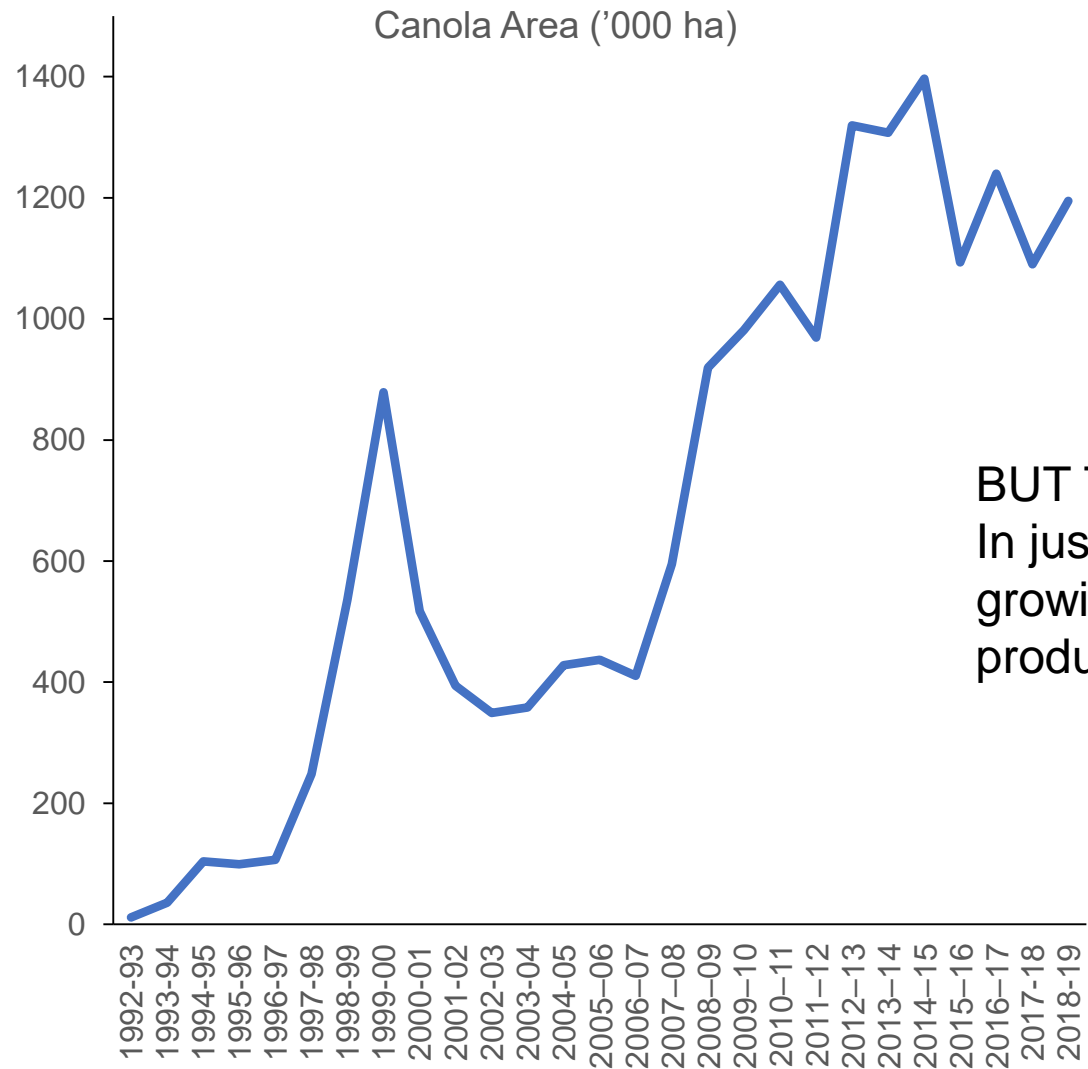
In the early 1990s Ernie Bridge was the Minister for Agriculture. The WA government and industry annually committed \$140,000 to canola R&D.

Two full-time canola specialists were employed.

One investigated the rotational value of canola in farm systems, the advantages of herbicide-tolerant canola, and the identification of blackleg resistant and early flowering genetic material.

The second researcher interacted with farmers to discover their information and agronomic needs in order to better inform future research.

**But not much to write home about after 5 years...**



**BUT THEN.....**

In just 30 years we went from growing almost no canola to producing 2 MMT.

Canola production now injects over a billion dollars of sales revenue each year into the WA economy.....and farming systems have been transformed.



THANK YOU