



meeting *the* challenge

2007 NATIONAL
APPLE & PEAR CONFERENCE

M E E T I N G T H E C H A L L E N G E

Conference brought to you by:



THE AUSTRALIAN FRESH FRUIT ASSOCIATION



Apple & Pear Australia Ltd.

Profitability of Australian Orchards



Apple & Pear Australia Ltd.

Future Orchards 2012

Results to date

and

opportunities going forward

Ross Wilson

AGFIRST

August 2007



Australian Government

Department of Agriculture, Fisheries and Forestry

Results to date ~ Orchard Walks



- Highly successful with great grower participation.
- September 2007 will be the 6th Orchard Walk with another 3 programmed this year.
- AGFIRST have been joined by International and Australian experts
- Wide range of orchard related topics discussed primarily in the field



Monitor Block program



- 108 of Australia's top apple and pear blocks are within the MB program.
- All Australian growing states are involved
- Key performance indicators are being measured
- Data is available on the APAL secure web site
- Go to www.apal.org.au and USE THE RESOURCE



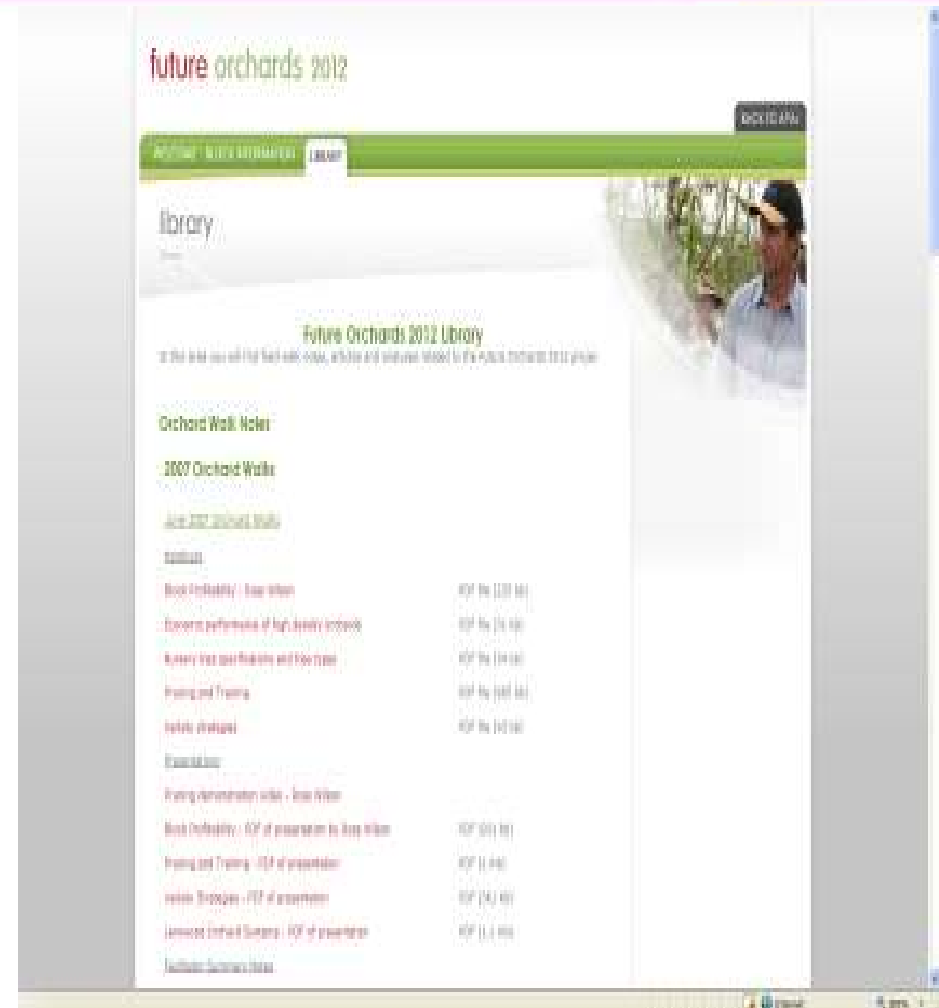
Block Code SA 17, Cripps Pink, M9, 2857 trees/ha, \$50K/ha est cost, planted 2001 hence photo 6th leaf, 6400m³ TRV, 69,000 cm³ TCA/ha, 40t/ha (4th leaf), 26t/ha (5th leaf). 66t/ha (6th leaf)

Additional components



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- Overseas study tour July 2008 to Europe.
- Seminar program carried out by AFFCO to complement OW's (Presentations include: orchard costing, business planning, plant physiology)
- Youth Exchange program
- FO2012 Library Resource



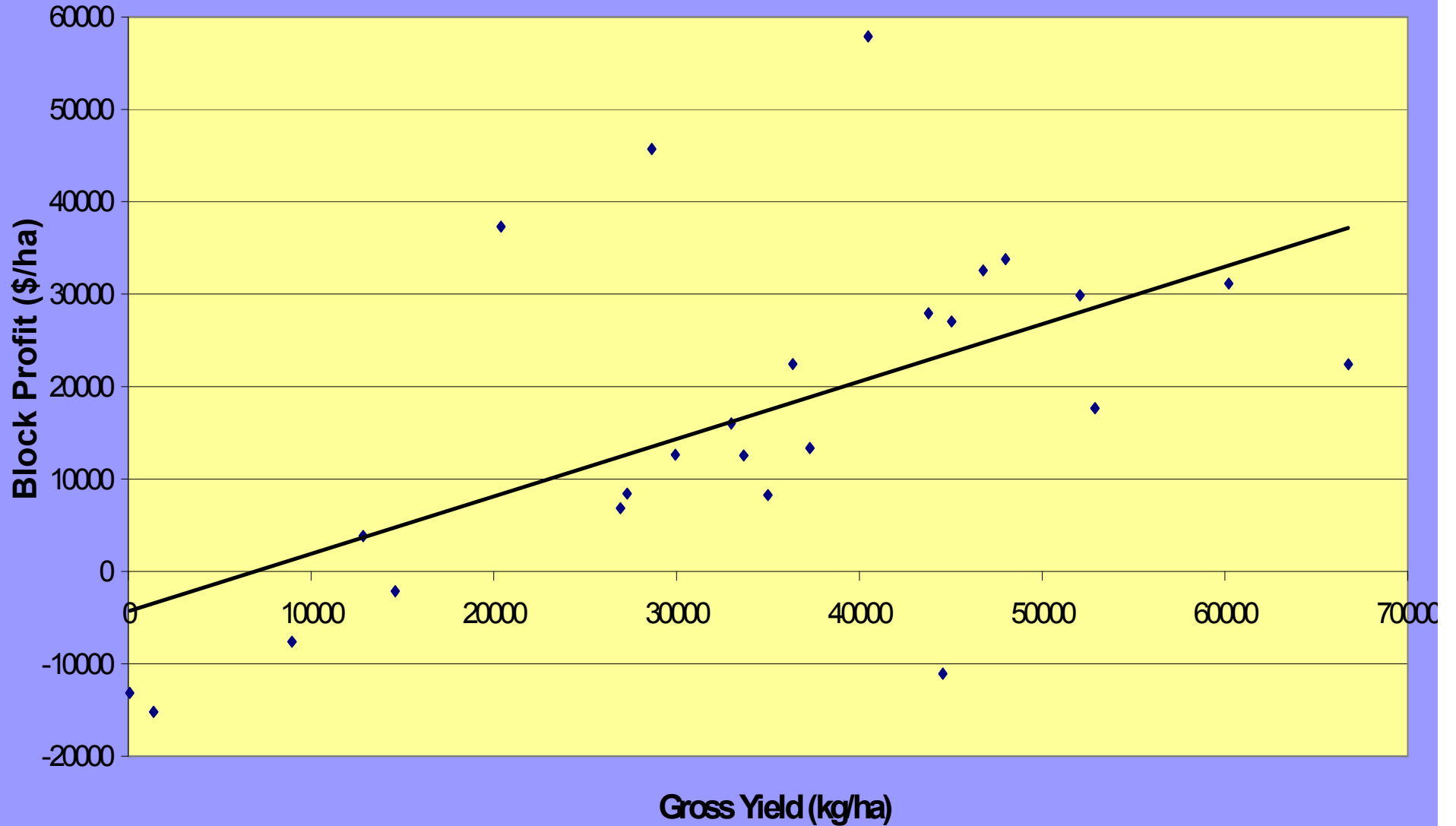
FO2012 Library
www.apal.org.au

Gross yield vs profit

Cripps Pink 2006 F02012



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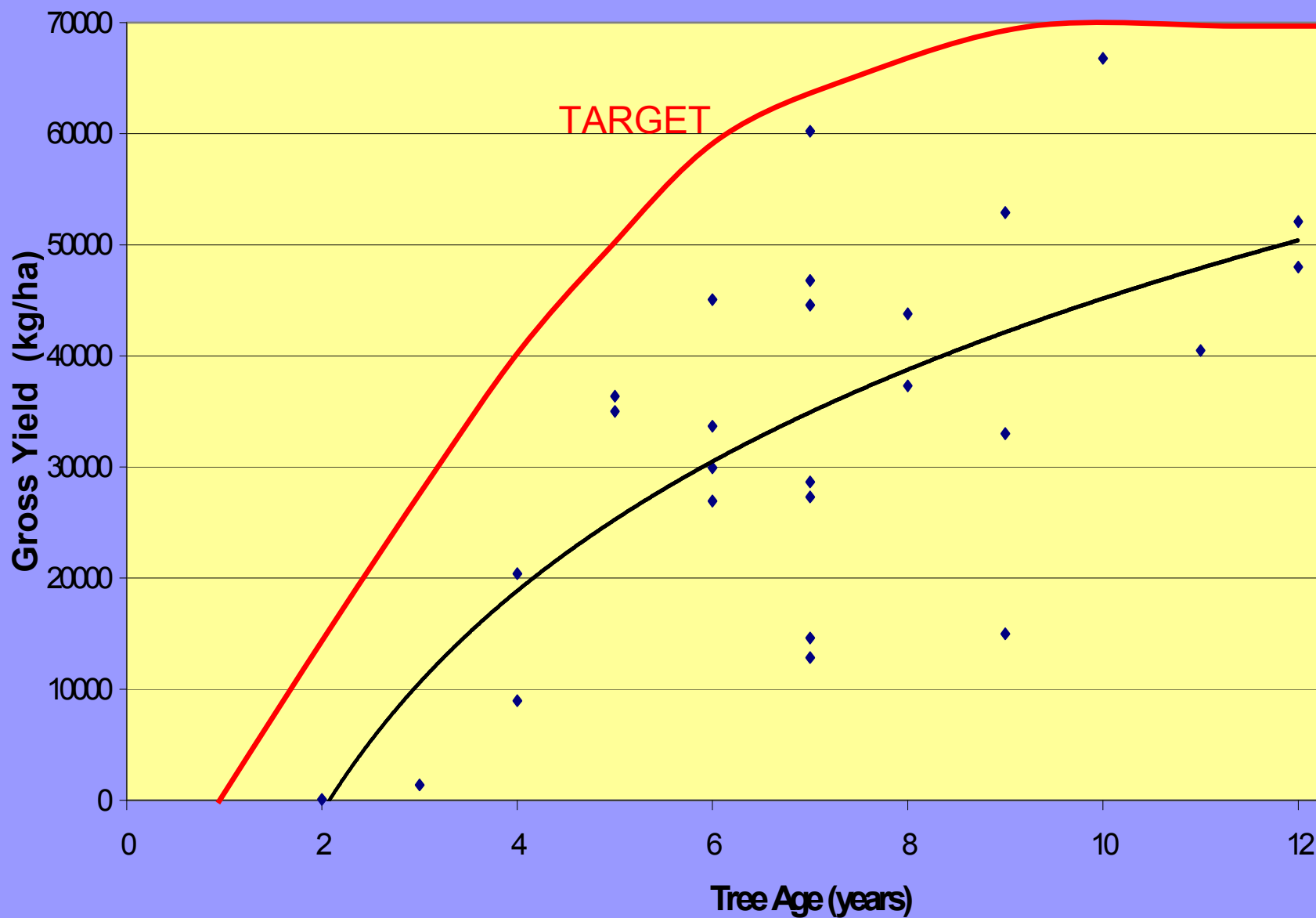


Gross yield vs tree age

Cripps Pink 2006 F02012



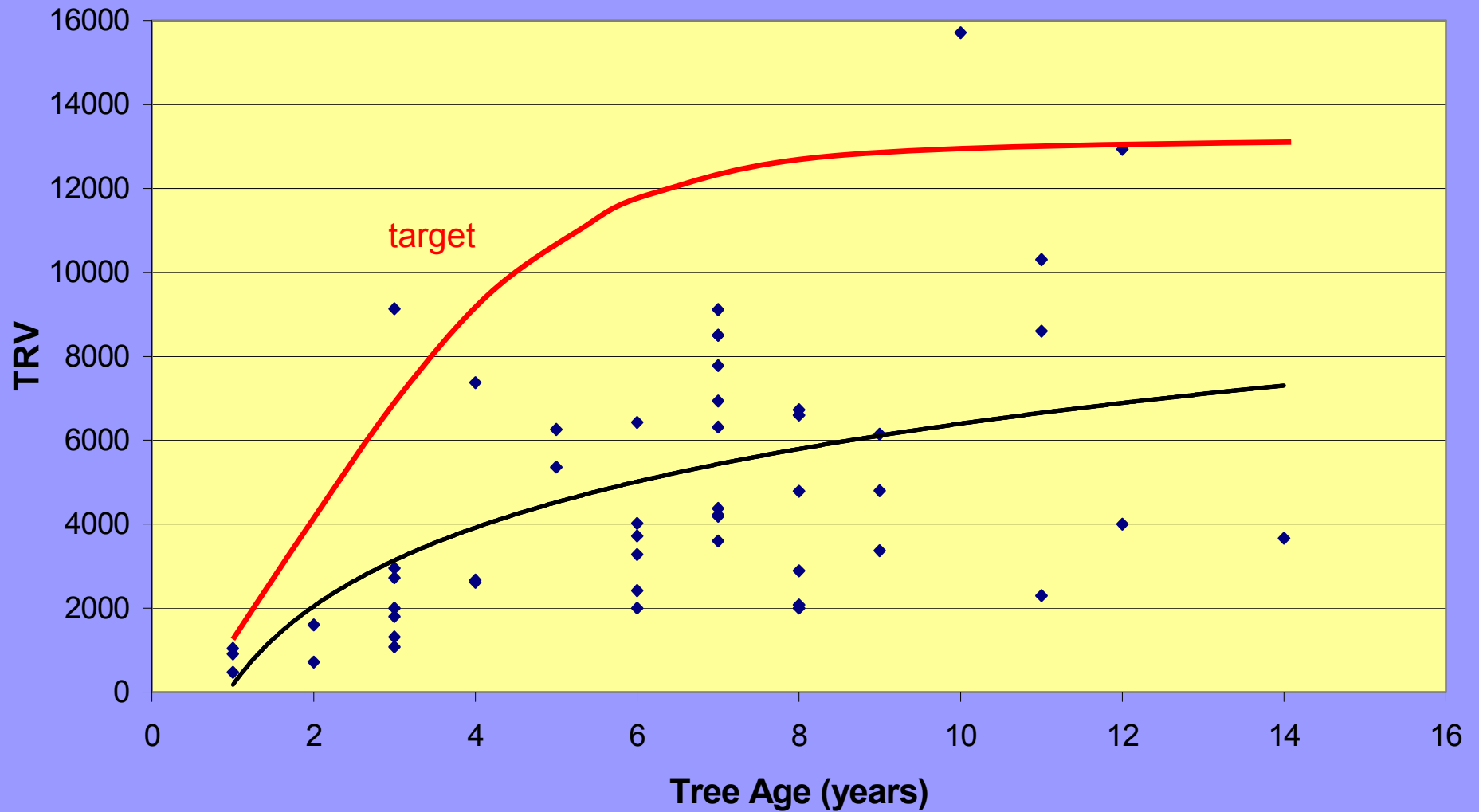
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Tree Row Volume (TRV)



Cripps Pink 2006 F02012



Trunk Cross Sectional Area (TCA)

Cripps Pink 2006 F02012



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Key opportunities going forward



- **Climate Modification**
- **Profitability Mindset**
- **Intensification using dwarfing rootstocks**
- **Access to new premium varieties and rootstocks**
- **Access to high quality nursery trees**
- **Increased rate of canopy development**
- **Increase in mature canopy volume and hence increased light interception**
- **Improved tree architecture maximising fruit quality and class 1 recovery**

Climate Modification



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- Netting providing protection against hail, sunburn, wind, drought stress, and potentially birds
- Matching water supply to production area and then using the irrigation water resource as efficiently as possible.
- Frost Protection
- Reflective foils for colour enhancement



QL10~ Frost free, netted, irrigation and foil

Mindset change is required by some growers



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FROM

“I need to save costs”

TO

“The biggest cost to my business will be poor crop performance



New varieties and modern rootstocks



Variety examples

- New Cripps Pink selections
- New Aus. bred vars. eg RS103130, Western Dawn
- High coloured Fuji strains eg Kiku,
- International releases Jazz, Galaxy, Mariri Red, Honeycrisp, Ambrosia, Tentation, Cameo etc
- Prevar releases
- The list is endless

Apple and Pear rootstocks

- M9
- CG202
- Malling Merton Series MM106 etc
- Ottawa 3

- Quince A, C and BA29
- BP1
- BM2000
- D6

High Quality Nursery Trees



- High quality trees
- Virus free
- True to type
- Nurseries supplying to a known specification with large well feathered trees being in good supply



European Knip Boom trees ready for planting

High Quality Nursery Trees



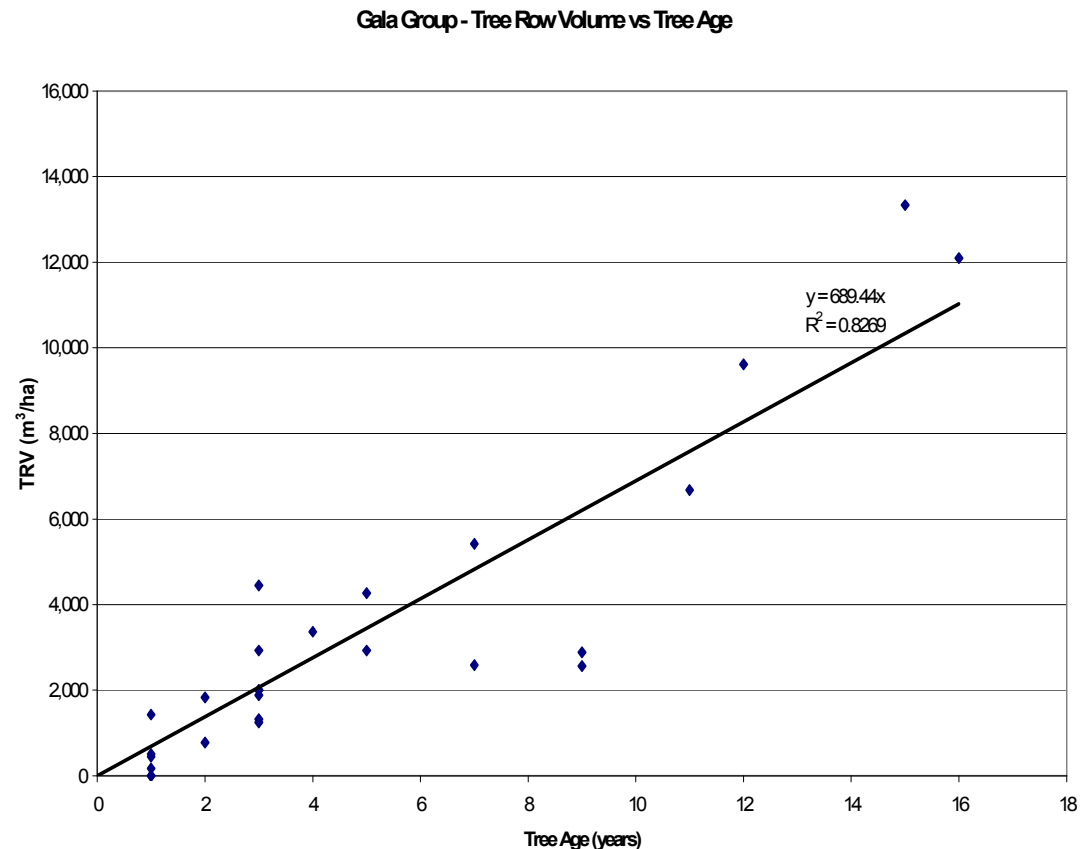
CG202 Autumn
budded Tree just
planted

Increased rate of new canopy development



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- To achieve high marketable yields there must be sufficient canopy (TRV) and tree potential (TCA)
- TRV target of $13,000\text{m}^3/\text{ha}$ or TCA $60,000\text{cm}^3/\text{ha}$
- In Australia its taking 18 years on average to achieve $13,000\text{m}^3$ TRV in Gala
- This is too long !



F02012 target rate of new canopy development



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Year	Gross Yield (kg/ ha)	TRV (m ³ / ha)	TCA (cm ³ / ha)
1	-	1,000	4,000
2	15,000	4,000	15,000
3	30,000	7,000	30,000
4	40,000	9,000	40,000
5	50,000	11,000	50,000
6	60,000	13,000	60,000



Cripps Pink, Italy, 3rd leaf, 50 t/ha

How to achieve target

- Precocious dwarfing or semi dwarfing rootstocks
- High quality nursery trees
- Planted intensively (2000-3000 trees/ha)
- Superior management in Years 1 and 2 that aims to maximize canopy development (soil prep, water, weeds, fert, p&d,)
- Tree canopy full of simple, calm fruiting units spread evenly throughout the whole canopy

Mature Canopies are often too small



NW13

- M9
- 1481 trees/ha
- 9th leaf
- TRV 2900m³
- Current yield = 50t/ha
- Potential Yield = 80 tonne /ha



FO2012 TRV mature target= 10,000-13,000m³/ha

Why are Australian canopies so small



- **Aiming for pedestrian orchards**
- **Paranoia regarding OSH issues**
- **Often strict mindless adherence to simple pruning rules eg 3:1**



Orchard canopies harvest light turning it into fruit.

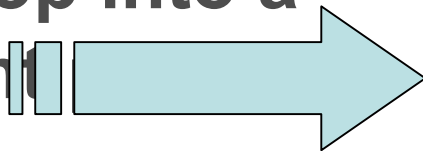
Small canopies = small yield
= small profits

Improved Tree Architecture



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- **Calm simple fruiting units spread evenly throughout the whole canopy**
- **No heading**
- **Limited shortening**
- **Fruiting units trained or allowed to drop into a flat or pendant**



**High volumes
of high quality
fruit**

Tree Architecture ~ from this



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Tree Architecture ~ to this



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Tree Architecture ~ from this



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Tree Architecture ~ to this



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Tree Architecture ~ from this



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Tree Architecture ~ to this



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QL10 stand up and be applauded



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QL10

- Cripps Pink
- MM106
- 2076 trees/ha
- Planted 2002 therefore 5th leaf in 2006/07
- Branch bending ~ no heading
- TRV 6256 m³
- TCA 50,364 cm³



QL10 ~ Achieving a great result



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- Gross Yield = 53 t / ha
- Class 1 packout 85%
- \$2.62 average return/kg
- Block profit \$120,000/ha

Year	Gross Yield (kg/ ha)	TRV (m3/ ha)	TCA (cm3/ ha)
1	-	1,000	4,000
2	15,000	4,000	15,000
3	30,000	7,000	30,000
4	40,000	9,000	40,000
5	50,000	11,000	50,000
6	60,000	13,000	60,000



Profitability of Australian Orchards ~ Absolutely possible and happening



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ACKNOWLEDGEMENTS



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Thank you



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