Farming in Australia – staying ahead of the game

Reece Curwen
2015 Nuffield Scholar
Contents

• Australian farming at a glance
  – Australian risk/return
  – Cost of Production
• Tooraweenah Pastoral Company
  – Overview
  – Key challenges
  – Healthy Bottom Line
    • Business Practices
    • Business Relationships
    • Mind and Body
• Nuffield 2015
  – Study topic
  – Findings to date
### Australian Agriculture at a Glance

#### Major Australian Agricultural Exports

<table>
<thead>
<tr>
<th>Product</th>
<th>2014-15</th>
<th>2015-16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beef and Veal</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>Wheat</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Wool</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Dairy</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Wine</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Barley</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Sugar</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Lamb</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

Source: ABARE 2015

#### Livestock Numbers on Holding ('000)

Source: ABS 2015

#### Grains and Oilseeds in World Agriculture

<table>
<thead>
<tr>
<th>Product</th>
<th>Production 2014</th>
<th>Exports 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ranking</td>
<td>mmt</td>
</tr>
<tr>
<td>Wheat</td>
<td>9th</td>
<td>23.7</td>
</tr>
<tr>
<td>Barley</td>
<td>4th</td>
<td>8</td>
</tr>
<tr>
<td>Canola</td>
<td>5th</td>
<td>3.4</td>
</tr>
<tr>
<td>Cotton*</td>
<td>8th</td>
<td>2.3</td>
</tr>
<tr>
<td>Oats</td>
<td>4th</td>
<td>1</td>
</tr>
<tr>
<td>Sorghum</td>
<td>11th</td>
<td>1.8</td>
</tr>
</tbody>
</table>

Source: USDA

#### Australia vs US Dollar

Source: OZFOREX
Farm business in Australia is pretty consistent with the risk profile.

Risk and return
Farms with receipts > $1 million

Source: Karen Schneider, ABARE outlook 2015
Australia has a low intensity production system for crop establishment in wheat

• Australia very efficient on a per hectare basis. Average farm size is 4000ha.
• However, Australia has a high machinery cost per tonne.

Tooraweenah Pastoral Co

- South Stirling, 500km South of Perth
- Area 8500 hectares;
- Soil: Sandy Duplex, pH 4.6-5.2
- Rainfall: 400mm
- ≈70% cropping; 6800ha 2015, 6200ha 2014.
- 2000 ± 500 hectares of pasture (P), Stocking Rate: 8 ±4 DSE/ha,
  - Canola (3000ha), Barley (3000ha), Wheat (750ha), Oats (50ha)
- 10,000 ewes (5000 merinos, 5000 merino poll dorset cross-breeds)
- 2000 ± 500 hectares of pasture, Stocking Rate: 8 ±4 DSE/ha,
- On average 8-10 labour units (48 weeks)
Business Challenges

• Soil degradation, non-wetting soils and weed resistance
  – Decreasing OC content and soil fertility
  – Slow regeneration of pastures
  – Excessive chemical use
• High labour intensity and suitable farm labour
• Late break to the season
  • Challenges to the sheep/cropping program
  • Decreased yield potential
• Poor productivity in pasture phase
  – Places pressure on stocking rates
• Rising input costs
• Volatile commodity markets
• Over reliance on Chinese demand
Healthy (with a cost and efficiency focus)...

Business Practices

Business Relationships

Bottom Line
Equity %, Debt to Income,
Operating Cost/Farm Income,
Profit Margin

Mind and Body
Healthy (with a cost and efficiency focus)...

**Business Practices**
- Flexibility to the 11th hour
  - No Till/ground cover
- Grazing crops - ↑productivity
  - GM technology
- Planting legumes in pasture phase
- Targeted fertiliser application
  - Spreading clay
- Integrate Weed Management, chaff carts

**Business Relationships**

**Bottom Line**
Equity %, Debt to Income, Operating Cost/Farm Income, Profit Margin

**Mind and Body**
Improving soil condition – spreading clay

- Sand over clay soils, poor quality.
- Clay can be found at 3-5 feet underground.
- Increased moisture infiltration.
- Increased CEC allowing for improved retention on nutrients.
- Increased soil OC.
- Increased microbial activity.
Integrated Weed Management

- Weed seed resistance is getting closer.
- Sheep have an integral role to play in managing weed resistance.
- Physical mechanisms to implement
  - Autumn tickle with a early break
  - Chaff cart in cereal phase
  - Spray swathing
  - Clay spreading decreases weed seed bank
- Chaff carts are towed behind the harvester to collect chaff fractions that exit the sieves
- Chaff cart heaps a brilliant sheep feed source through summer.
- Burning narrow wind rows

---

**Herbicide Resistance Testing Service**

The seed sample shown below that you supplied for herbicide resistance testing has shown the following results;

<table>
<thead>
<tr>
<th>Herbicide Group</th>
<th>Herbicide</th>
<th>Resistance Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group A (dim)</td>
<td>Select</td>
<td>- No resistance detected</td>
</tr>
<tr>
<td>Group C</td>
<td>Atazine</td>
<td>- No resistance detected</td>
</tr>
<tr>
<td>Group D</td>
<td>Trifluralin</td>
<td>- No resistance detected</td>
</tr>
<tr>
<td>Group A (dim)</td>
<td>Factor</td>
<td>- No resistance detected</td>
</tr>
<tr>
<td>Group M</td>
<td>Roundup</td>
<td>- Developing Resistance</td>
</tr>
<tr>
<td>Group J/K</td>
<td>Boxer Gold</td>
<td>- No resistance detected</td>
</tr>
<tr>
<td>Group L</td>
<td>Granoxone</td>
<td>- No resistance detected</td>
</tr>
<tr>
<td>Group B</td>
<td>Intervix</td>
<td>- RESISTANT</td>
</tr>
</tbody>
</table>

Sample: 140526 a  
Seed Type: annual ryegrass  
Paddock: Paddock 1
Grazing crops

• There are huge synergies between sheep and cropping system.
• Sheep graze cereal crops between 3 leaf (GS13) and growth stage 30 (stem elongation).
  – Early grazing encourages tillering.
  – Allows pasture paddocks feed supply to get away
  – Delays crop maturity
  – Chemical savings on early fungicide pass
  – Savings from supplementary feeding
  – Retains high stocking rate
• Allows for increased cropping acres
• The impact on final yield ultimately depends on the finish to the season.
• Feed grains, hay and silage provided in the cropping system complements the sheep enterprise.
• High stocking rates through summer on cropping stubbles avoids the need to summer spray most of the time.
Healthy (with a cost focus)...

**Business Practices**
- Flexibility to the 11th hour
  - No Till/ground cover
- Grazing crops - ↑productivity
  - GM technology
- Planting legumes in pasture phase
- Targeted fertiliser application
  - Spreading clay
- Integrate Weed Management
  - chaff carts

**Business Relationships**
- Continual communication within family units
- ‘Treat your staff how you would like to be treated’
  - Weekly meetings
- Include Professional advisors
- Interaction with local grower groups
  - Nuffield 2015 study

**Bottom Line**
Equity %, Debt to Income,
Operating Cost/Farm Income,
Profit Margin

Mind and Body
Healthy Relationships

• The most underrated aspects of any farm business.
• Human resource risk management always ignored.
• Clear family management structure solidarity makes things clearer when managing external labour.
• Weekly meetings with staff.
• Quarterly meetings with farm consultant and accountant.
• Quarterly field days with local grower group.
Healthy (with a cost focus)...

**Business Practices**
- Flexibility to the 11th hour
- No Till/ground cover
- Grazing crops - ↑productivity
  - GM technology
- Planting legumes in pasture phase
- Targeted fertiliser application
  - Spreading clay
- Integrate Weed Management chaff carts

**Business Relationships**
- Continual communication within family units
- ‘Treat your staff how you would like to be treated’
  - Weekly meetings
- Include Professional advisors
- Interaction with local grower groups

**Bottom Line**
- Equity %, Debt to Income,
- Operating Cost/Farm Income,
- Profit Margin

**Mind and Body**
- Separate Personal/Business/Family
- Community interaction (sport)
- “Are you ok mate” and Beyond Blue
Management is the ultimate limitation to expansion.

There are few people with the capacity to manage large properties and resources, which demands the management of people, plant and finance. There are a number of examples from the WA experience where the family farm was forced to sell.

Human resource management and the success of a individual business still relies heavily on the productivity of their labour force. This element of management is complex especially if the labour force is large but can directly translate to increased returns. So:

• How do you make your labour force believe in the business?
• How do you retain labour for the long run?
• And; how do you maintain productivity as labour units per hectare increase?
Findings to date

• There are a very small number of business that don’t have issues with their labour.
  • Needs of farmers > management resources
  • Requires education from a young age, school, university degrees
• Family structure and management needs to be clear before you even think about managing the labour element
• Emphasis on employment process
  • Be discipline that they match your businesses core values
  • For example, strong work ethic, keeping simple, teamwork, humbleness, open and honest
• Identify their (especially the wife) vision and what they would like to achieve and then fit within business.
• As the family business grows middle management becomes critical.
Findings to date

- Make them feel apart of the business/treat them like family
- Job Description and a feel of ownership within the business is critical
- Support professional growth through training – instil loyalty
- Weekly meetings (some businesses daily)
- Owner needs to lead from the front and be on the front line – strong culture
- Farmer needs to be the employee of choice, reputation important.
- Other one percenters: Good facilities, fairly up to date equipment, kitchen with food, offices, business cards, hourly wages
- Incentives such as annual bonuses don’t work for most - becomes expected
- Phantom Stock plan or an allocation of land as a incentive to encourage loyalty and growth with the business.
Thankyou

Reece Curwen
reececurwen@gmail.com