AGRICULTURE, FOOD & WINE
PIRSA

SOUTH AUSTRALIAN GRAIN INDUSTRY OVERVIEW

SUBMISSION: ESCOSA GRAIN SUPPLY CHAIN COST INQUIRY

16 MAY 2017

PREMIUM FOOD AND WINE FROM OUR CLEAN ENVIRONMENT

SOUTH AUSTRALIA

Government of South Australia

Primary Industries and Regions SA

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

Grain Producers Australia

Grain Trade Australia

Australian Oilseeds Federation

Pulse Australia (State level Pulse SA)

Barley Australia

Grain Research and Development Corporation (GRDC)

APPENDIX

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

	2006-07 Production (Low Year)[2]					2016-17 Production (High Year - State record)[3]				
DISTRICT	**Wheat[1]**	**Barley**	**Canola**	**Lentils**	**All Crops[4]**	**Wheat[1]**	**Barley**	**Canola**	**Lentils**	**All Crops[4]**
Western Eyre Peninsula	262,650	77,490	1,782	100	354,785	955,000	138,000	12,000	3,000	1,153,080
Lower Eyre Peninsula	204,468	107,714	23,918	540	375,077	553,000	233,000	150,000	7,200	1,031,500
Eastern Eyre Peninsula	215,543	74,200	1,000	0	300,140	1,019,000	195,000	19,000	6,000	1,274,690
Total Eyre Peninsula	682,660	259,404	26,700	640	1,030,002	2,527,000	566,000	181,000	16,200	3,459,270
Yorke Peninsula	151,823	268,621	5,800	16,800	487,596	826,000	695,000	25,000	360,000	2,004,900
Upper North	124,165	94,444	3,600	400	242,183	743,000	286,000	29,000	10,800	1,167,100
Mid North	226,212	155,839	19,789	3,818	461,007	1,018,000	390,000	47,500	26,000	1,614,400
Lower North	57,300	59,429	3,211	1,584	140,113	273,500	122,000	6,700	16,500	465,800
Total Northern Districts and Yorke Peninsula	559,499	578,333	32,400	22,602	1,330,899	2,860,500	1,493,000	108,200	413,300	5,252,200
Kangaroo Island	7,243	2,067	6,125	0	19,857	12,500	4,300	3,300	0	36,200
Central Hills & Fleurieu	6,420	9,500	1,200	0	23,977	14,900	37,500	8,500	420	76,520
Total Central	13,663	11,567	7,325	0	43,834	27,400	41,800	11,800	420	112,720
Lower Murray	34,968	42,694	1,192	0	94,797	165,300	174,000	5,400	2,200	383,500
Northern Murray Mallee	134,184	28,600	300	0	179,484	442,500	122,000	12,000	800	602,900
Southern Murray Mallee	31,500	34,971	770	0	78,533	341,000	253,000	7,500	8,000	678,000
Total Mallee	200,652	106,266	2,262	0	352,815	948,800	549,000	24,900	11,000	1,664,400
Upper South East	36,800	54,001	2,630	164	106,175	236,500	105,000	30,000	6,500	496,650
Lower South East	14,400	19,458	1,622	50	53,323	70,000	20,000	17,000	260	159,460
Total South East	51,200	73,459	4,252	214	159,499	306,500	125,000	47,000	6,760	656,110
STATE TOTAL	**1,507,674**	**1,029,030**	**72,938**	**23,456**	**2,917,049**	**6,670,200**	**2,774,800**	**372,900**	**447,680**	**11,144,700**

Table 2 Averages main Crops by district - 5 year average and 10 year State total (tonnes). Source: PIRSA Crop and Pasture Report.

	5 Year Average (2012 - 2017)					10 year average - all crops	
DISTRICT	Wheat[1]	Barley	Canola	Lentils	All Crops[4]	2007- 2017	% State Production
Western Eyre Peninsula	758,100	111,000	7,400	600	905,200	832,700	10.8%
Lower Eyre Peninsula	450,700	220,900	102,400	3,700	840,400	800,900	10.4%
Eastern Eyre Peninsula	762,300	154,800	10,900	1,200	952,000	830,800	10.7%
Total Eyre Peninsula	1,971,100	486,700	120,700	5,500	2,697,600	2,464,400	31.9%
Yorke Peninsula	658,500	549,800	42,100	152,700	1,484,900	1,380,900	17.9%
Upper North	503,800	202,900	27,500	5,500	802,000	726,200	9.4%
Mid North	726,400	284,400	58,700	17,000	1,175,500	1,111,800	14.4%
Lower North	173,800	94,800	11,400	9,000	320,100	312,700	4.0%
Total Northern Districts and Yorke	2,062,500	1,131,900	139,700	184,200	3,782,500	3,531,600	45.7%
Kangaroo Island	12,900	5,300	5,800	0	37,700	39,600	0.5%
Central Hills & Fleurieu	14,000	24,400	5,800	100	57,600	54,400	0.7%
Total Central	26,900	29,700	11,600	100	95,300	94,000	1.2%
Lower Murray	123,000	112,600	4,100	400	260,700	228,000	2.9%
Northern Murray Mallee	330,100	79,100	9,900	200	437,300	374,100	4.8%
Southern Murray Mallee	195,400	146,400	6,100	1,900	389,900	382,100	4.9%
Total Mallee	648,500	338,100	20,100	2,500	1,087,900	984,200	12.7%
Upper South East	167,800	116,800	39,400	3,600	436,600	468,000	6.1%
Lower South East	77,600	33,000	28,400	300	182,400	191,100	2.5%
Total South East	245,400	149,800	67,800	3,900	619,000	659,100	8.5%
STATE TOTAL	4,954,400	2,136,200	359,900	196,200	8,282,300	7,733,300	100.0%

NOTES:

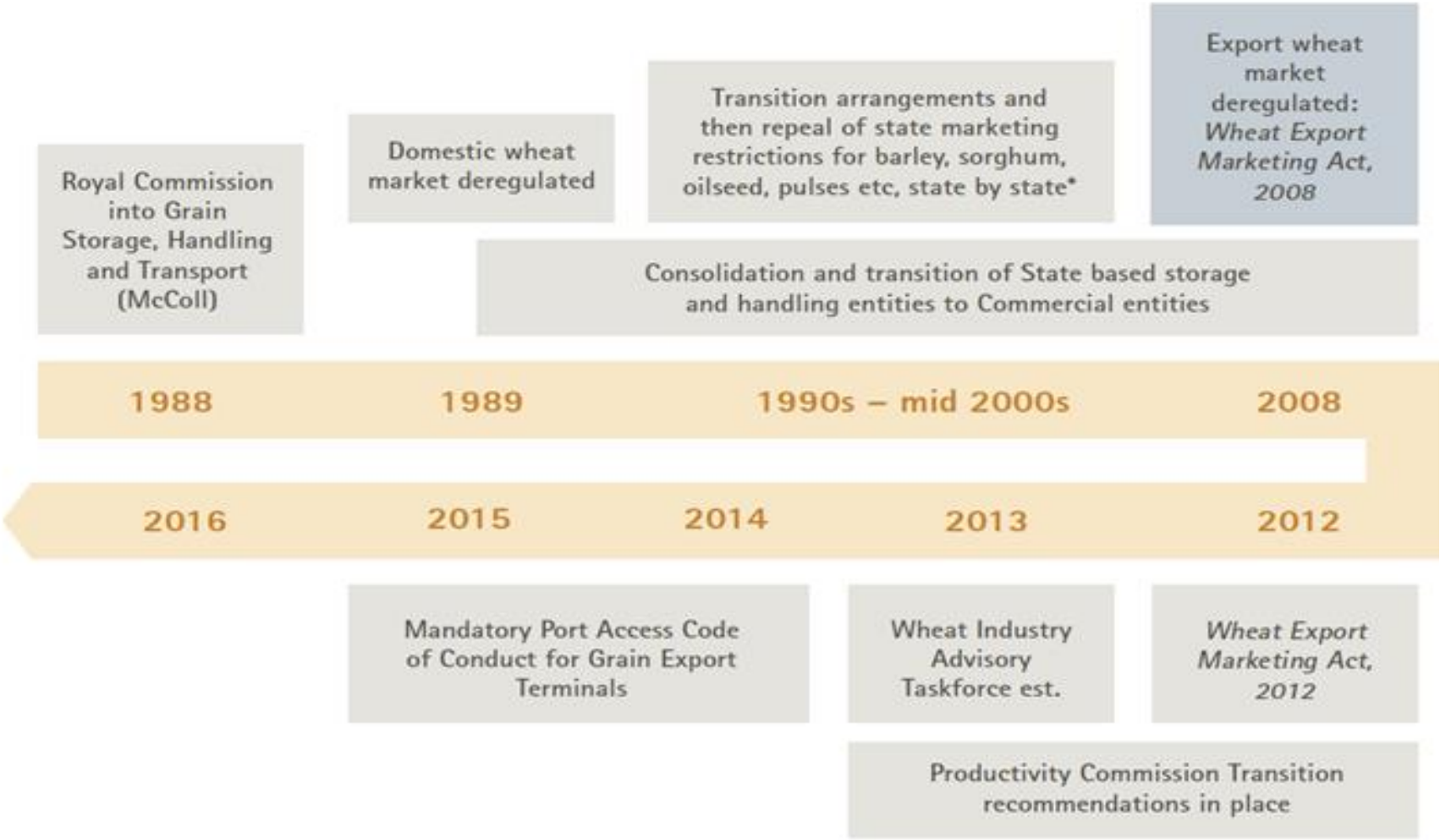
[1] Wheat includes both bread and durum wheats

[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 2006/7 (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, ryecorn, 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.