Agriculture, Fisheries and Forestry in the Wheat Belt region of Western Australia, 2013

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Research by the Australian Bureau of Agricultural and Resource Economics and Sciences

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1 Regional overview

The Wheat Belt region is located in the south-west corner of Western Australia (Map 1). The region comprises 55 local government areas, and the major regional towns of Albany, Merredin, Moora, Northam, Southern Cross, Wagin and York. The region covers a total area of around 197 300 square kilometres or 8 per cent of Western Australia’s total area and is home to approximately 129 400 people (ABS 2011).

The total land held by farm businesses was estimated to be 13 478 518 hectares in the Wheat Belt region in 2010–11. Agricultural land in the region was mainly used for cropping (6 853 319 hectares) and grazing (4 959 675 hectares), with some forestry (67 026 hectares) also taking place. In addition, 976 202 hectares of land held by farm businesses was set aside for conservation (ABS 2012).

Map 1 Wheat Belt region of Western Australia

Employment

Australian Bureau of Statistics (ABS) census data from 2011 indicate that around 59 300 people were employed in the Wheat Belt region. The Wheat Belt region accounts for 5 per cent of total employment in Western Australia and 46 per cent of all people employed in the Western Australia agriculture, forestry and fishing sector.

The agriculture, forestry and fishing sector (12 024 people) was the largest sector in terms of employment (Figure 1), which represented 20 per cent of the region’s workforce. Of this 91 per cent worked in agriculture, 6 per cent worked in support services for the agriculture, forestry and fishing sector, 1 per cent were employed in aquaculture and 1 per cent worked in fishing.
hunting and trapping. In addition, an estimated 1014 people were employed in food product manufacturing and 238 people were employed in wood, pulp and paper product manufacturing in the region (included in manufacturing sector employment).

Retail trade was the second largest employing sector (5578 people), followed by health care and social assistance (5319 people). Other important employment sectors in the region were education and training (4937 people), construction (4648 people) and public administration and safety (3915 people).

Figure 1 Employment profile, Wheat Belt region, Western Australia, August 2011

Source: Australian Bureau of Statistics
2 Agriculture sector

In 2010–11 the gross value of agricultural production (GVAP) in the Wheat Belt region was $2.7 billion, which was 50 per cent of the total gross value of agricultural production in Western Australia ($5.4 billion) for 2010–11. This is the most recent year for which data are available from the ABS on GVAP for this region.

The Wheat Belt region has a diverse and important agricultural sector. In 2010–11, this region accounted for the total value of Western Australian asparagus and passionfruit production, approximately 93 per cent of oat production, 89 per cent of olive production, and 74 per cent of vegetables grown for seed.

The most important commodity in the region, based on the value of agricultural output, was wheat (Figure 2). In 2010–11, wheat contributed 31 per cent ($846 million) to the total gross value of agricultural production in the Wheat Belt region. Wool, and sheep and lambs, each accounted for 16 per cent ($444 million and $423 million, respectively) of the total gross agricultural production. Canola ($220 million) and barley ($206 million) each contributed approximately 8 per cent to the gross agricultural production of the region.

Figure 2 Value of agricultural production, Wheat Belt region, Western Australia, 2010–11

![Figure 2](image)

Source: Australian Bureau of Statistics

Number and type of farms

ABS data indicate that in 2010–11 there were 6474 farms in the Wheat Belt region with an estimated value of agricultural operations of more than $5000 (Table 1). The region contains 52 per cent of all farm businesses in Western Australia.

Farms are classified in Table 1 according to the activities that generate most of their value of production. Mixed grains and livestock (2129 farms) were the most common, accounting for
33 per cent of all farms in the Wheat Belt region, and 85 per cent of all mixed grains and livestock farms in Western Australia.

Table 1 Number of farms, by industry classification, 2010–11

<table>
<thead>
<tr>
<th>Industry Classification</th>
<th>Western Australia - Wheat Belt region</th>
<th>Western Australia</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>no.</td>
<td>%</td>
</tr>
<tr>
<td>Mixed grains and livestock</td>
<td>2,129</td>
<td>33</td>
</tr>
<tr>
<td>Grain growing</td>
<td>1,377</td>
<td>21</td>
</tr>
<tr>
<td>Sheep</td>
<td>958</td>
<td>15</td>
</tr>
<tr>
<td>Beef cattle</td>
<td>676</td>
<td>10</td>
</tr>
<tr>
<td>Other livestock</td>
<td>253</td>
<td>4</td>
</tr>
<tr>
<td>Fruit and nuts</td>
<td>203</td>
<td>3</td>
</tr>
<tr>
<td>Mixed livestock</td>
<td>187</td>
<td>3</td>
</tr>
<tr>
<td>Other crop growing</td>
<td>66</td>
<td>1</td>
</tr>
<tr>
<td>Other</td>
<td>625</td>
<td>10</td>
</tr>
<tr>
<td>Total Agriculture</td>
<td>6,474</td>
<td>100</td>
</tr>
</tbody>
</table>

Note: Where the estimated value of agricultural operations is more than $5000.

Source: Australian Bureau of Statistics

A significant proportion of farms in the region are small in terms of their business size. Estimated value of agricultural operations (EVAO) is a measure of the value of production from farms and a measure of their business size, and is somewhat similar to turnover. Around 39 per cent of farms in the Wheat Belt region had an EVAO of less than $150 000 (Figure 3). These farms accounted for only 4 per cent of the total value of agricultural operations in 2010–11. In comparison, 30 per cent of farms in the region had an EVAO of more than $500 000 and accounted for an estimated 75 per cent of the total value of agricultural operations in the region in 2010–11.

Figure 3 Distribution of farms by estimated value of agricultural operations, Wheat Belt region, Western Australia, 2010–11

Source: Australian Bureau of Statistics
Farm financial performance—Western Australia

Each year, ABARES interviews Australian broadacre and dairy producers as part of its annual survey program. Broadacre industries covered in this survey include the grains, grains–livestock, sheep, beef and sheep–beef industries. The information collected is a basis for analysing the current financial position of farms in these industries and expected changes in the short term. This paper uses data from the ABARES Australian agriculture and grazing industries survey (AAGIS) and Australian dairy industry survey (ADIS) to compare estimates of financial performance indicators (Box 1) for broadacre and dairy farms in Western Australia.

Box 1 Definitions

<table>
<thead>
<tr>
<th>Major financial performance indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total cash receipts</strong>: total revenues received by the business during the financial year.</td>
</tr>
<tr>
<td><strong>Total cash costs</strong>: payments made by the business for materials and services and for permanent and casual hired labour (excluding owner manager, partner and family labour).</td>
</tr>
<tr>
<td><strong>Farm cash income</strong>: total cash receipts – total cash costs</td>
</tr>
<tr>
<td><strong>Farm business profit</strong>: farm cash income + changes in trading stocks – depreciation – imputed labour costs</td>
</tr>
<tr>
<td><strong>Profit at full equity</strong>: return produced by all the resources used in the business, farm business profit + rent + interest + finance lease payments – depreciation on leased items</td>
</tr>
<tr>
<td><strong>Rate of return</strong>: return to all capital used, profit at full equity * 100 / total opening capital</td>
</tr>
<tr>
<td><strong>Equity ratio</strong>: Farm capital minus farm debt expressed as a percentage of farm capital</td>
</tr>
</tbody>
</table>

Industry types

- **Grains**: farms mainly engaged in producing broadacre crops such as wheat, coarse grains, oilseeds and pulses, and including farms running sheep and/or beef cattle in conjunction with substantial broadacre crop activity.
- **Sheep**: farms mainly engaged in running sheep.
- **Beef**: farms mainly engaged in running beef cattle.
- **Dairy**: farms mainly engaged in milk production.

Performance of broadacre farms—Western Australia

Drier seasonal conditions in 2012–13 reduced Western Australian winter crop production by around 35 per cent from the record achieved in 2011–12. This reduction is projected to more than offset the effect of higher grain and oilseed prices and result in lower receipts from this season’s crop. However, the effect of lower grain production on 2012–13 farm cash receipts will be cushioned by substantial pool payments from the record 2011–12 crop. In addition, overall, receipts from sheep, lambs, beef cattle and wool are all expected to be lower in 2012–13 due to lower prices.
Farm cash income for Western Australian broadacre farms is projected to decline to an average $152,000 per farm in 2012–13 (Figure 4, Table 2), around 5 per cent above the average farm cash income recorded for the 10 years to 2011–12.

**Figure 4** Real farm cash income, broadacre industries, average per farm

![Graph showing real farm cash income, broadacre industries, average per farm]

Note: p Preliminary estimate. y Provisional estimate.

**Table 2** Financial performance, Western Australia broadacre industries, 2010–11 to 2012–13, average per farm

<table>
<thead>
<tr>
<th>Performance indicator</th>
<th>units</th>
<th>2010–11</th>
<th>2011–12p</th>
<th>RSE (%)</th>
<th>2012–13y</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total cash receipts</td>
<td>$</td>
<td>659 070</td>
<td>726 900</td>
<td>(6)</td>
<td>710 000</td>
</tr>
<tr>
<td>Total cash costs</td>
<td>$</td>
<td>509 230</td>
<td>536 700</td>
<td>(5)</td>
<td>558 000</td>
</tr>
<tr>
<td>Farm cash income</td>
<td>$</td>
<td>149 840</td>
<td>190 200</td>
<td>(14)</td>
<td>152 000</td>
</tr>
<tr>
<td>Farms with negative farm cash income</td>
<td>%</td>
<td>23</td>
<td>22</td>
<td>(24)</td>
<td>31</td>
</tr>
<tr>
<td>Farm business profit</td>
<td>$</td>
<td>- 16 600</td>
<td>93 200</td>
<td>(26)</td>
<td>15 000</td>
</tr>
<tr>
<td>Profit at full equity - excluding capital appreciation</td>
<td>$</td>
<td>62 800</td>
<td>172 800</td>
<td>(15)</td>
<td>94 000</td>
</tr>
<tr>
<td>Farm capital at 1 July a</td>
<td>$</td>
<td>5 720 840</td>
<td>5 644 100</td>
<td>(6)</td>
<td>na</td>
</tr>
<tr>
<td>Farm debt at 30 June b</td>
<td>$</td>
<td>906 180</td>
<td>886 300</td>
<td>(10)</td>
<td>916 000</td>
</tr>
<tr>
<td>Equity ratio b</td>
<td>%</td>
<td>84</td>
<td>84</td>
<td>(2)</td>
<td>na</td>
</tr>
<tr>
<td>Rate of return - excluding capital appreciation c</td>
<td>%</td>
<td>1.1</td>
<td>3.0</td>
<td>(16)</td>
<td>1.7</td>
</tr>
<tr>
<td>Off-farm income of owner manager and spouse b</td>
<td>$</td>
<td>27 460</td>
<td>27 300</td>
<td>(11)</td>
<td>na</td>
</tr>
</tbody>
</table>

Note: a Excludes leased plant and equipment. b Average per responding farm. c Rate of return to farm capital at 1 July. p ABARES preliminary estimates. y ABARES provisional estimates. na Not available. **RSE** Relative standard errors, expressed as a percentage of the estimate provided.

**Performance of grains industry farms—Western Australia**

Average total cash receipts for Western Australian grains industry farms increased sharply in 2011–12 as a result of a record winter crop harvest. Total cash costs also increased in 2011–12 due to higher expenditure on fertiliser, crop chemicals, fuel and the costs of harvesting and marketing the larger crop. Average farm cash income for grains industry farms in Western Australia increased to an historical high of $324,000 per farm in 2011–12 (Figure 5).

Western Australia experienced far less favourable seasonal conditions in 2012–13, with most cropping regions receiving very much below average rainfall during the winter cropping season.
One exception was the south coast region which received around average rainfall during winter. Despite an increase in grain prices, average crop receipts for grains industry farms are projected to decline relative to 2011-12, but with substantial pool payments from the record 2011-12 grain crop partially offsetting lower receipts from the 2012-13 crop. Total cash costs for grains industry farms are also projected to fall slightly in 2012-13, mainly due to a projected decline in expenditure on interest payments and the reduction in expenditure on harvesting and marketing a smaller crop compared with 2011-12. Farm cash income for Western Australian grains industry farms is projected to average $236 000 per farm in 2012-13, still around 20 per cent above the industry average for the previous 10 years (Figure 5).

**Performance of beef industry farms—Western Australia**

In 2011-12, cattle turnoff was reduced on Western Australian beef industry farms. However, overall, an increase in the average sale price received for beef cattle in southern regions resulted in a small increase in total cash receipts in 2011-12. In addition, a reduction in the number of beef cattle purchased in 2011-12 and reduced expenditure on hired labour, fodder and interest payments resulted in average farm cash income for Western Australian beef industry farms increasing to an average of $110 200 per farm in 2011-12 (Figure 6).

In 2012-13, beef cattle turnoff is expected to increase with increased supply cattle in the northern regions and drier seasonal conditions in the south. Overall, average total cash receipts are projected to increase in 2012-13, despite a reduction in average sale prices for cattle. In addition, total cash costs are projected to decline slightly with reduced expenditure on interest payments together with further reductions in expenditure on beef cattle purchases to result in farm cash income for Western Australian beef industry farms increasing slightly to average $116 000 per farm in 2012-13.
Performance of dairy industry farms—Western Australia

In 2012–13, lower farmgate milk prices are projected to result in lower total farm receipts. Despite projected reductions in total farm cash costs as farmers respond to lower receipts, the financial performance for dairy farms in Western Australia is expected to decline. Farm cash income is projected to average $89,000, around 40 per cent below the average for the 10 years to 2011–12 (Table 3).

Table 3 Financial performance, Western Australia dairy industry, 2010–11 to 2012–13, average per farm

<table>
<thead>
<tr>
<th>Performance indicator</th>
<th>units</th>
<th>2010–11</th>
<th>2011–12</th>
<th>RSE (%)</th>
<th>2012–13</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total cash receipts</td>
<td>$</td>
<td>830 610</td>
<td>899 100</td>
<td>(8)</td>
<td>855 000</td>
</tr>
<tr>
<td>Total cash costs</td>
<td>$</td>
<td>690 040</td>
<td>787 500</td>
<td>(10)</td>
<td>766 000</td>
</tr>
<tr>
<td>Farm cash income</td>
<td>$</td>
<td>140 560</td>
<td>111 600</td>
<td>(20)</td>
<td>89 000</td>
</tr>
<tr>
<td>Farms with negative farm cash income</td>
<td>%</td>
<td>13</td>
<td>7</td>
<td>(53)</td>
<td>15</td>
</tr>
<tr>
<td>Farm business profit</td>
<td>$</td>
<td>8 000</td>
<td>24 200</td>
<td>(107)</td>
<td>- 14 000</td>
</tr>
<tr>
<td>Profit at full equity - excluding capital appreciation</td>
<td>$</td>
<td>87 430</td>
<td>112 000</td>
<td>(23)</td>
<td>67 000</td>
</tr>
<tr>
<td>Farm capital at 1 July a</td>
<td>$</td>
<td>8 703 600</td>
<td>9 325 200</td>
<td>(11)</td>
<td>na</td>
</tr>
<tr>
<td>Farm debt at 30 June b</td>
<td>$</td>
<td>809 650</td>
<td>993 800</td>
<td>(21)</td>
<td>992 000</td>
</tr>
<tr>
<td>Equity ratio b</td>
<td>%</td>
<td>91</td>
<td>90</td>
<td>(3)</td>
<td>na</td>
</tr>
<tr>
<td>Rate of return - excluding capital appreciation c</td>
<td>%</td>
<td>1.0</td>
<td>1.2</td>
<td>(28)</td>
<td>0.7</td>
</tr>
<tr>
<td>Off-farm income of owner manager and spouse b</td>
<td>$</td>
<td>11 300</td>
<td>8 200</td>
<td>(22)</td>
<td>na</td>
</tr>
</tbody>
</table>

Note: a Excludes leased plant and equipment. b Average per responding farm. c Rate of return to farm capital at 1 July.
P ABARES preliminary estimates. y ABARES provisional estimates. na Not available. RSE Relative standard errors, expressed as a percentage of the estimate provided.
3 Fisheries Sector

The Wheat Belt of Western Australia surrounds the Bunbury and Greater Perth regions in the south-west of the state. Its coastline includes a stretch on the west coast north of Perth, and a stretch on the southern coast around Albany. The coastal areas include the West Coast and South Coast bioregions (Fletcher & Santoro 2012). The most valuable capture fishing activities include western rocklobster production in the West Coast bioregion, and abalone and mussels in the South Coast bioregion. There are few aquaculture activities in the coast areas of the Wheat Belt region, restricted by the very limited availability of protected deep waters typically required by this sector.

In 2010–11, the gross value of Western Australian fisheries production (both aquaculture and wild-catch) was $397 million, an increase of 8 per cent ($28 million) from 2009–10. Western Australia accounted for 42 per cent of the total value of Australian fisheries production in 2010–11, up from 24 per cent in 2003–04. In value terms, the wild-catch sector accounted for around 72 per cent ($285 million) of the state’s total production and the aquaculture sector accounted for the remaining 28 per cent ($113 million).

Western Australia’s wild-catch sector is dominated by the production of western rocklobster, which accounted for around 65 per cent of the state’s total wild-catch production in 2010–11. Other major wild-catch seafood products include prawns (12 per cent of value of state production in 2010–11), scallops (5 per cent) and abalone (4 per cent). Over the past decade the value of Western Australian wild-caught fisheries is estimated to have declined, from $579 million to $285 million, in constant 2010–11 dollars. The decline in value was driven by a 33 per cent decline in total production volume and lower average unit prices for a number of major wild-catch species.

The product for which the real value of production declined most over the past decade is western rocklobster, falling by $220 million (in 2010–11 terms) from $404 million in 2000–01 to an estimated $184 million in 2010–11. This was the result of a 53 per cent reduction in the volume caught, while the unit export price remained roughly constant in real terms. A large proportion of rocklobster production is exported, mostly to Hong Kong. Exchange rate movements have a significant effect on the value of rock lobster exports and, in turn, production.

Prawns also account for a significant proportion of Western Australian wild-catch production, accounting for an estimated 14 per cent and 12 per cent of the total volume and value, respectively, of wild-catch production in 2010–11. The value of prawn production increased by 24 per cent ($7 million) in 2010–11. This reflects a 15 per cent increase in production volume and an 8 per cent increase in the average unit price.

The main Commonwealth fishery active in the Wheat Belt region is the Western Tuna and Billfish Fishery. Target species for the fishery include striped marlin, swordfish, albacore, bigeye tuna, longtail tuna and yellowfin tuna. There has been very little fishing activity in this fishery in recent years.

In 2010–11, Western Australia’s seafood product exports were valued at $240 million, representing a 10 per cent decline in value compared with 2009–10. The main export seafood product is western rocklobster, which accounted for 83 per cent of the state’s exports of seafood in 2010–11. Other major export seafood products include prawns (6 per cent) and scallops (6 per cent).
Hong Kong is the major destination for Western Australian seafood exports, accounting for around two-thirds of the total value of exports in 2011–12. Other major export destinations include Japan (10 per cent) and the United States (7 per cent).

Recreational fishing is a popular activity in Western Australia, with an estimated 643 000 people fishing recreationally in the state (Government of Western Australia 2013). Most of the activity is in the Perth and surrounding area owing to the large proportion of the Western Australia population living in that region. It also makes a significant contribution to the state economy and attracts thousands of visitors to regional Western Australia each year (Government of Western Australia 2013). There is also a large charter boat sector providing recreational fishing experiences to local, interstate and international tourists.

The Wheat Belt region includes estuaries and beaches on the west and south coast where recreational fishing for Australian herring, whiting (especially King George whiting), silver trevally, black bream, prawns and blue swimmer crab is popular (Henry and Lyle 2003).
4 Forestry Sector

In 2010–11, the total plantation area in the Wheat Belt region was approximately 226,500 hectares, comprised of around 183,000 hectares of hardwood plantations and 35,000 hectares of softwood plantations. In the Western Australia National Plantation Inventory (NPI) region the main hardwood species planted is blue gum (*Eucalyptus globulus*) and the main softwood species planted is radiata pine (*Pinus radiata*). Total log supply from plantations in the Western Australia NPI region is forecast to increase to 4.6 million cubic metres a year for the 2015–19 period, producing mainly hardwood pulp logs (75 per cent).

In 2008, there were around 3 million hectares of native forests in the Wheat Belt region, comprised mainly of eucalypt medium woodland (1.3 million hectares), eucalypt medium open (550,000 hectares) and eucalypt mallee woodland (467,000 hectares) forest types. The majority of the native forests are managed for nature conservation (1.0 million hectares) and around 300,000 hectares are multiple use forests available for the production of sawlogs. Major export and timber processing industries are located in Albany, Mount Barker and Dwellingup.

Total sales and service income for the Western Australia forest and wood product industry was estimated at around $1.6 billion in 2010–11, of which $1.2 billion was from wood product sales and the remaining $390 million from the sale of paper and paper products. Western Australia produces and exports a range of forest products including woodchips. In 2010–11, Western Australia exported 1.6 million tonnes of woodchips valued at around $326 million. In 2011–12, both the volume and value of woodchip exports declined to 1.5 million tonnes and $287 million respectively.
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