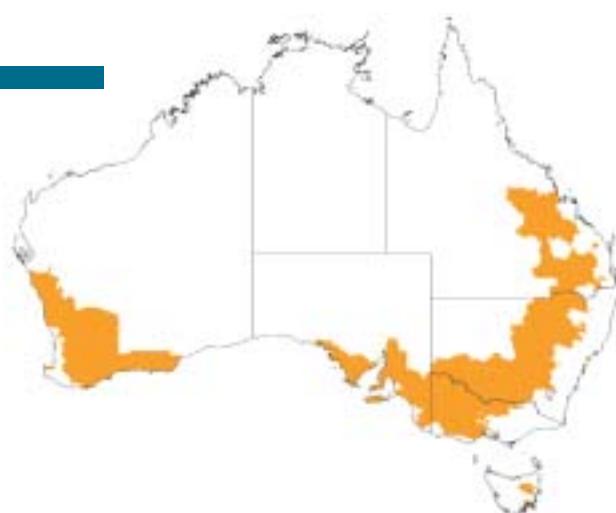


2 Broadacre crops

The discussion in this section focuses on broadacre grains and does not include cotton and rice, as these are entirely or mostly grown under irrigation.

Cotton and rice are discussed in sections 3 and 8, respectively.



Location

The Australian broadacre cropping industry is spread across the inland, eastern, south-eastern and south-western parts of the continent. Grain is grown in all Australian states, but primarily in a narrow curve running through the mainland states from central Queensland, through New South Wales, Victoria and southern South Australia, and in Western Australia. Grains are often grown in conjunction with livestock.

Industry features

Tables 3 and 4 show the major features of the Australian broadacre cropping industry, including its size, output, market orientation and position in the global market. The principal winter crops are wheat, barley, oats, canola and lupins. The main summer crop is grain sorghum.

The information in the tables is disaggregated into wheat (Table 3) and other crops (coarse grains, oilseeds and pulses; Table 4).

Table 3 Overview of wheat production and trade

	Unit	1983–84	1993–94	2003–04
World				
Production	Mt	494	559	554
Trade	Mt	100	93	102
Australia				
Area planted	'000 ha	12 930	8 383	12 401
Average yield	t/ha	1.70	1.97	2.07
Production	kt	22 016	16 479	25 700
Share of world output	%	4.5	2.9	4.5
Gross value ^a	\$m	7 960	3 728	5 596
Domestic consumption				
Food	kt	na	1824	2 443
Feed	kt	na	1721	2 185
Total	kt	2 641	3 900	5 168
Exports				
Volume	kt	10 600	12 922	15 073
Value ^a	\$m	4 035	2 996	3 475
Share of world trade	%	10.6	13.9	14.8
Imports				
Volume	kt	na	0.2	0.1
Employment				
Grain growing ^b	'000			17.8

a In 2003–04 dollars.

b Specialist grain producing sector only, ABS 2001a. Employment associated with mixed grain–sheep and grain–cattle industries accounted for an additional 39 000 people.

Sources: ABARE 2004, 2005; ABS 1990, 2001a, b.

Table 4 Overview of production and trade for other broadacre crops (coarse grains, oilseeds and pulses)

	Unit	1983–84	1993–94	2003–04
World				
Production	Mt	856	1 027	1 246
Trade	Mt	119	122	166
Australia				
Area planted	'000 ha	6 318	7 633	7 933
Average yield	t/ha	1.59	1.75	2.22
Production	Mt	10.04	13.34	17.60
Share of world output	%	1.2	1.3	1.4
Gross value ^a	\$m	6 722	3 395	3 494
Domestic consumption	Mt	5.5	6.3	6.9
Exports				
Volume	Mt	4.55	4.26	7.80
Value ^a	\$m	3 578	1 606	2 134
Share of world trade	%	3.8	3.5	4.7
Imports	kt	na	70	69

^a In 2003–04 dollars.

na Not available.

Sources: ABARE 2004, 2005; ABS 1990.

Markets

In farm-gate value terms, 69 per cent of the wheat produced on Australian farms in 1999–2000 was exported. Exports accounted for 76 per cent of barley produced, 21 per cent of other coarse grains, 78 per cent of canola and 75 per cent of pulses.

The Australian grains industry receives little government assistance. The OECD estimates that the monetary value of transfers from consumers and taxpayers to support wheat producers as a result of policy measures was equivalent to 5 per cent of their gross incomes in 2003 (OECD 2004). Such transfers contributed 4 per cent of gross income for coarse grains producers and 3 per cent for oilseeds producers.

- In comparison, EU wheat producers received assistance equivalent to an estimated 46 per cent of their gross incomes in 2003; other cereals producers received 53 per cent and oilseeds producers received 34 per cent.
- For Canadian producers, assistance was equivalent to 21 per cent, 9 per cent and 9 per cent respectively; and for US grain producers, the corresponding figures were 25 per cent, 29 per cent and 19 per cent.

Major export markets for Australian wheat in 2003–04 were Indonesia (2.6 million tonnes), Egypt (2.5 million tonnes), Japan (1.3 million tonnes), Korea (1.2 million tonnes) and Iraq (1.1 million tonnes).

- There are no significant quantitative or tariff barriers to the import of Australian wheat in the overseas markets of greatest importance.
- AWB (International) Limited has legislated rights as the manager of Australia's single desk for export wheat. The Wheat Export Authority is the single-desk 'watchdog' and can issue consents for exports by other entities.
- The domestic market is unregulated, with wheat for human consumption and stockfeed wheat accounting for approximately equal shares (2–2.5 million tonnes). Wheat is an important input (along with barley and grain sorghum) to the domestic beef, dairy, pig and poultry industries.

Barley is the main coarse grain produced in Australia (two-thirds of coarse grain output in 2003–04). Depending on seasonal conditions, 30–40 per cent is malting type grain for domestic use or export, and the balance is used for animal feed. Grain sorghum is the second most important coarse grain crop (14 per cent of output in 2003–04).

- Principal export markets for the estimated 2.1 million tonnes of malting barley exported in 2003–04 were China and Japan. Saudi Arabia and Japan were the main markets for the 4.2 million tonnes of feed barley shipped.
- Malt (an estimated 640 000 tonnes grain equivalent in 2003–04) is also exported, with Vietnam and Japan the main markets.



- Domestic barley markets are deregulated (except in New South Wales until October 2005), but export single desks operate in South Australia, Western Australia and New South Wales (until October 2005).
- Export single desks also exist in New South Wales for canola and sorghum (until October 2005) and in Western Australia for canola and lupins.

Farm businesses

Principal features of Australian grain specialist farm businesses are shown in Table 5. Grain specialist farms generate the major part of their income from the sale of grains. As most grain producing businesses grow some of the other grains as well as wheat, the farm business performance information is presented in aggregate.

Productivity gains in the grains industry will be important for international competitiveness and for determining the farm-level allocation of resources between grains and other enterprises.

- Over the period from 1977–78 to 2001–02, grain specialist producers increased productivity by an average 3.3 per cent a year. In the part of this period to 1989–90, the rate of gain averaged 4.7 per cent a year, compared with 1.8 per cent from 1988–89 to 2001–02.

Table 5 **Features of Australian grain specialist farm businesses** Average per farm

	Unit	1983–84	1993–94	2003–04
Number of businesses	no.	18 928	13 289	14 522
Average performance				
Area operated	ha	1 568	1 615	1 799
Area cropped	ha	701	763	993
Wheat sales ^a	\$	273 090	170 050	229 772
Other grain sales ^a	\$	75 094	131 123	163 868
Beef cattle sales ^a	\$	8 224	9 108	10 103
Sheep sales ^a	\$	18 073	17 856	22 049
Wool sales ^a	\$	24 224	24 398	18 018
Net farm cash income ^a	\$	127 090	101 890	168 740
Farm business profit ^a	\$	47 022	26 600	90 980
Capital investment ^a	\$'000	1 911	1 265	2 672
Return on capital ^b	%	4.6	4.4	5.5
Farm debt ^a	\$'000	225	257	328
Off-farm income ^a	\$	na	16 226	18 280
Largest 30% of farms ^c				
Share of industry output	%	59	59	62
Area cropped	ha	1 331	1 472	2 003
Net farm cash income ^a	\$	270 740	211 390	409 372
Farm business profit ^a	\$	157 320	102 160	294 725
Return on capital ^b	%	7.1	7.8	9.1
Other 70% of farms ^c				
Share of industry output	%	41	42	38
Area cropped	ha	434	467	562
Net farm cash income ^a	\$	66 040	56 120	82 037
Farm business profit ^a	\$	150	-4 990	20 086
Return on capital ^b	%	1.8	1.4	2.3

a In 2003–04 dollars.

b Adjusted to full equity by adding interest paid to farm business profit and excluding capital appreciation.

c Ranked by value of output.

na Not available.

Source: ABARE Farm Surveys.

Crop management

The grains industry is a rapid adopter of new varieties, which have been bred to combat evolving diseases (such as rust), to address niche market requirements (such as noodles and feed use), and to deliver higher yields.

More timely sowing, the application of higher rates of nitrogen fertiliser and more intensive, yet diversified, rotations have contributed to productivity increases over time. One focus of research is on improving water-use efficiencies and reducing subsoil constraints on the access of crops to water and nutrients.

Natural resource management

The grains industry is moving to improve safety in the use of agricultural chemicals and is increasingly adopting reduced-tillage practices to control erosion and fertiliser losses. Continuing challenges include conserving native biodiversity, reducing deep drainage to groundwater, combating salinity in some areas and controlling herbicide resistance in weeds.

Employment and infrastructure

Employment in the specialist grain industry accounted for just over 6 per cent of all employment in the agricultural sector in 2001, with employment in mixed cropping enterprises (grain–sheep and grain–cattle) accounting for a further 14 per cent of agricultural employment.

- One-third of all employment in specialist grain production in 2001 was in New South Wales, with a substantial proportion also in South Australia (21 per cent) and Victoria (19 per cent). More than 60 per cent of employment in mixed grain operations was in New South Wales and Western Australia.
- Farmers/managers made up more than 75 per cent of those employed in the cropping sector. The median age of farmers/managers in 2001 was 47 years for specialised grain operations and slightly higher (49 years) for mixed grain operations.

The grains industry supports a complex grain distribution system comprising country receivals, storage and handling facilities, road and rail transport and export terminal storage, flour milling and barley malting industries, and an expanding feedlot industry.

Institutional arrangements

Peak bodies

The Grains Council of Australia (GCA) provides national representation for grain growers. Other significant organisations representing grain growers on a regional basis are the Pastoralists and Graziers Association in Western Australia and the Grain Growers Association in the eastern states.

Marketing and research and development arrangements

Export single desk arrangements operate for wheat through the Australian Government and for barley, canola and lupins through state arrangements. The organisations holding these rights are grower companies (in some cases listed on the Australian Stock Exchange) that have evolved from former statutory authorities privatised during the 1990s.

The Grains Research and Development Corporation (GRDC), a statutory authority that receives levies from grain growers and matching funding (up to a maximum of 0.5 per cent of industry gross value of production) from the Australian Government, plans and invests in research and development for the Australian grains industry. The Australian Government and industry also fund cooperative research centres for the grains sector. In 2003–04, GRDC expenditure was \$124 million, representing 1.2 per cent of the industry's GVP. The key priorities for research and development were:

- wheat cereal improvement through the development of advanced technologies and their application to the production and processing of winter cereal crops
- crop improvement through the release of new, better adapted varieties of pulses, oilseeds and summer coarse grains for different farming systems
- crop protection through the development and delivery of cost-effective, robust and environmentally responsible solutions to crop-protection threats
- sustainable farming systems adapted to each of the industry's agro-ecological regions and responsive to grower, community and catchment needs
- value chain improvements through the advancement of industry knowledge and the development of innovative technologies, management practices and grain products
- accelerated adoption of research outcomes and innovations.



Industry outlook

Some key factors for the future are:

- continued productivity increases, in order to remain competitive in world markets in the face of the likely continued downward trend in real grain prices over the long term
- reductions in the market distortions associated with government support programs in some major producing and exporting countries
- continued debate about management of export marketing arrangements
- improvements in efficiencies of the grain supply chain
- consolidation and/or joint venture arrangements for the key grain marketing, handling and service companies, aimed at reducing costs
- improved management of risks from climate variability and change.