

# **Raised Beds to Add Profitability**

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## **INTRODUCTION**

I farm a 4600Ha, 100% cropping property called “Gunwarrie” in Frankland, Western Australia. This is located in the South West corner of WA, 330km South of Perth and 100km Nth of Albany. Annual rainfall is 550mm and soils are predominantly duplex- sand over clay. Our family purchased the property in 2002 to complement our 325mm sandplain property in Wongan Hills. Frankland is predominantly a livestock and vineyard area and when we acquired Gunwarrie it was a 100% pasture property running sheep and cattle.

Our rotation has been Canola-Wheat-Barley and we are in the process of trialing legumes (Peas, Faba Beans and Lupins) to try and introduce a legume into our rotation.

After a 140mm opening rain 10 days after property settlement we knew we were in for a different farming experience to the Wheatbelt. By July in the first year it became obvious that to get profitable crops wall to wall, we would need to manage the waterlogging. Every year 20-30% of the property is significantly yield affected due to waterlogging. Traffic-ability was also a major issue. We were getting excellent yields in WA standards however could see the potential was much greater. We quickly identified waterlogging as our most significant yield limiting factor.

## **RESEARCHING RAISED BEDS**

In August 2002 my father and I travelled the South Coast of WA to Esperance to investigate grain-drying systems. It was on this trip we were introduced to Raised beds and were very enthused by what we saw. This stimulated extensive research into raised beds in Southern WA and Victoria. By 2004 we were keen to try some raised beds however I didn't feel we were at a point in our research to justify spending the money on capital.

The opportunity arose to contract Ag Dept equipment on six foot spacing to do a 100Ha raised bed trial. This enabled us to do a paddock sized raised bed trial without purchasing equipment. This trial was extremely successful producing an additional paddock yield of 1T/Ha Barley, effectively paying of all the expenses of the beds in 1.4yrs.

This encouraged us to continue on the raised bed research in 2005. In addition to numerous farm visits we went through the following processes

### **Alternatives ways to reduce waterlogging**

- Contour Banks-These definitely improve waterlogging problems however the number required is costly and makes Controlled Traffic Farming nearly impossible
- Alternate Land use-Stock-It will be an ongoing option to go back to stock and may occur one day for rotational reasons however in terms of waterlogging it is only hiding the problem. The paddocks may be green all over however are not producing quality feed in waterlogged areas.
- Alternate land use- Bluegums/Trees-The waterlogged areas are not evenly shaped or on land contours therefore would be very difficult to isolate to trees.

## FINANCIAL ANALYSIS OF RAISED BEDS

### Cost of putting in beds

Mapping	\$10
Levelling	\$15
Forming	\$12
Drains	\$150
\$/Ha	\$187
Capital \$/Ha	\$57
(Over 4000Ha)	
<b>Cost/Ha</b>	<b><u>\$244</u></b>

T	\$/T		Pay Off
0.25	\$200	\$50	4.8
0.5	\$200	\$100	2.4
0.75	\$200	\$150	1.6
1	\$200	\$200	1.2

## SUBJECTIVE ANALYSIS OF RAISED BEDS

### Positives

- Potential yield benefits from reduction in waterlogging
- Increased traffic-ability for spreading/spraying
- Controlled Traffic efficiencies
- Reduction in salinity

### Negatives

- Rougher on machinery and Slower!
- Erosion-Sloping country (like ours) is not recommended for raised beds by numerous researches
- Downstream water effects-Large volumes quickly
- Turning areas may become un-trafficable in wet seasons
- Community Attitudes

### Why 3m Beds

- Controlled Traffic Farming- 3m tramlining
- Baling-behind header
- Less loss of area in furrows
- Equipment resale trends
- Swathing--Possible

## THE GUNWARRIE RAISED BEDS-2006

### Gunwarrie Beds!

- Drainage Expert appointed
- 3m Beds formed with a Gessner Disc Bedformer, MT765, GPS Ag Auto Farm
- 50m turn around areas around the edge
- Extensive drainage on turning areas

- Experimental drainage-different designs
- Orientation-predominant slope

### **Machinery**

Current equipment suitable for seeding/spraying/spreading/harvesting beds

- MT 765-3m Tracks 2cm GPS Ag Guidance unit
- Flexicoil 2320 Airseeder- Very close to 3m
- 12.4m (overlapping slightly) Biomax disc bar
- 27m Nitro spray boom
- Spreading-MT 765 and Flexicoil Bin
- Lexion 580 Combine 42ft Honeybee

### **Raised Beds/Controlled Traffic Farming-The future**

- Existing equipment not on 3m spacings will be upgraded as required to 3m.
- CTF integrated across all paddocks
- Establish 300Ha-600Ha of beds annually on most waterlogged areas
- Understand where beds are/are not required/profitable

I would also like to take this opportunity to thank everyone along the way who has assisted with our research. What we learnt from other farmers and researchers was invaluable to our final product.