

Labour efficiencies

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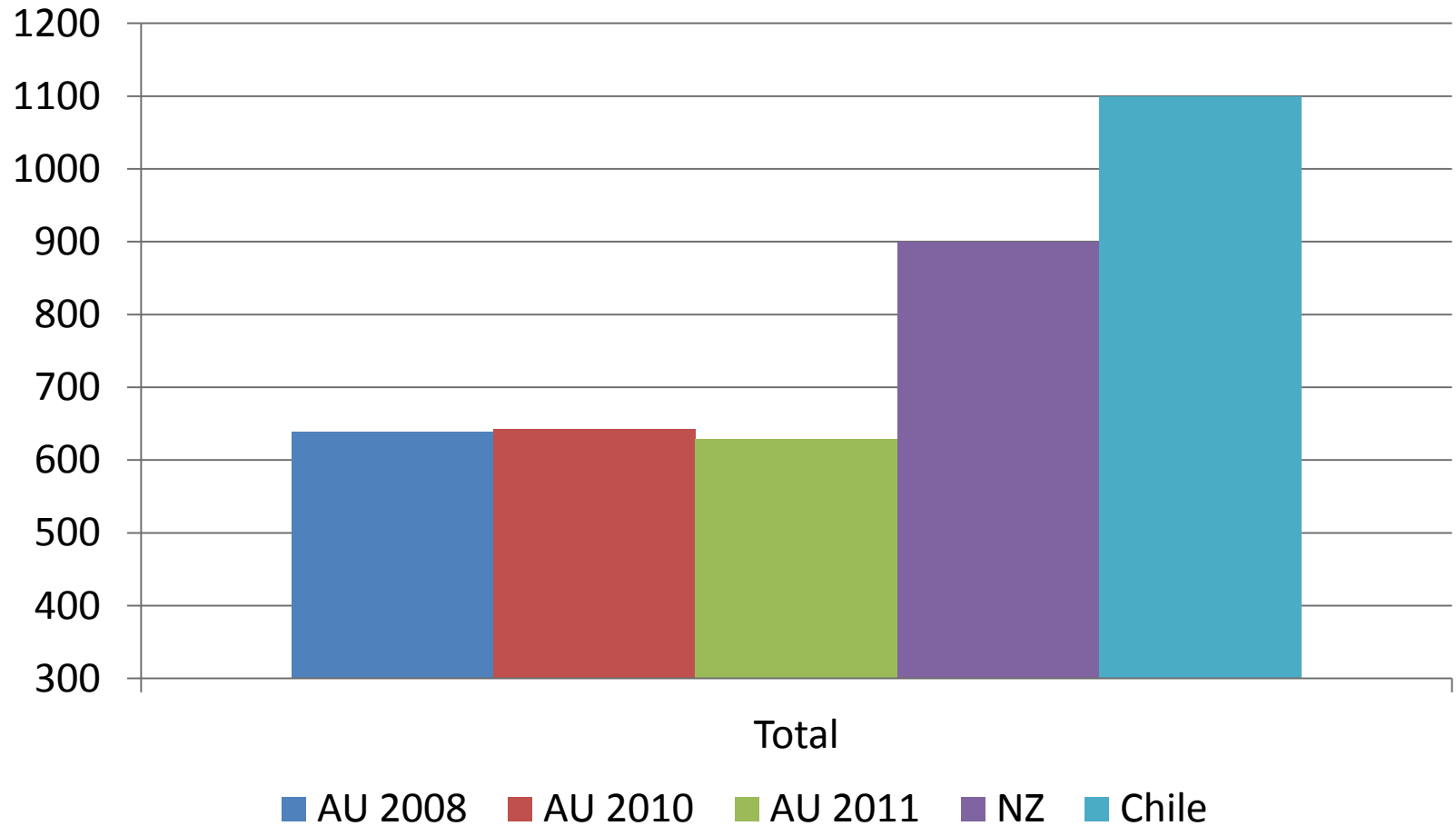
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Talk Outline

1. Labour review
 - How efficient are we.
2. Improvements with Orchard Systems
3. Economic Comparisons: Show me the Money

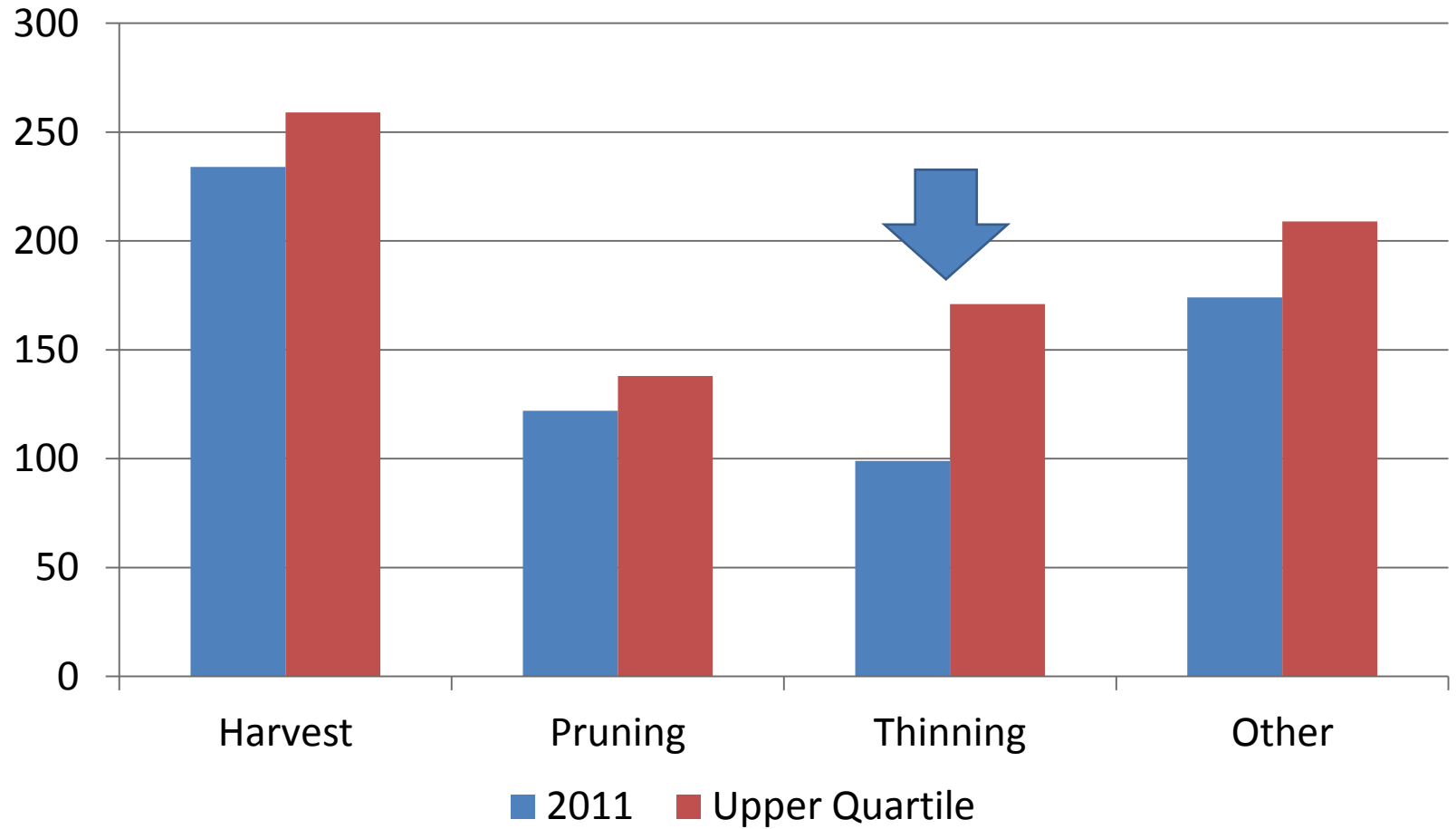
Labour use changes total hours



Labour use changes



Labour use changes



Hours per tonne

	2008	2010	2011
Total hours per gross tonne	17.8	20.7	17.5
% spent in harvesting	34%	35%	37%
Harvesting hours per gross tonne	6.1	7.2	6.5
Hours per tonne class 1			9.7

Hours per tonne

	2011	2011 upper quartile	
Total hours per gross tonne	17.5	18.9	8%
% spent in harvesting	37%	33%	
Harvesting hours per gross tonne	6.5	6.3	-4%
Hours per tonne class 1	9.7	8.1	-16%

Hours per tonne

	2011	2011 upper quartile		NZ
Total hours per gross tonne	17.5	18.9	8%	16.6
% spent in harvesting	37%	33%		46%
Harvesting hours per gross tonne	6.5	6.3	-4%	7.8
Hours per tonne class 1	9.7	8.1	-16%	10.5

Labour efficiency –What should be a given?

- ??
- High yield consistent yield
 - Year to year, with in the block.
 - Canopy volume
- Competitive business
- Piece work
- Effective training
- Simple rules
 - Pruning, thinning.....
- Orchard Systems
 - these are a continuum

Summary

- **Focus on higher yields of increased quality by spending more and labour becomes cheaper and more efficient**
- **As production increases, the proportion and importance of harvesting labour increases. We need to look for a solution here.**

Orchard Systems one option?

- A system choice is a 10-20 year decision.
- We have to plan to be able to solve tomorrows issues
 - Customer requirements
 - Labour – cost, availability, skill
 - Reducing Cost.
- Future proof for technologies, plan for maximum benefits.
 - Narrow, simple, productive canopies

Review existing a few system options

- Assume:
 - Canopy volume
 - Consistency
- Labour
 - simple
 - Ability to be systematic
- Capital v return
- Targeted fruit

System comparison

- *Assume narrow 2d canopies have key benefits lets see if it can stack up.*

System comparison



3D
3.5 X 1



2D W
2.4 X 1.4



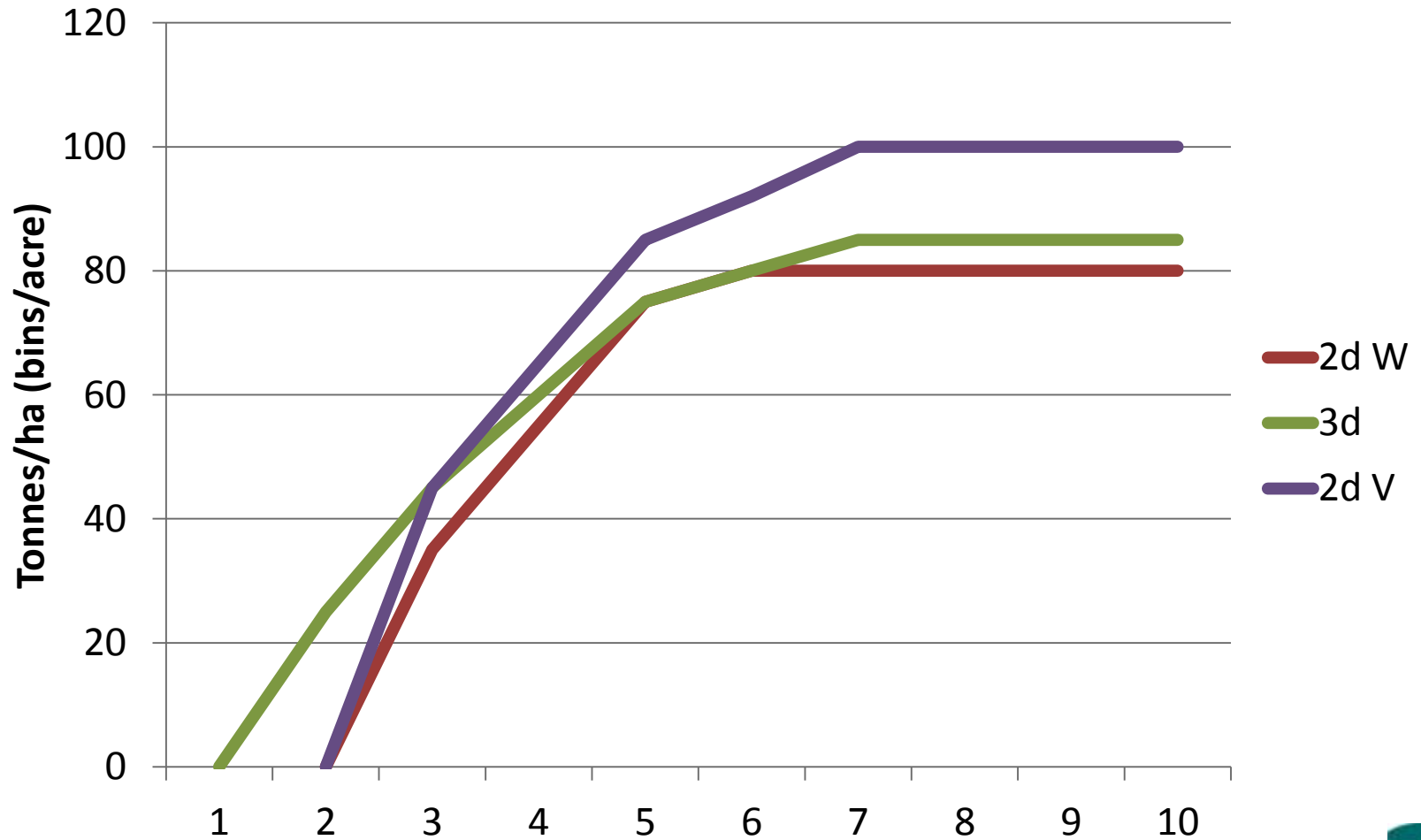
2D V
4 X 0.7

Variations – Operating Costs

- Tree training +50%
- Picking Labour is 50% of your labour cost
- Picking 15% less upto 25%, using the same gang
- Skill base changes



Variations – Production



Variations – Revenue

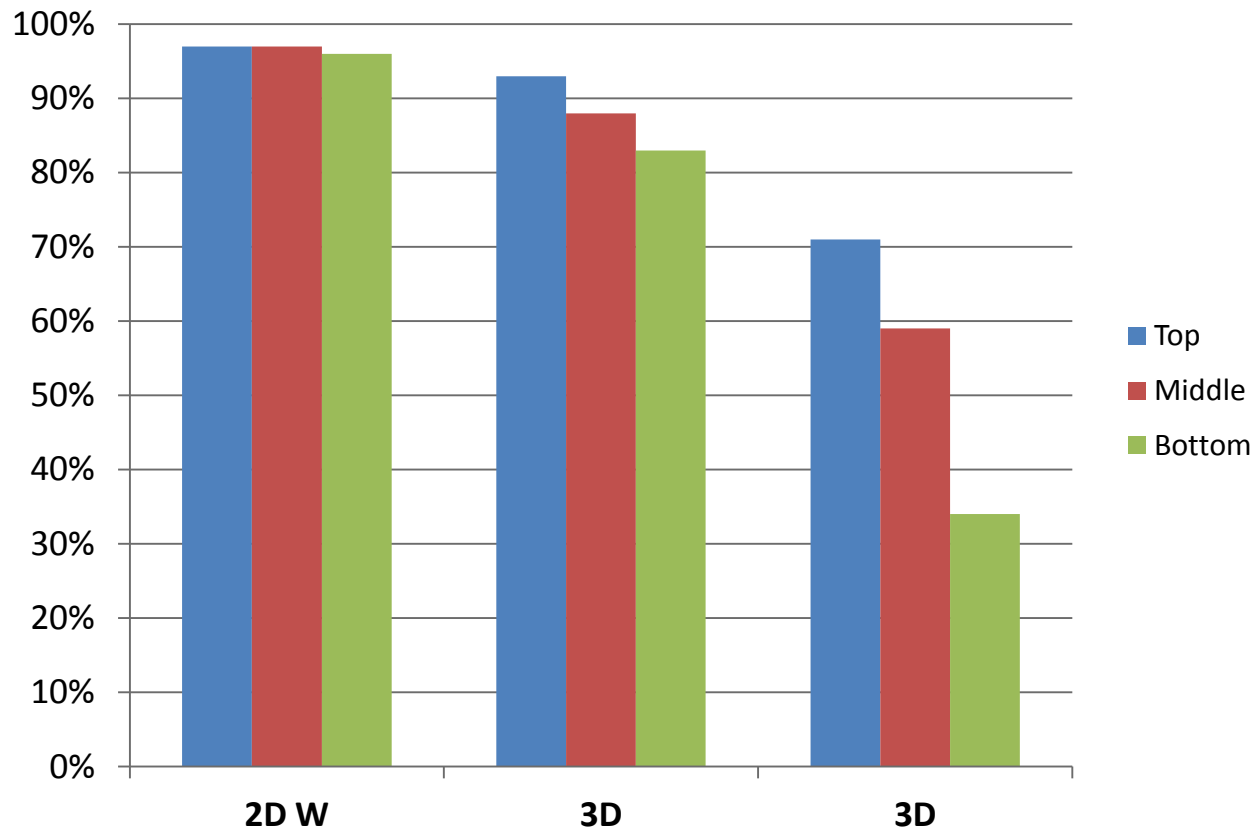
Upper Canopy



Lower Canopy

Variations – Revenue

Foreground Colour



Variations – Revenue

- 15% more fruit into high grade split, 60% to 75%
- 3% increase in marketable yield.(packout)
- 7 % larger fruit.

- From these I calculated a 10% increase in income per box



Variations - summary

	2D W	2D V
Development costs	+4%	+20%
Training/branching costs	+50%	+100%
Picking	-15%/bin	-15%/bin
On Orchard cost/box	-7%	-15%
Production		
1-5 yrs	-20%	-5%
Maturity	+6%	+25%
Revenue	+10% /box	+ 10% /Box

Investment Result: “Show me the Money!”

Internal rate of return and net present Value

	3D	2D W	2D V
IRR - 10 years	11%	14%	15%
IRR – 6 years	-8%	-6%	-5%
NPV @ 8% 10 yrs	\$23,000	\$55,000	\$83,000

- Relative investment comparison
- Close to your opportunity cost of money

Making a change? Not just Financial!

- Need solution to tomorrows constraints
- Attitude to “*perceived*” risk. (we are all different)
- Being an average grower, not the innovator
- Regional Constraints – Land, Labour.....
- 2 dimensional canopies should be considered.
- Sit down and study the options.

