SOUTH AUSTRALIAN GRAIN INDUSTRY OVERVIEW

SUBMISSION: ESCOSA GRAIN SUPPLY CHAIN COST INQUIRY

16 MAY 2017
SA GRAIN INDUSTRY OVERVIEW

Information current as of 16 May 2017

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All enquiries

Dave Lewis
Grain Account Manager, Agriculture Food and Wine
Primary Industries and Regions SA (PIRSA)
Level 15, 25 Grenfell Street
GPO Box 1671, Adelaide SA 5001
T 08 8429 0472  M 0409 289 107
E dave.lewis@sa.gov.au
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GRAIN INDUSTRY OVERVIEW

GLOBAL AND NATIONAL CONTEXT

- Grain trade is global – Australia is one of a number of exporting countries including Canada, USA, EU – particularly France/Germany, Russia, Ukraine, Kazakhstan and Argentina.
- Australia usually ranks as about the fifth largest grain exporter behind Canada, US, France and Germany.
- Competition: Increasing competition from countries developing improved grain production and exporting capacity e.g. Black Sea, South America (Argentina).
- Southern Hemisphere exporters harvest and grain marketing directly competes with Australia on timing of harvest and grain export marketing. Northern hemisphere counter cyclic to Australian grain exporting but large exporters have potential overlap of supply into Australia’s traditional markets.
- Western Australia is the largest winter grain production state (about 13kt annual average), followed by NSW (about 10kt), SA (7kt), Victoria (5kt).
- South Australia along with Western Australia are export focussed states with around 85% of grain produced exported by each state. Eastern Australian states only export around 50% of the total annual grain production due to the larger domestic market.

MARKETS

- The typical South Australian crop is winter grown (sown commencing April-May, harvest commencing late September) and includes cereal, pulses and oilseeds. Summer cropping is small and opportunistic (depending on summer rain). Summer crops are for domestic markets only.
- On average around 85% of South Australia grain production is exported (less in drought years) and in large production year exports may increase to more than 90%.
- South Australia’s domestic market is small with relatively consistent demand from year to year. Annual domestic use is estimated at 1.1 million tonnes (about 15% of average total production).
- Domestic uses include flours, rolled, cut or kibbled grain (wheat and oats), malt/beer (mostly barley) and semolina/pasta manufacture (durum wheat). Other uses include animal feeds and seed retained on farm for sowing the next crop.
- Global price is determined by supply, use (demand) and stocks on hand (stockpile). Demand is steadily increasing. Volatility created year to year by production season variation with poor production seasons for example drought, reducing supply in major grain production countries. Some of these grain production countries are also significant global exporters (and others are not e.g. China/India are major producers but need to import grains when production falls short of demand).
- Wheat and barley are Australia and South Australia’s largest crops (refer Appendix Tables 1 and 2). Around 59% of the SA crop is wheat, 20% barley, and the remainder made up of canola (7%), pulses (9%) including lentils, field peas, beans (broad and fava), chickpeas (Kabuli and Desi), lupins and other cereal crops (5%).
- Pulses are key protein source in diets in Indian subcontinent, Middle East and north Africa.
Livestock feeds are of growing importance with increasing demand for meat and dairy driving livestock industry growth globally. Dominant markets include Middle East (notably Saudi Arabia) and China.

**BULK STORAGE**

- Viterra operates most of the grain storage and grain handling capacity in South Australia (Figure 1). Viterra’s storage is currently in excess of 11 million tonnes, located in around 90 operational grain receival sites.
- The network of storage was expanded in 2016/17 to cope with the record grain production season (Appendix Table 1) through construction of an additional 900,000 tonnes of new bunker storage during second half of 2016.

*Figure 1 Viterra Storage sites, Ports and rail lines (note Murray Mallee lines from Loxton and Pinnaroo truncated to Tailem Bend. Ardrossan and Port Pirie export terminals are no longer used to export grain): Source Viterra.*

Other bulk handlers

- Cargill (trading in Australia as AWB Grainflow, Cargill and AWB) also operate grain receival and storage sites at Pinnaroo, Crystal Brook, Maitland and Mallala.
- KI Pure Grain Pty Ltd operates a grain receival and storage site at Kingscote.
- San Remo operates durum wheat receival sites at Balaklava and Kulpara (Northern Yorke Peninsula).
- Free Eyre has in the past operated a grain receival and storage site at Taragoro on the Eastern Eyre Peninsula (currently not operational).
Grain receivals and small storage capacity for domestic supply are also managed by:
  - Blue Lake Milling (BLM) - Bordertown
  - Laucke (flour mill - Strathalbyn and feed mill - Daveyston)
  - Ridleys Feed Mills - Murray Bridge
  - Wasleys
  - Allied - Mile End and Westons - Port Adelaide (domestic flour mills).

An additional (estimated) 1 million tonnes of grain storage is managed on farms. Much of this is used as short term storage to manage logistics of harvest buffering for cartage to silos. There are also examples of grower’s investing in larger scale long term storage to capitalise on direct grain marketing opportunities.

**Bulk storage to support shipping container trade**

- A number of traders operate shipping container packing and exporting services. Operators include: JK Milling, Semaphore Packers, AGT Foods, Glencore Grain (Viterra). These operators receive grain into processing and shipping.
- Approximately 300,000 tonnes of grain are currently exported in 20 foot (referred to as TEU or “Twenty Foot Equivalent Unit”) and 40 foot shipping containers – either bulk loaded or bagged (sometimes palletised) and packed into the container.
- A TEU will carry about 16 tonnes of wheat, and a 40’ container around 25 tonnes (cannot be filled completely due maximum gross weight restrictions).
- Container lots allow service of niche small volume markets with premium quality grain or permits trade to export destinations not capable of handling large volume bulk shipped cargoes.
- While a significant tonnage of container exports are pulses, some wheat, barley, canola and other grains can also be packed and exported in containers.

**DISTRIBUTION AND BULK EXPORTS**

- While 300,000 tonnes exported in shipping containers, a total of around 5.5 million tonnes is exported annually as bulk dry cargoes in larger shipping vessels.
- Vessel capacity for bulk dry cargo vary from smaller “Handimax” ships capable of up to around 30,000 tonnes up to much larger post Panamax vessels with up to 70,000 tonne cargo capacity.
- Viterra operates a mix of road and rail transport to freight grain from upcountry storage to the six grain export port terminals.
- Grain export port terminals are located at Flinders Ports owned sites (Deep Sea ports: Port Lincoln, Port Giles and Port Adelaide - Outer Harbor. Shallow ports: Thevenard, Wallaroo, Port Adelaide - Inner Harbour). Deep seas ports can port up to and including the larger Panamax vessels.
- Viterra also owns the Ardrossan port – which is no longer used for export - preferring to accumulate grain at an upcountry site for export through the deep sea port at Port Giles. Port Pirie is also now only used as upcountry storage, with grain freighted south to Port Giles, Wallaroo or Port Adelaide for export.
- Cargill road freights to Port Adelaide from its upcountry stores for direct loading out of trucks into vessels ported at Berth 29. Grain ship loading services are operated by Patricks, using a dough-stacker (long grain auger) to empty the trucks direct into the cargo hold of the vessel.
• Note that grain is also exported in containers through the Outer Harbour container terminal.

CURRENT REGULATIONS

• The history of regulation in the wheat and barley export marketing and the transition from single desk statutory body exporters (Australian Wheat Board and Australian Barley Board) to multiple private operators in competitive export markets is referred at Appendix, Figure 2.
• Deregulation was complete in SA barley exporting with the lapsing of the Barley Exporting Act in 2010, and for wheat nationally in 2014. This effectively opened wheat and barley exporting to any trader.
• A mandated code of conduct was established when wheat was ‘deregulated’ for port terminal operators exporting wheat. The code was established to provide comfort to some wheat grower groups and industry concerned at the impacts of the loss of the wheat export single desk.
• The regulated history and single desk marketing provides the reasoning for today’s existing grain handling, storage and marketing structures and nuances.

Commonwealth wheat mandated code and exemptions

• During deregulation of wheat export marketing, the Commonwealth established a mandatory code of conduct for the operation of wheat export port terminals in Australia.
• The Australian Competition and Consumer Commission (ACCC) monitors and enforces the Port Terminal Access (Bulk Wheat) Code of Conduct, a mandatory Code prescribed under the Australian Government’s Competition and Consumer Act 2010. The ACCC enforces the regulations in the Code, and has an ongoing role monitoring compliance.
• The Code regulates the conduct of bulk wheat port terminal operators. It replaces the previous wheat port access regime under the (repealed) Wheat Export Marketing Act 2008.
• The purpose of the code is to regulate the conduct of port terminal service providers to ensure that exporters of bulk wheat have fair and transparent access to port terminal services.
• Provisions of the code include exemptions of ports operated by wheat export port terminal operators with a cooperative business structure. All ports operated by Cooperative Bulk Handling Limited (CBH Group), being a cooperative structure owned by Western Australian grain growers, are exempt from the full provisions of the Code (Western Australian ports).
• Ports deemed by assessment by the ACCC to have regional competition may also be exempted from the full code. As a result of assessment of competitive port terminal operations at most eastern Australian ports, nearly all eastern State ports are exempt.
• No ports in South Australia are determined exempt from the Code. Viterra is required to apply to the ACCC and consult with industry on any proposed changes to the arrangements related to operations of its grain export port terminal services.

South Australian Regulations

• South Australian Regulations related to grain supply chain:
Port Access regime and Rail Access regime are administered by Department of Transport and Planning and Infrastructure. Both regimes are reviewed every five years by ESCOSA.

**MARKETING**

- In 2017, PIRSA understands at least fourteen grain trading exporters booked shipping slot capacity with Viterra for exporting grain from the recent completed grain harvest.
- Exported South Australian grain is estimated to average $2.5 billion value (last 5 year PIRSA estimate).
- Around 85% of South Australian grain production exported representing 21% of the states agri-food exports.
- Grain traders exporting grain secure supply contracts with customers in export destinations. This may arise as a result of long term relationships between the grain export trader and overseas customer. However, new trade may arise by an Australian grain trader successfully tendering to supply in response to supply tenders being lodged in global grain trading markets by a grain customer.
- The grain trader will offer a price for purchase of grain from South Australian grain growers to fulfil the export contract. The prices on offer from traders are presented to growers through being posted on websites, purchase price offers directly communicated to growers via email or SMS text or posted on boards at the silo delivery point. Growers have a choice of grain traders competitively seeking to secure grain parcels for supply against their export contracts.
- Prices paid to grain growers reflect prices negotiated by the grain trader with the destination importing customer (underpinned by global grain supply (stocks plus production) and demand, less tolls, charges, freight, levies and other deductions. Grain can be traded in exchanges including for example Chicago Board of Trade.
- Grain trade is complex. Put simply, grain growers trade grain to grain purchasing traders on basis of price, which may be cash on delivery or supplying grain against “forward contracts” between growers and traders established during the growing season. Contracts available include “cash” or “pools” – a system where the trader pays the grower in instalments as the “grain pool” is sold to export customers – but there are many variations of these instruments.
- Once the transaction is completed between the grain grower and grain trader/exporter, title for the grain is with the trader.

**KEY STAKEHOLDERS**

**BULK HANDLING**

- Bulk handling corporations (BHC) – Viterra and Cargill and several smaller operators.
- Cargill is a bulk handler and grain trader (trading grain as both as Cargill Australia and AWB).
- Viterra is wholly owned subsidiary of multinational logistics corporation, Glencore. Viterra do not trade grain.
- CBH own Blue Lake Milling and trade grain in South Australia, but the bulk storage and handling business of CBH is located in Western Australia.
MAJOR TRADERS

- PIRSA is aware of more than 100 grain traders purchasing grain from growers in South Australia.
- Less than 20 companies trade grain mostly for export, the remainder purchase grain for domestic processing or consumption.
- Currently it is understood that 14 traders have predominately bulk grain export arrangements coordinated through Viterra. A number of smaller exporting traders export in shipping containers.
- Cargill AWB and AWB Grainflow execute grain exports both through Viterra and also manage their own direct supply chain to export. Cargill road freight grain from upcountry sites, delivering direct to port for unloading direct into export vessels utilizing the services of Patricks at the multipurpose berth 29 in Port Adelaide inner harbor.
- Glencore Grain Australia, also a subsidiary of Viterra’s parent company (Glencore PLC a global logistics company with agriculture, mining and logistics businesses) is the largest grain trader exporter in South Australia by market share.

OTHER KEY ORGANISATIONS OPERATING IN SA

STATE ORGANISATIONS

Grain Industry Association SA

Grain Producers SA (and associated committees including SA Barley Advisory Committee - SABAC)

SA Grain Industry Trust (research funder).

NATIONAL ORGANISATIONS

Grain Growers Ltd

Pulse Australia (State level Pulse SA)

Grain Producers Australia

Barley Australia

Grain Trade Australia

Grain Research and Development Corporation (GRDC)

Australian Oilseeds Federation
Table 1 Main South Australian Crops - High and Low (drought) production years (tonnes). Source: PIRSA Crop and Pasture Report.

<table>
<thead>
<tr>
<th>DISTRICT</th>
<th>2006-07 Production (Low Year)</th>
<th>2016-17 Production (High Year - State record)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Wheat Barley Canola Lentils</td>
<td>Wheat Barley Canola Lentils All Crops</td>
</tr>
<tr>
<td>Western Eyre Peninsula</td>
<td>262,650  77,490  1,782  100</td>
<td>955,000  138,000  12,000  3,000  1,153,080</td>
</tr>
<tr>
<td>Lower Eyre Peninsula</td>
<td>204,468  107,714  23,918  540</td>
<td>553,000  233,000  150,000  7,200  1,031,500</td>
</tr>
<tr>
<td>Eastern Eyre Peninsula</td>
<td>215,543  74,200  1,000  0</td>
<td>1,019,000  195,000  19,000  6,000  1,274,690</td>
</tr>
<tr>
<td>Total Eyre Peninsula</td>
<td>682,660  259,404  26,700  640</td>
<td>2,527,000  566,000  181,000  16,200  3,459,270</td>
</tr>
<tr>
<td>Yorke Peninsula</td>
<td>151,823  268,621  5,800  16,800</td>
<td>826,000  695,000  25,000  360,000  2,004,900</td>
</tr>
<tr>
<td>Upper North</td>
<td>124,165  94,444  3,600  400</td>
<td>743,000  286,000  29,000  10,800  1,167,100</td>
</tr>
<tr>
<td>Mid North</td>
<td>226,212  155,839  19,789  3,818</td>
<td>1,018,000  390,000  47,500  26,000  1,614,400</td>
</tr>
<tr>
<td>Lower North</td>
<td>57,300   59,429  3,211  0</td>
<td>273,500  122,000  6,700  16,500  465,800</td>
</tr>
<tr>
<td>Total Northern Districts and Yorke Peninsula</td>
<td>559,499  578,333  32,400  22,602</td>
<td>2,860,500  1,493,000  108,200  413,300  5,252,200</td>
</tr>
<tr>
<td>Kangaroo Island</td>
<td>7,243    2,067   6,125  0</td>
<td>12,500   4,300   3,300  0          36,200</td>
</tr>
<tr>
<td>Central Hills &amp; Fleurieu</td>
<td>6,420    9,500   1,200  0</td>
<td>14,900   37,500  8,500  420        76,520</td>
</tr>
<tr>
<td>Total Central</td>
<td>13,663   11,567  7,325  0</td>
<td>27,400   41,800  11,800  420        112,720</td>
</tr>
<tr>
<td>Lower Murray</td>
<td>34,968   42,694  1,192  0</td>
<td>165,300  174,000  5,400  2,200  383,500</td>
</tr>
<tr>
<td>Northern Murray Mallee</td>
<td>134,184  28,600  300   0</td>
<td>442,500  122,000  12,000  800        602,900</td>
</tr>
<tr>
<td>Southern Murray Mallee</td>
<td>31,500   34,971  770   0</td>
<td>341,000  253,000  7,500  8,000  678,000</td>
</tr>
<tr>
<td>Total Mallee</td>
<td>200,652  106,266 2,262  0</td>
<td>948,800  549,000  24,900  11,000  1,664,400</td>
</tr>
<tr>
<td>Upper South East</td>
<td>36,800   54,001  2,630  164</td>
<td>236,500  105,000  30,000  6,500  496,650</td>
</tr>
<tr>
<td>Lower South East</td>
<td>14,400   19,458  1,622  50</td>
<td>70,000   20,000  17,000  260        159,460</td>
</tr>
<tr>
<td>Total South East</td>
<td>51,200   73,459  4,252  214</td>
<td>306,500  125,000  47,000  6,760  656,110</td>
</tr>
<tr>
<td>STATE TOTAL</td>
<td>1,507,674 1,029,030 72,938 23,456</td>
<td>6,670,200 2,774,800 372,900 447,680 11,144,700</td>
</tr>
</tbody>
</table>
### Table 2: Averages main Crops by district - 5 year average and 10 year State total (tonnes). Source: PIRSA Crop and Pasture Report.

<table>
<thead>
<tr>
<th>DISTRICT</th>
<th>5 Year Average (2012 - 2017)</th>
<th>10 year average - all crops</th>
<th>% State Production</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Wheat¹</td>
<td>Barley</td>
<td>Canola</td>
</tr>
<tr>
<td>Western Eyre Peninsula</td>
<td>758,100</td>
<td>111,000</td>
<td>7,400</td>
</tr>
<tr>
<td>Lower Eyre Peninsula</td>
<td>450,700</td>
<td>220,900</td>
<td>102,400</td>
</tr>
<tr>
<td>Eastern Eyre Peninsula</td>
<td>762,300</td>
<td>154,800</td>
<td>10,900</td>
</tr>
<tr>
<td><strong>Total Eyre Peninsula</strong></td>
<td>1,971,100</td>
<td>486,700</td>
<td>120,700</td>
</tr>
<tr>
<td>Yorke Peninsula</td>
<td>658,500</td>
<td>549,800</td>
<td>42,100</td>
</tr>
<tr>
<td>Upper North</td>
<td>503,800</td>
<td>202,900</td>
<td>27,500</td>
</tr>
<tr>
<td>Mid North</td>
<td>726,400</td>
<td>284,400</td>
<td>58,700</td>
</tr>
<tr>
<td>Lower North</td>
<td>173,800</td>
<td>94,800</td>
<td>11,400</td>
</tr>
<tr>
<td><strong>Total Northern Districts and Yorke</strong></td>
<td>2,062,500</td>
<td>1,131,900</td>
<td>139,700</td>
</tr>
<tr>
<td>Kangaroo Island</td>
<td>12,900</td>
<td>5,300</td>
<td>5,800</td>
</tr>
<tr>
<td>Central Hills &amp; Fleurieu</td>
<td>14,000</td>
<td>24,400</td>
<td>5,800</td>
</tr>
<tr>
<td><strong>Total Central</strong></td>
<td>26,900</td>
<td>29,700</td>
<td>11,600</td>
</tr>
<tr>
<td>Lower Murray</td>
<td>123,000</td>
<td>112,600</td>
<td>4,100</td>
</tr>
<tr>
<td>Northern Murray Mallee</td>
<td>330,100</td>
<td>79,100</td>
<td>9,900</td>
</tr>
<tr>
<td>Southern Murray Mallee</td>
<td>195,400</td>
<td>146,400</td>
<td>6,100</td>
</tr>
<tr>
<td><strong>Total Mallee</strong></td>
<td>648,500</td>
<td>338,100</td>
<td>20,100</td>
</tr>
<tr>
<td>Upper South East</td>
<td>167,800</td>
<td>116,800</td>
<td>39,400</td>
</tr>
<tr>
<td>Lower South East</td>
<td>77,600</td>
<td>33,000</td>
<td>28,400</td>
</tr>
<tr>
<td><strong>Total South East</strong></td>
<td>245,400</td>
<td>149,800</td>
<td>67,800</td>
</tr>
<tr>
<td><strong>STATE TOTAL</strong></td>
<td>4,954,400</td>
<td>2,136,200</td>
<td>359,900</td>
</tr>
</tbody>
</table>

**NOTES:**

¹ Wheat includes both bread and durum wheats

² 2006/07 drought was the lowest production year in SA in the last 20 years and the last serious drought the state has seen. Also note 2006/07 canola and lentils were still in growth phase as new crops, but the total area sown 2016/17 (3,927,000 ha) was similar to 2006/07 (3,894,000 ha).

³ 2016-17 latest finalised PIRSA data of crop estimates by PIRSA crop reporting district released March 2017.

⁴ Other crops included in the total: oats, rye corn, triticale, lupins, peas, beans (fava and broad), chickpeas and vetch.
Figure 2 Deregulation of the Australian Grain Industry - wheat and barley. Source: 2016 State of the Australian Grain Industry (Grain Growers Ltd), Dr Cheryl Kalisch Gordon.

*With the exception of the South Australian Barley Exporting Act which was allowed to expire in 2010.