



# ADAPTING TO CLIMATE

## Drivers for Change and Expansion in Agricultural Business

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**BROWN**  
**BROTHERS**  
EST. 1889

**A U S T R A L I A**

**Milawa**

**Latitude 36°30'S**





*Since 1885....*



# FROST WIPES OUT 100 AC. MILAWA VINEYARD

November 30, 1967

## Wine producers hit hard

The 'killer' frost on Sunday night has wiped out

The liaison officer of the Victorian Tobacco Growers' Association Ltd, Mr. M. Niovanni, said it would be eight to 10 days before an accurate estimate of the damage

done of various wines annually. He said it had been 32 years since a frost so late in November had been recorded at the vineyard. "On Monday morning, I





## Agenda

- What we had observed
- Our tipping point
- How we've adapted
  - Vineyard Management
  - Varieties
  - Expansion into new regions



# What we had observed

## Water Shortages

- Water Costs in 2007
  - \$1.4m own vineyards
  - \$1.4m growers
- Total \$2.8m



# What we had observed

## Also observed

- Earlier & more compressed vintages
- Higher alcohols
- Increased colour in whites
- Decreased colour in reds
- More sunburn
- Decreased grape acidity



# The Big One...

## SMOKE TAIN

- Unheard of before 2003
- Significant fruit losses in 2003, 07 & 09
- Close to harvest, so money has been spent and little time for alternate plans
- Insidious, difficult to quantify
- Now Brown Brothers' No 1 agricultural risk factor





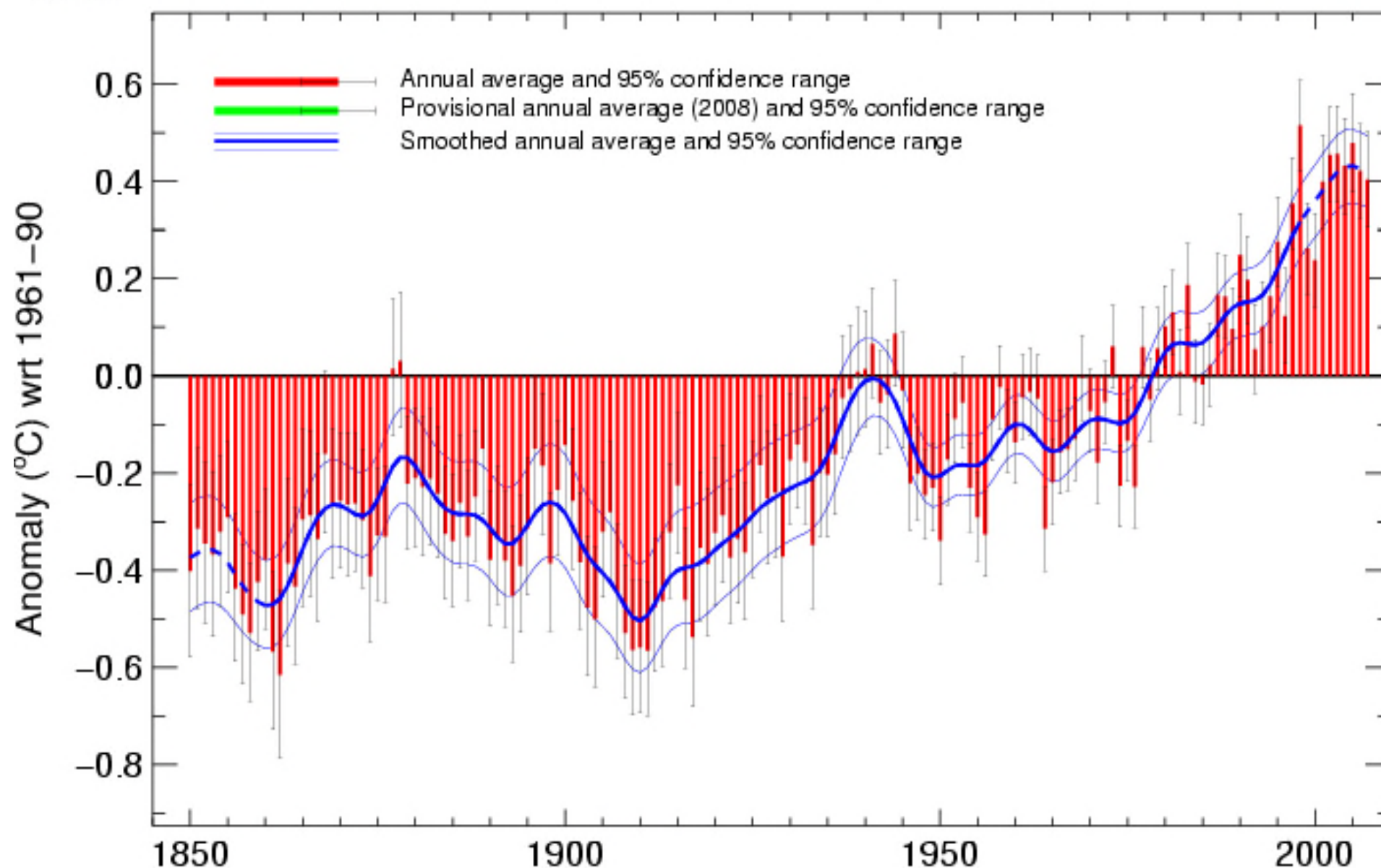
# OUR TIPPING POINT

- What's going on?
- Presentation from Graeme Anderson, DPI (Vic), in 2008 to the Company's Board and Senior Management Team



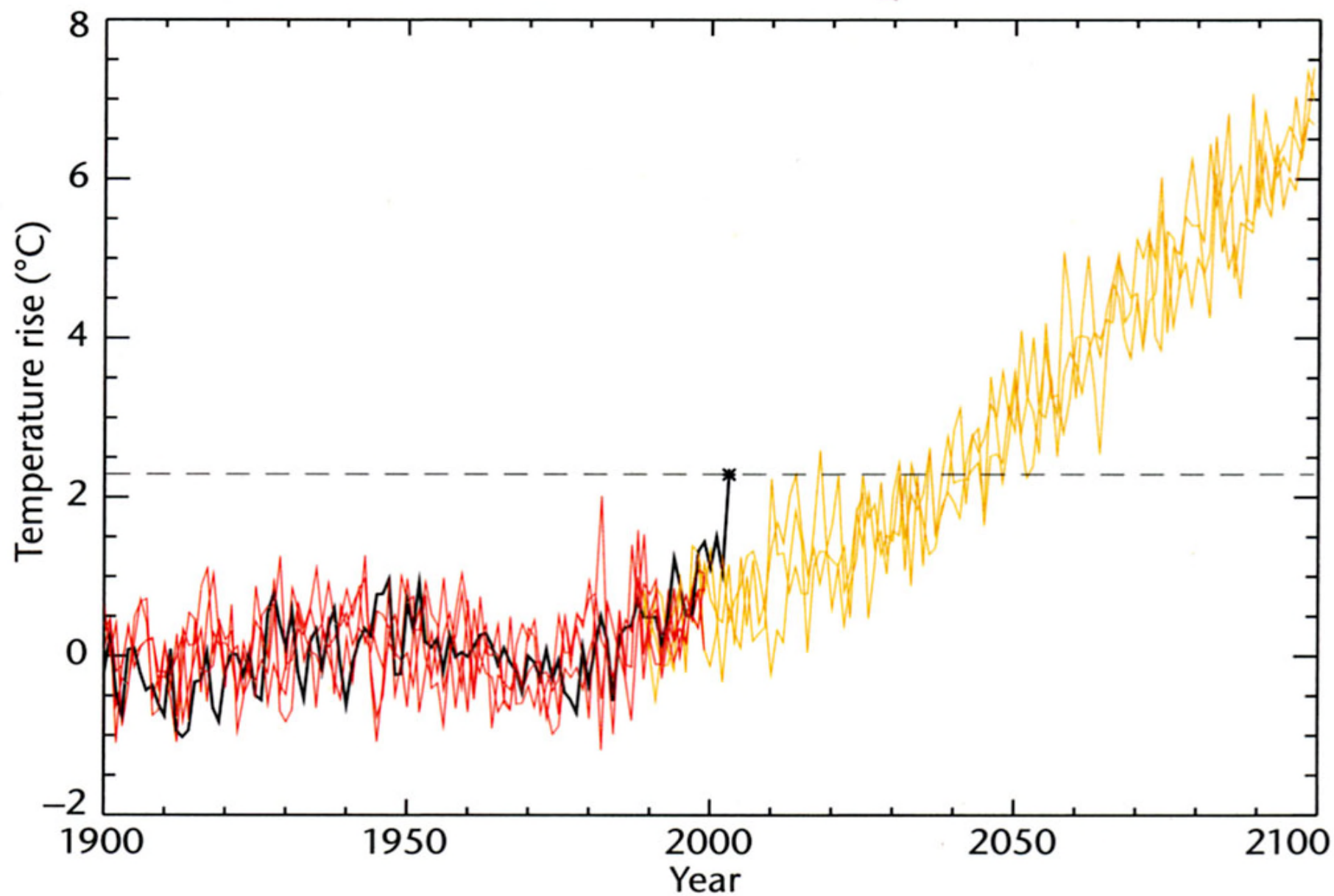
# Global average temperature 1850–2007

Based on Brohan et al. 2006





*European warming predicted by the Hadley Centre model*







# Holistic Company Approach

- Convincing data that this is not cyclical, it is a fundamental change
- Needed to accept that this is happening, and plan accordingly
- Long planning horizon with vineyards
- Board resolution “accepts a 2°C temperature increase and factors this into the decision making process for all capital projects”

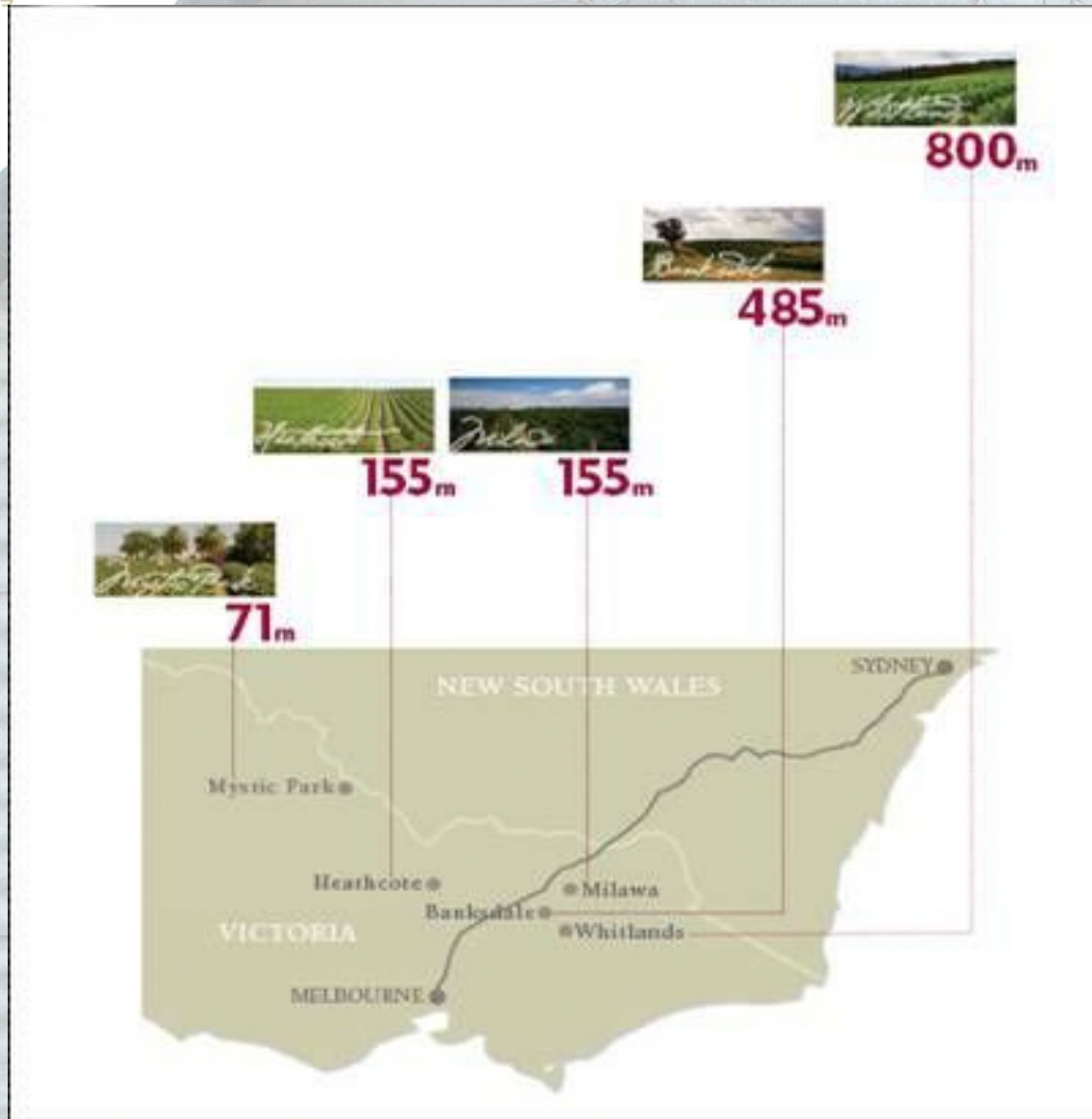




# HOW WE'VE ADAPTED



# Stocktake of Vineyards



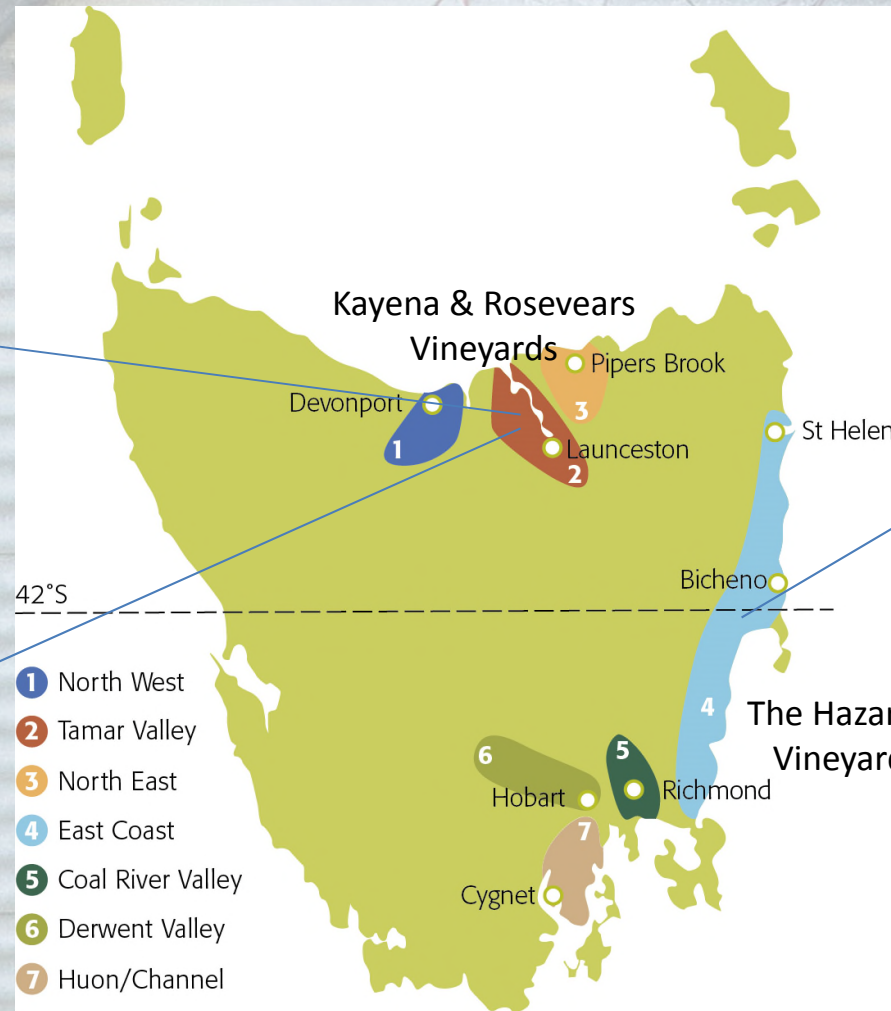


# Vineyard Reclassification

Vineyard	Region	Current Mean Jan Temp (oC)	New Mean Jan Temp (+2oC)
Mystic Park	Murray Darling	23.5	25.5
Milawa	King Valley (N.E. Vic)	22.9	24.9
Heathcote	Central Vic	22.3	24.3
Banksdale	King Valley (N.E. Vic)	20.9	22.9



# Tasmania



**The Hazards Vineyard**



# Cool Climate

Vineyard	Region	Mean Jan Temp (oC)
Mystic Park	Murray Darling	23.5
Milawa	King Valley (N.E. Vic)	22.9
Heathcote	Central Vic	22.3
Banksdale	King Valley (N.E. Vic)	20.9
The Hazards	East Coast (Tas)	16.9
Kayena	Tamar Valley (Tas)	16.6





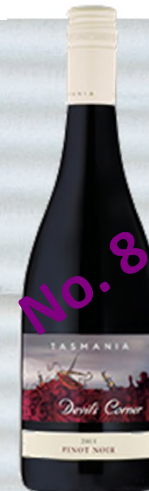
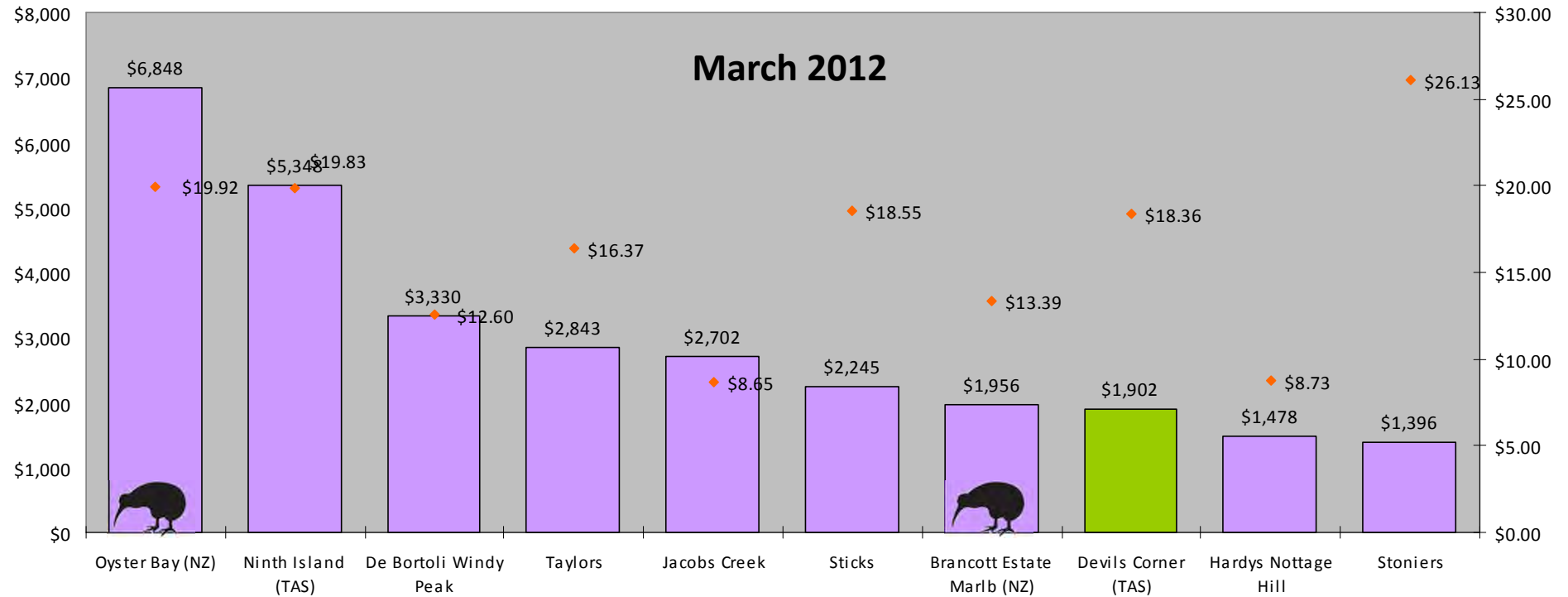
“Devil’s Corner will be the No. 1  
revenue Pinot Noir in Australia”



## Top 10 Pinot Noirs Australia NATIONAL MARKET

Source: Aztec

■ Dollars (000s) MAT To 01/04/12 ♦ Price (\$/Unit)



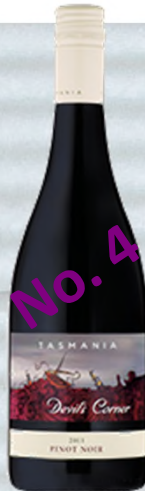
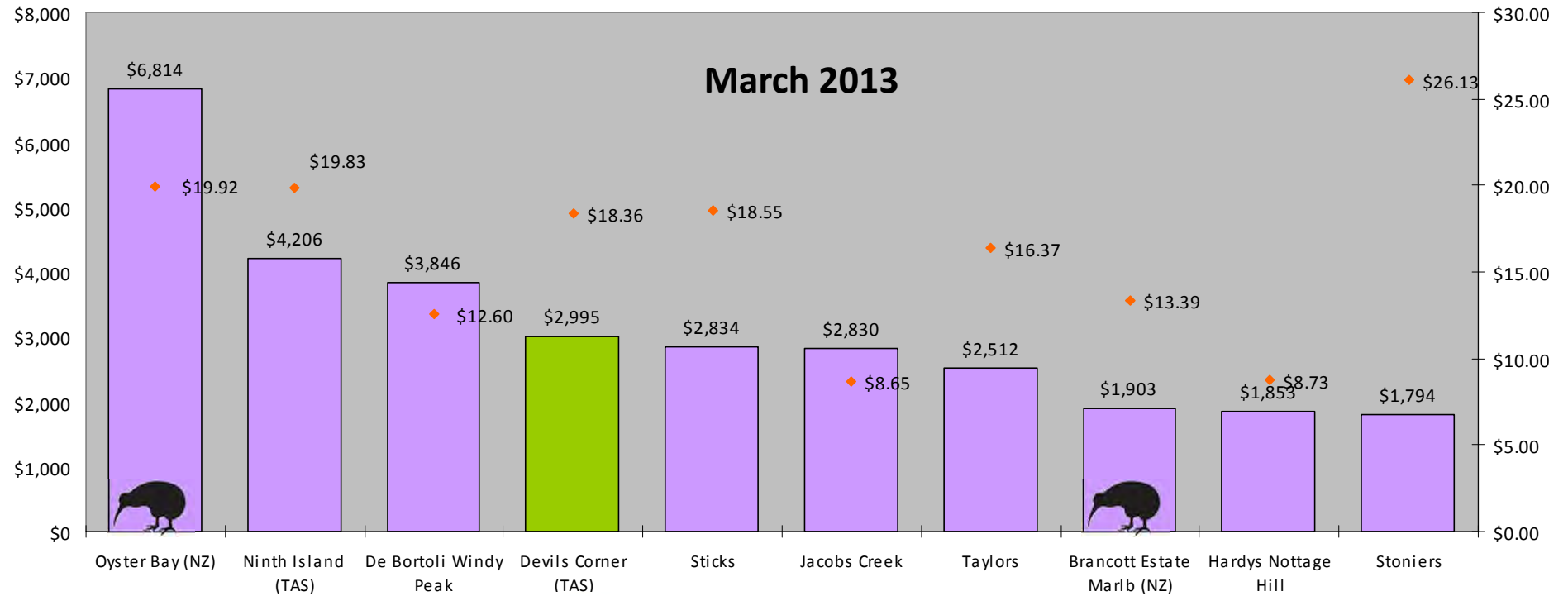
No. 8



## Top 10 Pinot Noirs Australia NATIONAL MARKET

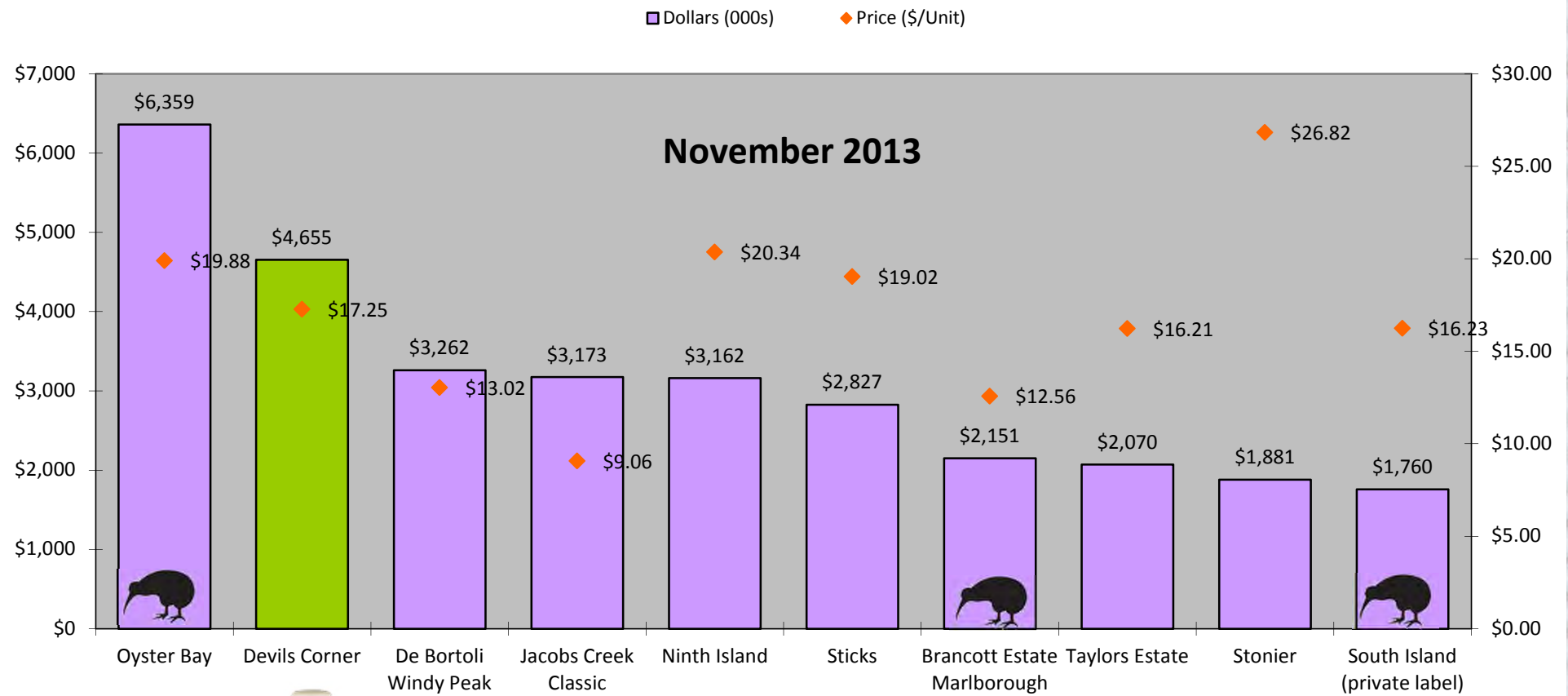
Source: Aztec

■ Dollars (000s) MAT To 31/03/13 ◆ Price (\$/Unit)





## Top 10 Pinot Noirs Australia NATIONAL MARKET MAT 03-11-13

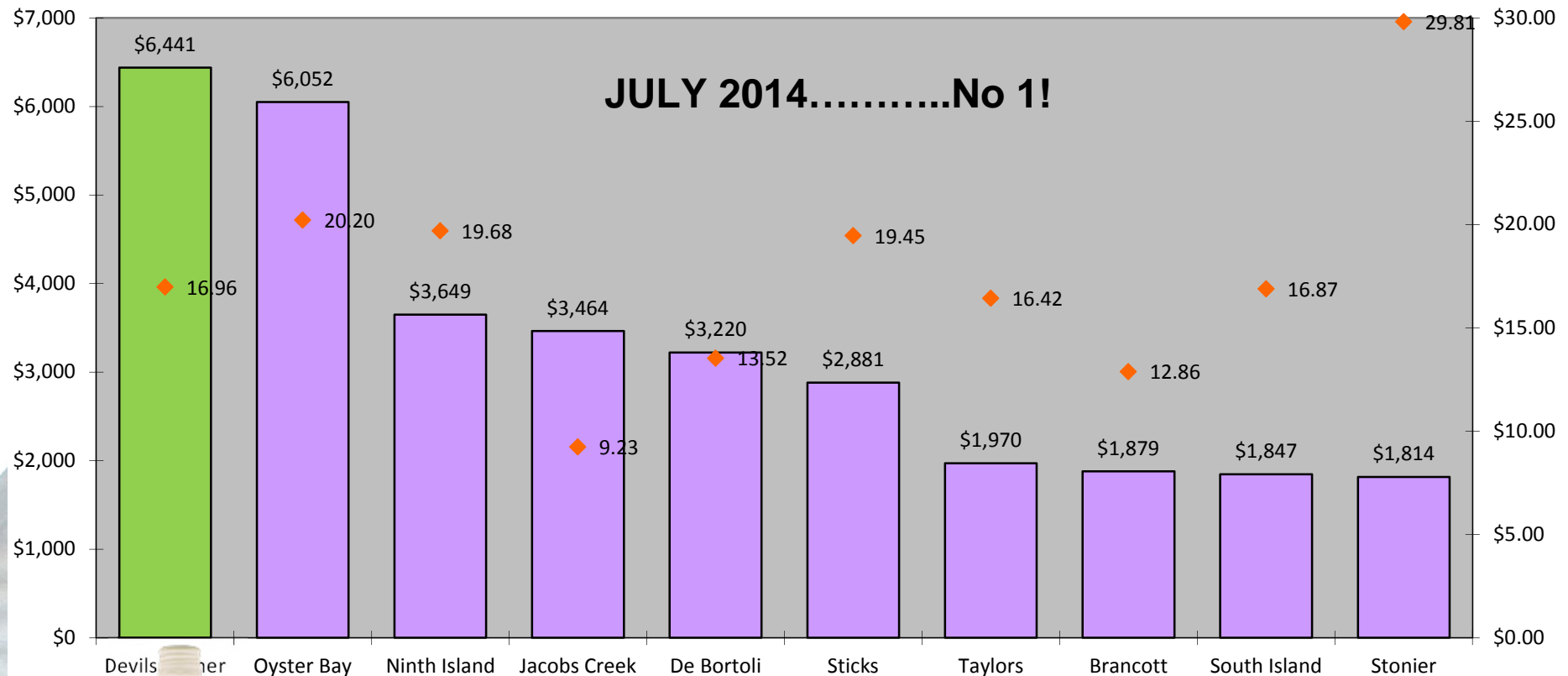




# Top 10 Pinot Noirs Australia NATIONAL MARKET MAT 06-07-14

■ Dollars (000s)

◆ Price (\$/Unit)



No. 1





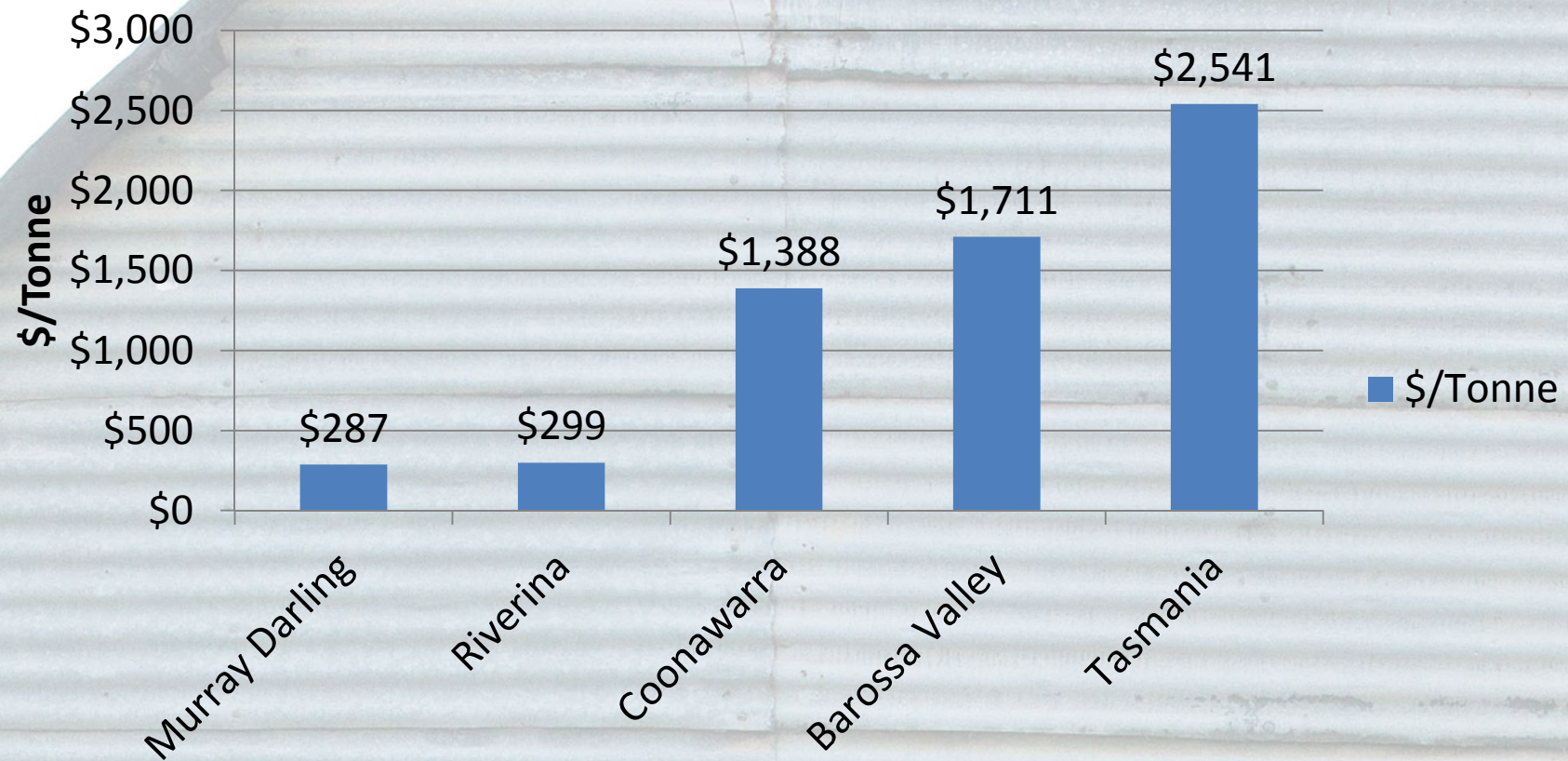
BROWN  
BROTHERS  
EST. 1889





# Average Regional Grape Prices

**2015 Vintage**





# Tas - Challenges

- Variable Yields
- Water Security in some areas
- Smoke???
- Expensive development costs





# How We've Adapted

## Experimental Varieties

- From France, Spain and Italy
- From the CSIRO breeding program



# New Varieties





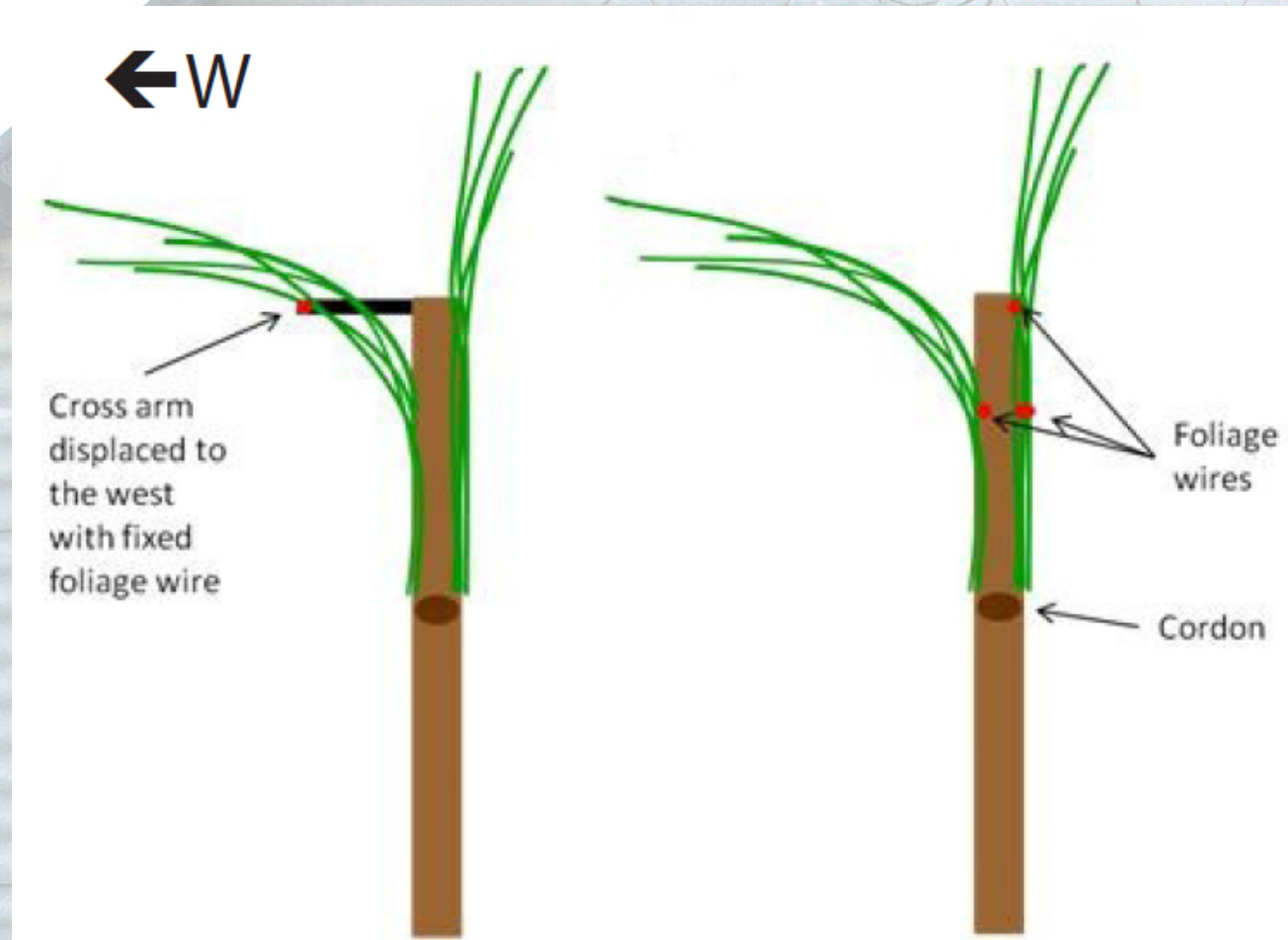


# Growing Methods





# Growing Methods







# Water Use Efficiency







# Resilience

- Long term view
- Innovative
- Leadership
- Attitude



# SUMMARY

- Planning timeframes are long
- Don't be paralysed by indecision
- Look for opportunities
- Cultures enables change





# Acknowledgments

- Wendy Cameron
- Roland Wahlquist

