

Agriculture in Australia

Australia is a major agricultural producer and exporter. Agriculture and its closely related sectors earn \$155 billion-a-year for a 12% share of GDP. Australian farmers and graziers own 135,996 farms, covering 61% of Australia's landmass.^[1] There is a mix of irrigation and dry-land farming. The CSIRO has forecast that climate change will cause decreased precipitation over much of Australia and that this will exacerbate existing challenges to water availability and quality for agriculture.^[2]

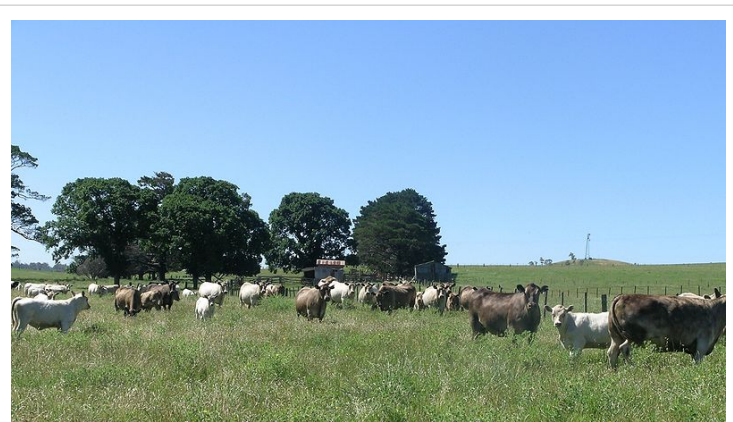
There are three main zones: the high rainfall zone of Tasmania and a narrow coastal zone (used principally for dairying and beef production); wheat, sheep zone (cropping (principally winter crops), and the grazing of sheep (for wool, lamb and mutton) plus beef cattle) and the pastoral zone (characterised by low rainfall, less fertile soils, and large scale pastoral activities involving the grazing of beef cattle and sheep for wool and mutton).^[3] An indicator of viability of agriculture in the state of South Australia is whether land is within Goyder's Line.^[4]

Issues facing Australian agriculture

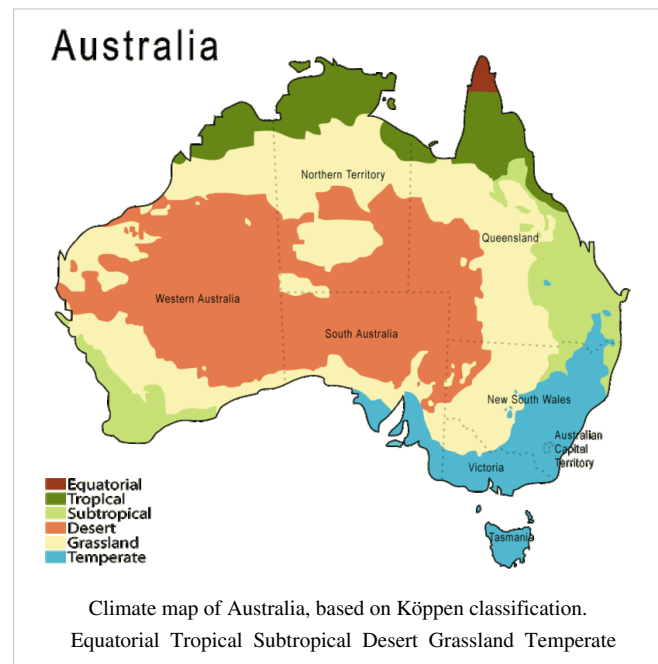
The major issues facing agriculture in Australia are drought, water security, low soil fertility, weeds, global warming caused by climate change, biosecurity (biological threats from imported foods and livestock), tariffs on Australian exports in the importing country (particularly in Europe and Japan), subsidies to farmers in other countries (see Doha Development Round), currency fluctuations and price volatility.^[5] The wheat industry has also faced the end of the "single desk" marketing system after the Australian Wheat Board was found during the Cole Inquiry to have illegally paid bribes to officials in Iraq.

Importance of irrigation

Because of Australia's large deserts and irregular rainfall, irrigation is necessary for agriculture in some parts of the country. The total gross value of irrigated agricultural production in 2004-05 was \$AUD 9,076 million compared to \$AUD 9,618 million in 2000-01. The gross value of irrigated agricultural production represents around a quarter (23%) of the gross value of agricultural commodities produced in Australia in 2004-05, on less than 1% of agricultural land.^[6]



Murray Grey beef cows and calves



Of the 12,191 GL of water consumed by agriculture in 2004-05, dairy farming accounted for 18% (2,276 GL), pasture 16% (1,928 GL), cotton 15% (1,822 GL) and sugar 10% (1,269 GL).^[6]

Major agricultural products

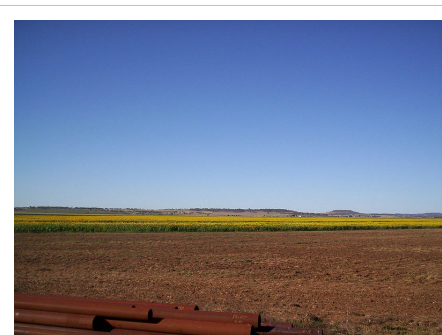
Australia produces a large variety of primary products for both export and domestic consumption. The forecast top ten agricultural products by value are listed for year 2006-07, with production figures from previous years.^[7]

Value in millions of Australian Dollars:

Commodity	2001-02	2002-03	2003-04	2004-05	2005-06(estimated)	2006-07 (forecast)
Cattle and calves	6,617	5,849	6,345	7,331	7,082	6,517
Wheat	6,356	2,692	5,636	4,320	5,905	6,026
Milk	3,717	2,795	2,808	3,194	3,268	3,245
Fruit and nuts	2,333	2,408	2,350	2,640	2,795	2,915
Vegetables	2,269	2,126	2,356	2,490	2,601	2,715
Wool	2,713	3,318	2,397	2,196	2,187	2,138
Barley	1,725	984	1,750	1,240	1,744	1,624
Poultry	1,175	1,273	1,264	1,358	1,416	1,461
Lambs	1,181	1,161	1,318	1,327	1,425	1,348
Sugar cane	989	1,019	854	968	1,037	1,208

Crops

Cereals, oilseeds and grain legumes are produced on a large scale in Australia for human consumption and livestock feed. Wheat is the cereal with the greatest production in terms of area and value to the Australian economy. Sugarcane, grown in tropical Australia, is also an important crop; however, the unsubsidised industry (while lower-cost than heavily subsidised European and American sugar producers) is struggling to compete with the huge and much more efficient Brazilian sugarcane industry. Listed below is crop production by kilotonnes (five year average) for the largest crops:



Sunflower crop on the Darling Downs, Queensland.

Crop (kilotonnes)	New South Wales	Victoria	Queensland	Western Australia	South Australia	Tasmania	Total
Wheat	6714	2173	1301	6959	3382	23	20552
Barley	1070	1173	202	1511	2000	25	5981
Sorghum	739	3	1140	3	0	0	1885
Cottonseed	663	0	1140	3	0	0	1806
Canola	637	312	1	530	225	1	1706
Oats	360	420	7	588	137	8	1520
Lupins	140	30	0	1050	103	0	1323
Field peas	20	166	0	47	190	1	424
Maize	190	8	171	6	0	0	375
Chickpeas	86	20	56	29	5	0	196
Lentils	2	68	0	2	56	0	128
Broad beans	42	68	1	0	14	0	125
Sunflower seed	46	0	65	0	0	1	112

Horticulture

Australia produces a wide variety of fruit, nuts and vegetables. The largest crops (>300 kilo tonnes, in 2001-2001) include oranges, apples, bananas, chestnuts, potatoes, carrots and tomatoes.

Tropical fruits, including bananas, mangoes and pineapples, fare well in Queensland and the Northern Territory.

Australia is one of the few countries that produces licit opium for pharmaceuticals. This industry, centred in Tasmania, is subject to strict controls.

The horticulture industry has traditionally provided Australians with all their fresh fruit and vegetables needs, with a smaller export industry.

However, loosened border controls and increasing importers have threatened local industries. Consumer research has repeatedly shown that Australians prefer local produce. However, there is no effective country-of-origin labelling and consumers frequently assume all fresh vegetables and fruit must be Australian.

In 2005 McDonald's Australia Ltd announced it would no longer source all its potatoes for fries from Tasmanian producers and announced a new deal with New Zealand suppliers. As a result Vegetable and Potato Growers Australia Ltd launched the 'fair dinkum' campaign to raise awareness and push for country-of-origin information on all food products. This campaign included a tractor convoy moving from Tasmania to the mainland (by barge) and then a road trip throughout country Victoria and New South Wales culminating at Canberra, the national capital.

Some commodity groups (e.g. bananas, apples) also enjoy a freedom from devastating fruit pests. However, loosened import restrictions may introduce these diseases.



Potato farming in rural Victoria.

Viticulture

Australia has a large wine industry, and the value of wine exports surpassed A\$2.3 billion in 2002-2003. Wine regions include the Barossa Valley in South Australia, Sunraysia in Victoria, Margaret River in Western Australia and the Hunter Valley in New South Wales. The key wine varieties grown in Australia (by area in 2001-2002) are Chardonnay, Shiraz and Cabernet Sauvignon. Although the Australian wine industry enjoyed a large period of growth during the 1990s, over planting and over supply have led to a large drop in the value of wine, forcing some wine makers, especially those on contracts to large wine producing companies, out of business. The future for some Australian wine producers is now uncertain.



Grape vines in Mildura, Victoria during December, 2006.

Livestock

The number of livestock killed for domestic consumption or export, or exported live in 2001-2002 is shown in the following table:

Livestock slaughterings	Thousands ('000)
Beef	8,587
Cattle exported live	797
Sheep	14,441
Lambs	17,400
Sheep exported live	6,443
Pigs	5,402
Poultry	416,000

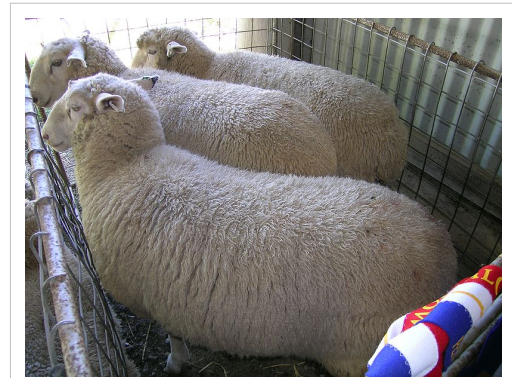
In 2009 exported livestock earnings totalled (AUD)\$996.5 million with \$662 million contributed from cattle exports to Indonesia and other countries. Goat exports totalled 97,621 with a value of \$11.5 million. In 2009 the number sheep exports declined but the value was similar at \$323 million.^[8]

The Beef Industry

The beef industry is the biggest agricultural enterprise in Australia, and it is the second largest beef exporter, behind Brazil, in the world. The Australian beef industry is dependent on export markets, with over 60% of Australian beef production exported, primarily to the United States, Korea and Japan.^[9] The industry has benefited from the discovery of BSE (also known as *mad cow disease*) in Canada, Japan and the United States, as Australia is free of the disease.

The Lamb Meat Industry

Lamb has become an increasingly important product as the sheep industry has moved its focus from wool production to the production of prime lamb. The beef meat industry and the lamb industry are represented by Meat and Livestock Australia (MLA). Live export of cattle and sheep from Australia to Asia and the Middle East is a large part of Australian meat export. Live export practises came under scrutiny after the carrier *Cormo Express* carrying 52 000 animals was turned away from Saudi Arabia in 2003 due to suspected cases of scabby mouth. The sheep were eventually given to Eritrea. Media coverage has led to calls from animal rights activists for the live export trade to cease.



Prime lamb competition, New South Wales

The Pork Industry

There are currently an estimated 2,000 pig producers in Australia, producing 5 million pigs annually (Productivity Commission). Although relatively small on the world stage (0.4% world production), the industry provides a significant positive impact on local, regional, state, and national economies through income generation and employment. The pork industry contributes approximately \$970m to Australia's GDP and the supply chain contributes \$2.6billion to the GDP. The industry generates over \$1.2b of household income, directly employing 6,500 full time positions, and the supply chain employs 29,000 people. The Australian pork industry is represented by Australian Pork Limited, a producer-run company created by legislation.

Dairy

Dairy products are Australia's fourth most valuable agricultural export.

Domestic milk markets were heavily regulated until the 1980s, particularly for milk used for domestic fresh milk sales. This protected smaller producers in the northern states who produced exclusively for their local markets. The Kerin plan began the process of deregulation in 1986, with the final price supports being removed in 2000.^[10]

Growth in the Australian dairy industry is dependent on expanding export markets. Exports are expected to continue to grow over time, particularly to Asia and the Middle East.



An 80-stand rotary dairy that is fully computerised and records milk production.

Fisheries

The gross value of production of Australia's fisheries and aquaculture products was \$2.3 billion in 2002-03. The Australian aquaculture industry's share of this value has been steadily rising and now represents around 32 per cent. The value of exports of fisheries products in 2002-03 was \$1.84 billion. Australia's main seafood export earners include rock lobsters, prawns, tuna and abalone.

Wool

Wool is still quite an important product of Australian agriculture. The Australian wool industry is widely recognised as producing the finest quality Merino wool. This is largely attributable to selective breeding and a superior genetic line.

As of 2001 Australian wool production accounted for 9% of world production (Australian Bureau of Statistics Data). However, it dominates the fine quality wool sector, producing 50% of the world's Merino wool.

Although sheep are farmed Australia-wide, 36% of the flock is in New South Wales.

Research and development for the industry is led by Australian Wool Innovation Limited (AWI), a producer owned company. Australian wool is marketed by the Woolmark company. Both companies are held by Australian Wool Services, a company created by legislation.

The industry is export-oriented. Historically, up to 90% of Australian wool was exported. The industry has suffered from a lowering demand for natural fibres, and a decrease in wool prices worldwide.



A sheep being shorn in Western Australia

Animal rights organisations including PETA are currently promoting a boycott of Australian, and all Merino wool, as a protest against the practice of mulesing, a necessary procedure to prevent them getting fly blown with maggots.^[11] Due to the worldwide attention, AWI has proposed to phase out the practice by 2010.^[12]

Cotton

Australia also produces considerable amounts of cotton. The majority of the cotton produced is genetically modified to be resistant to the herbicide Roundup or to actively kill pests through the production of Bt toxin (Bt-cotton). Cotton is generally grown by irrigation.

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External links

- Farm Facts 2011 (<http://www.nff.org.au/farm-facts.html>)
- Agricultural Statistics (<http://www.abs.gov.au/websitedbs/c311215.NSF/22b99697d1e47ad8ca2568e30008e1bc/8ccb36ca38c144bdca257118000cad33!OpenDocument>) - *Australian Bureau of Statistics* page.
- Peterborough (<http://www.peterborough.au.com/goydersline.html>)
- SA History - Goyder (<http://www.southaustralianhistory.com.au/goyder.htm>)
- The History Trust of South Australia (<http://www.history.sa.gov.au/index.htm>) has a map (http://www.history.sa.gov.au/chu/programs/sa_history/sa_dry/map_goyders.htm) of Goyder's Line.

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