CRC for Premium Quality Wool

Wool Growing Productivity ~ putting theory into practise

Produced for the CRC for Premium Quality Wool undergraduate program by;
Dr David Counsell, THE MACKINNON PROJECT.

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Cost of Production (CoP)

- CoP is a measure of efficiency of the farm's production system
- Wool grower's profit drivers drive down CoP
- Achieving a low CoP is the farm's most important price risk management tool
- CoP will emerge as the woolgrower's most important benchmark

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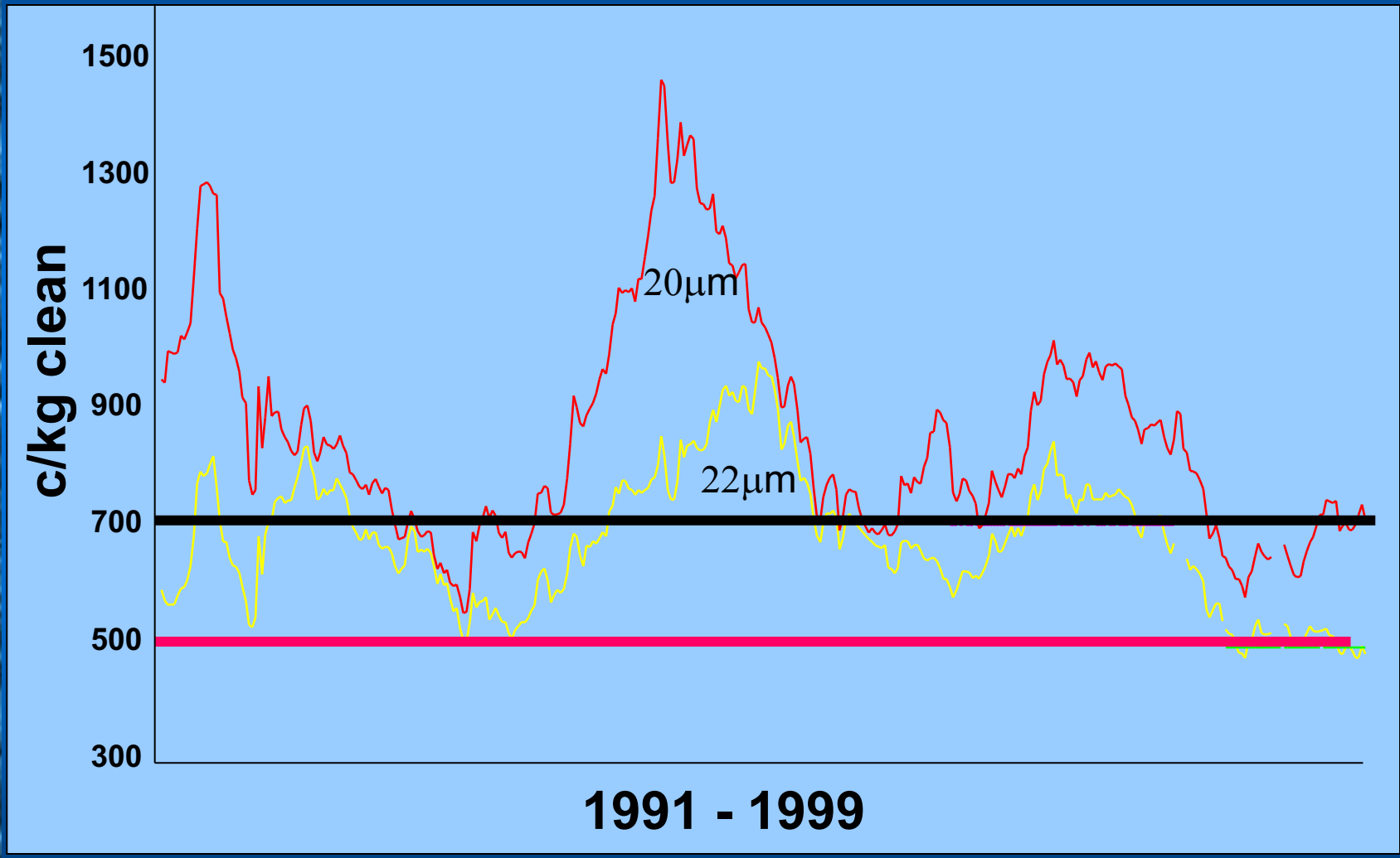
CoP for the Average & Top 20% Woolgrower: central west NSW



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Source: Mackinnon Project (1999)

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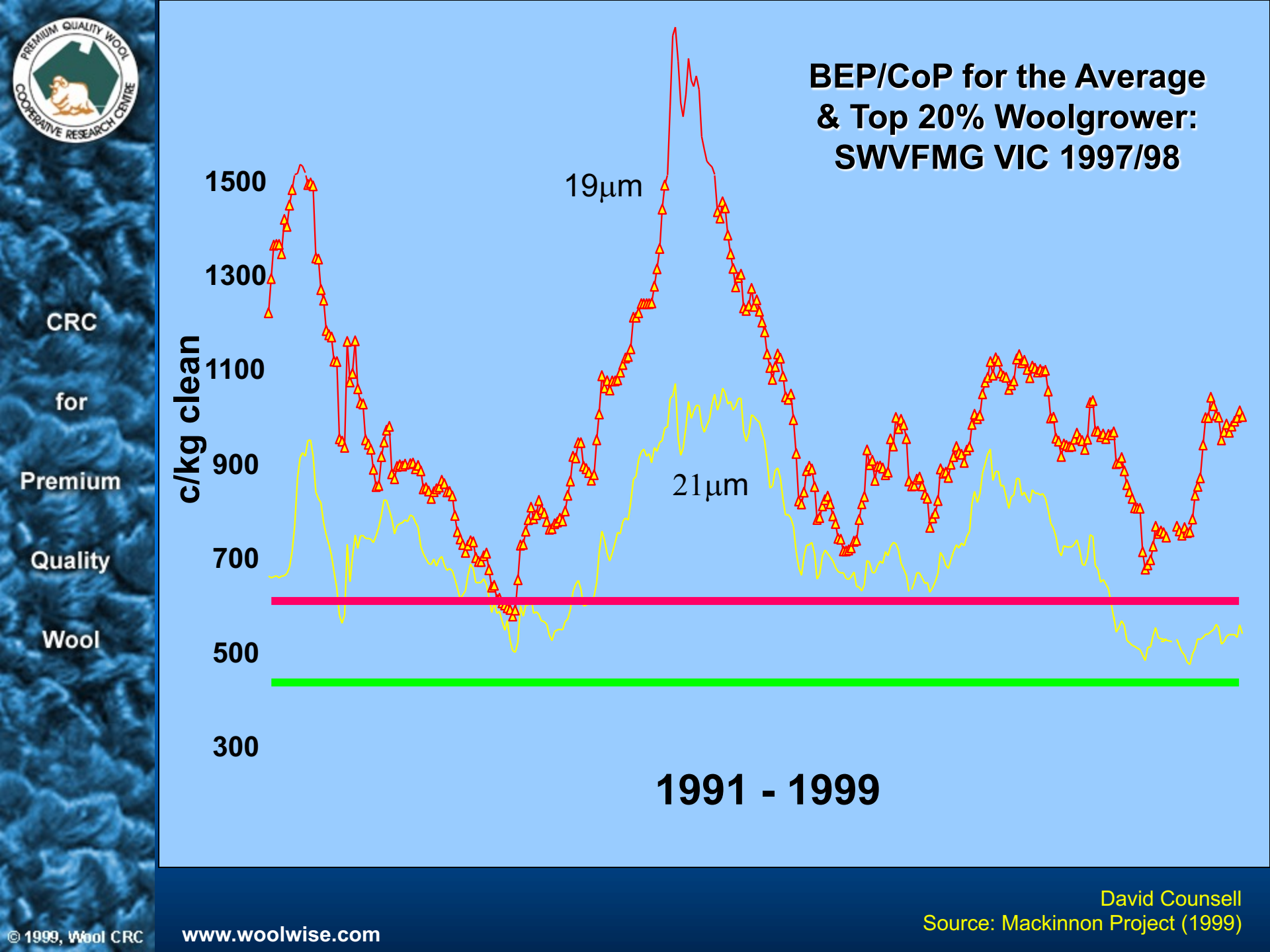

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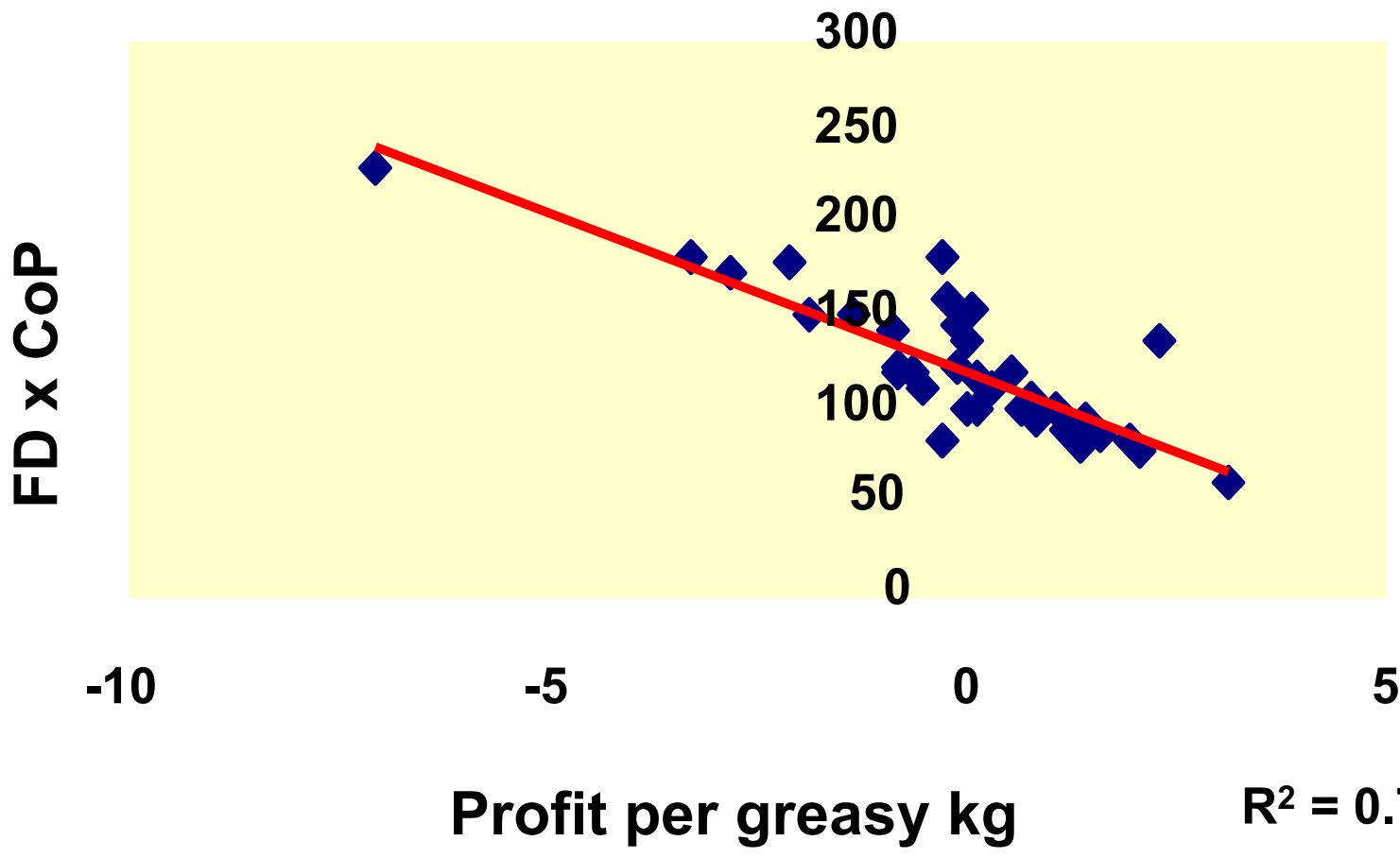
Source: Mackinnon Project (1999)

Relationship between Profit per kilo and (FD * CoP) SWVFMG 1996/97



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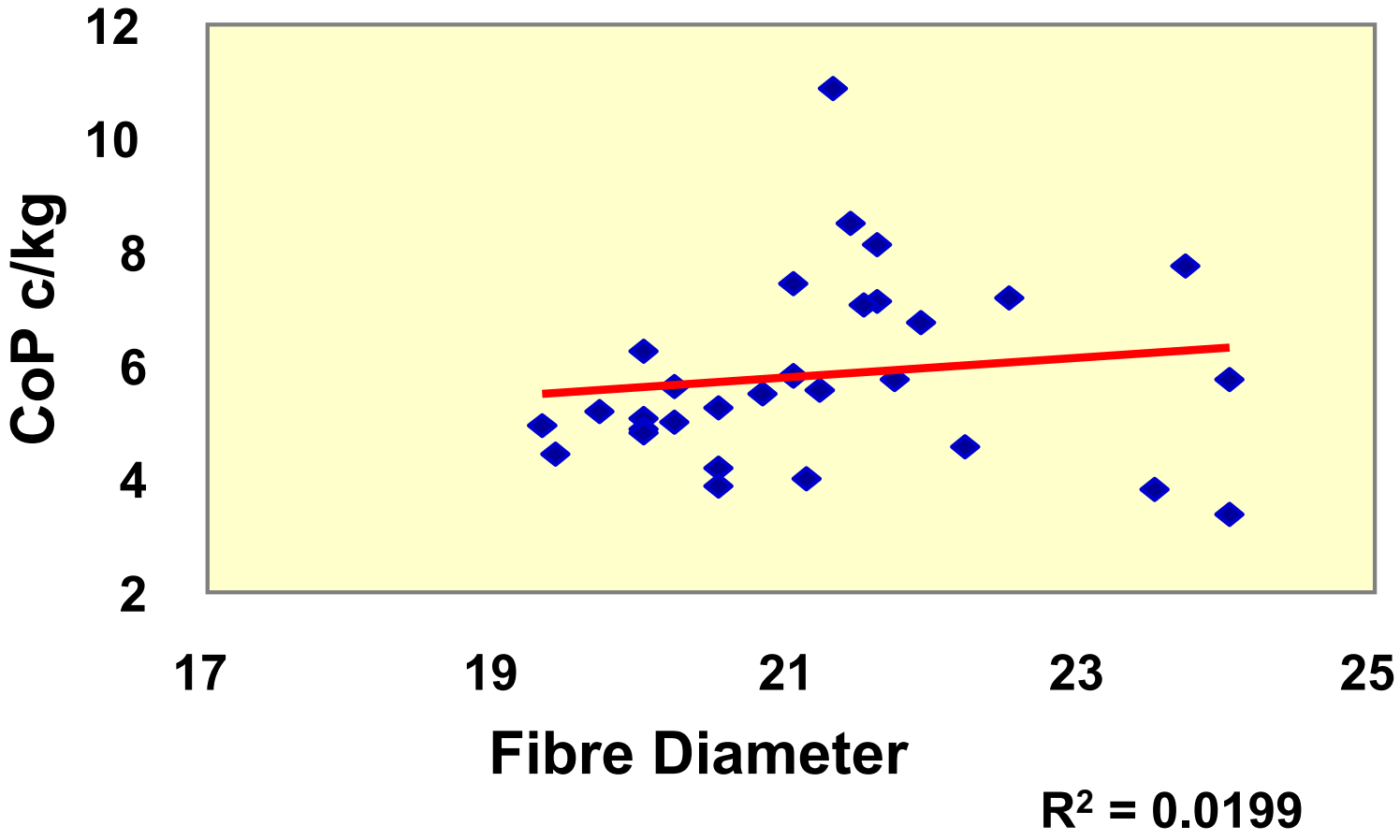
Relationship between FD & CoP (SWVFMG 1996/97)



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Factors affecting CoP

1. efficiency of converting rainfall to pasture
2. efficiency of converting pasture to wool
3. efficiency of utilising other resources
   - farm labour
   - farm capital
   - farm machinery

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Efficient conversion of rainfall into pasture

- Efficient conversion depends on: -
  - perennial pasture species and legume content
  - Ensuring all soil nutrients are non-limiting

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Efficient conversion of pastures into wool

- Three critical factors
  - productive genotype of sheep
  - adopting optimum stocking rates
    - many high rainfall farms are under stocked
  - adopting management strategies that reduce factors that interfere with efficient pasture utilisation

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Efficient utilisation of other resources

- Labour Efficiency
  - large area of fixed costs
  - family labour
- Machinery
  - greater utilisation strategies
- Price risk management
  - guarantees income
  - removes price volatility

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Rational order of adoption

- Marginal returns must be higher than the marginal costs.
- Technology Adoption
  - opportunity to improve farm productivity
  - some require management skills, not capital

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The Roxby Park Experience

- purchased in 1991 as a typical farm
- 510mm rainfall
- stocked at 9 DSE/Ha
- 30kg/Ha of 20.8u wool
- untapped asset: Sirosa/Trikkala pastures
- buyers were businessmen, wanted a profit

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Change Required

- high cost of production - farm could not generate sufficient profits
- high labour costs
- unable to maintain farm assets

- Business Objectives set around lifting production and increasing product value

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Overall Plan - Strategies

- First - make use of existing pasture base
  - 9 DSE/Ha to 12 DSE/Ha
- Second - increase pasture growth and stock numbers
- Third - get productive sheep
  - new blood-line

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First
- make use of existing pasture base

- Target - 12 dse/ha by 1993; initial stock were purchased

- Match annual pattern of feed demand to pasture growth curve
  - time of lambing
  - flock structure
  - time of shearing/sale of sheep

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Results
- making use of existing pasture base

- 1993, stocked at 12 DSE/Ha (+33%)
- cut 43.6 kg wool/Ha (+35%), 20.3u
- now profitable but still potential to be realised

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Second
- Increase Pasture Growth & Stock Numbers

- Target 15 DSE/HA by 1998
- Initial loading dose of fertiliser
- Maintenance dose of 1kg P /DSE

- Results
  - soil Olsen P's rose from 9-15 to 13 - 20
  - persistence of original pasture composition excellent

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Third
- Get productive sheep

- **Breeding Objectives set**
  - reduce fibre diameter
  - increase clean fleece weights
  - improve/maintain fleece quality traits
- **Firstly, raise genetic merit**
  - AI program to introduce superior genetics
- **Maximise genetic gain**
  - close flock
  - use ‘best practise’ selection techniques

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Results

	Dse/Ha	GFW/Ha	Avg FD
1991	9.8	32.1	20.8
1993	12	43.6	20.3
1995	13.5	54.1	20
1997	14.5	53	18.7
1999	15.1	58	18.5

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