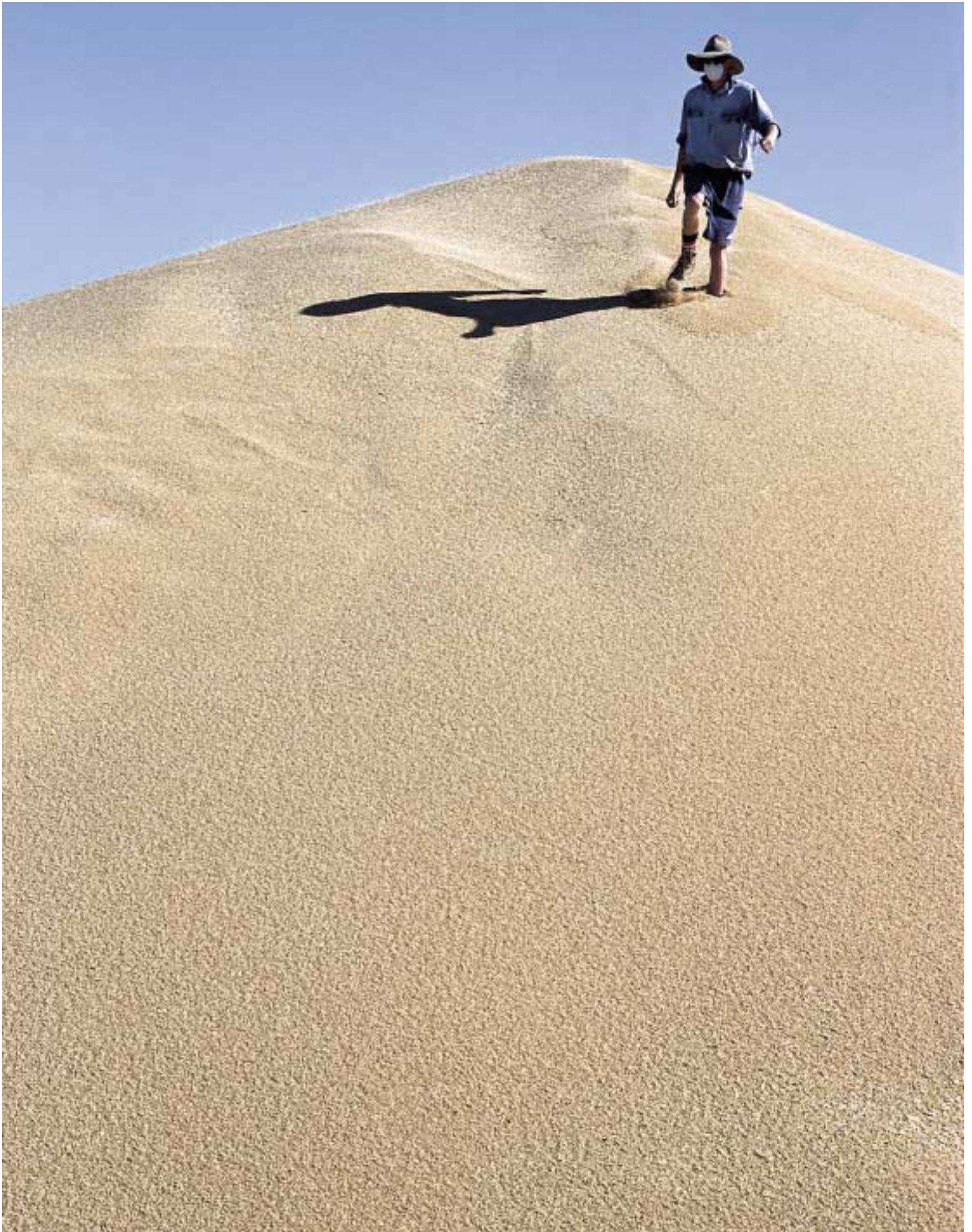


Section 9 Background on the grains industry





INTRODUCTION

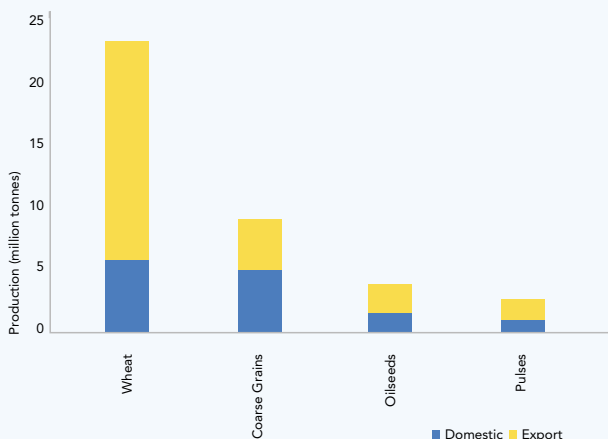
The Australian grains industry is an important part of the Australian economy and farm sector. Grain and oilseeds production accounted for 25% of the value of farm production in 1999/2000 and total exports from the industry were worth \$6 billion. Total production of grains in 1999/2000 was 41 million tonnes (estimated value of \$8 billion).

The grains industry can be broken up into four distinct product groups:

- wheat – which includes bread wheats, and durum wheat, used in the production of pasta products;
- coarse grains – which include barley, sorghum, oats, triticale and maize;
- oilseeds – which include canola, cottonseed, sunflower seeds and soybeans; and
- pulses – which include lupins and field peas.

Within Australia, the wheat market is the largest of these four, with wheat production (in tonnes) exceeding production in the other three categories combined. This is illustrated in the chart below, which shows the level of production in each of the major products set out above in 1999/2000.

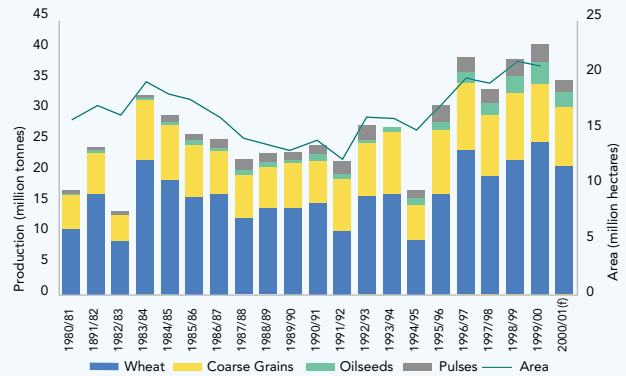
Australian grains industry production by major product (1999/2000)



SOURCE: ABARE

Grain production over time is dependent on a number of factors, including the area planted, productivity growth, the price of wheat, the price of alternative agricultural commodities to wheat and the extent to which new technologies are adopted. The following chart shows the level of production in each of the major products set out above since 1980.

Australian grains industry production by major products (1980/81 – 2000/01)



SOURCE: ABARE

While trend growth in production over the last 20 years has been around 3% per annum, production in any given year has been influenced by weather conditions (such as the droughts of 1982/83 and 1994/95).

Over recent years, production has steadily increased, in part as a result of the increased area planted with grains. Over the medium term, the total area planted is projected to increase steadily in response to higher prices and continued productivity gains.

Over the past decade, there has been an easing of the regulations affecting the grain marketing and distribution system. The result has been a gradual deregulation, corporatisation and privatisation of domestic grain marketing and handling arrangements.

Further detail on the Australian and international wheat industry is provided below. Additionally, given their status as the major non-wheat products that AWB trades, further information is also provided on the barley, sorghum, canola and pulse products.

OVERVIEW OF THE AUSTRALIAN WHEAT MARKET

Australian wheat production

Wheat is the largest grain crop in Australia by production volume, production value and area harvested. Most varieties grown in Australia are sown in autumn, grow rapidly during the spring months and mature from early to mid-summer. Harvesting commences in Queensland in September/October and gradually progresses southwards, finishing in Victoria and the southern part of Western Australia in January/February.



The wheat grown in Australia is predominantly white grained. This, together with Australia's strict quality control standards, has ensured that Australia has an excellent reputation in the international markets and has provided the means for Australia to differentiate its wheat from that of other major exporting countries.

Australian Wheat Growing Areas



SOURCE: ABARE

The wide geographical spread of growers means that they are subject to differing climatic conditions and soil types.

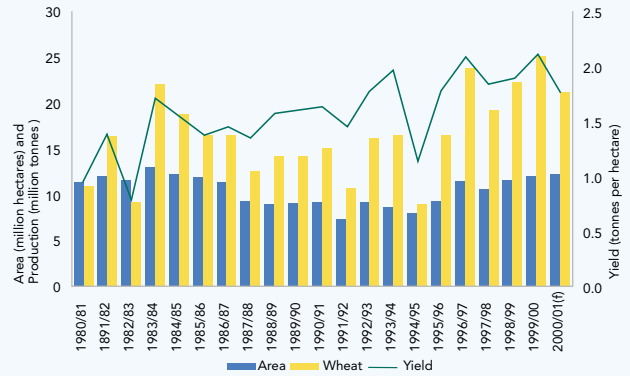
Over the last 20 years, Australian wheat production has varied between 9 million tonnes and 25 million tonnes per annum, with the average over this period being 16 million tonnes. The level of production in any year is dependent upon:

- the area planted for wheat – which is determined by growers, having regard to the value that could be generated through alternative uses (for example, through planting alternative crops in crop rotations or grazing sheep); and
- the crop yield – which is a function of the condition of the land, the wheat variety planted and general environmental factors such as the amount of rain.

The following chart shows each of these factors along with production levels over the last 20 years.

In recent years, the area harvested for wheat has increased significantly, largely as a result of growers switching from wool production to wheat production following decreases in the price of wool. Average wheat yield per hectare has also been rising. Over the 20 years to 2000/01, Australian wheat yields, on average, rose by around 2.3% per year. This increase in harvested area and yield, have resulted in record crop levels over the last five years.

Australian wheat production, area harvested and crop yield (1980/81 – 2000/01)



SOURCE: ABARE

ABARE's current expectations are that 11.9 million hectares of wheat will be sown this year, assuming there are timely planting rains. At 4 July 2001, AWB estimates that around 80% of the wheat crop was planted, with the planting window around the majority of the wheat belt open until early July.

Overall at a national level, lower than average yields are forecast, which will result in lower than average production. This estimate is based on current adverse weather conditions, particularly in Western Australia. In the event current weather conditions continue, it is expected that production could be lower than last year's production. This estimate is based on the current weather outlook and is therefore subject to a significant amount of uncertainty.

Domestic consumption

Approximately 5.5 million tonnes of wheat is used by the domestic market annually, with the remaining production exported. Following deregulation of the domestic wheat industry in 1989, growers have the choice to sell their wheat directly to consumers and domestic traders or deliver their wheat into pools.

Domestic use can be broken down into the following broad categories depending on the end-use of the wheat:

- human and industrial – around 2.5 million tonnes of wheat is used annually by Australia's flourmills which use it in the production of flour for human consumption and for industrial uses;



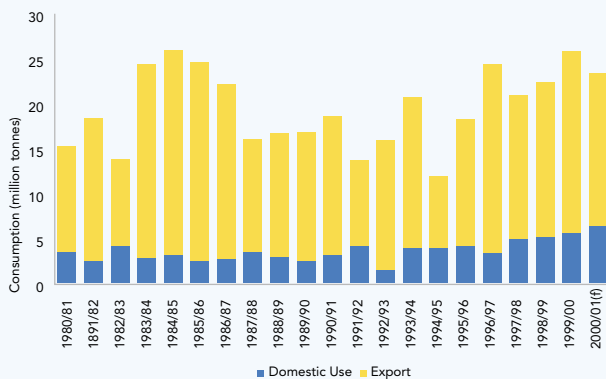
- stock feed – the amount of wheat used for stock feed varies considerably depending on seasonal price differences between wheat and other substitute grains as well as livestock prices. Total wheat stock feed consumption can range from 2 to 3 million tonnes annually, but is typically 2.5 million tonnes annually; and
- seed – around 0.6 million tonnes of wheat is used annually as seed for the production of the following season's crop.

Australian exports

Although Australia is only the seventh largest grain producer, due to limited domestic demand, Australia is a major wheat exporter. In fact, after the US and Canada, Australia is the third largest wheat exporter in the world.

The level of Australian wheat exports is essentially determined by wheat production. With domestic consumption being relatively stable over time (at around 5.5 million tonnes per annum), any excess production is available for export. The chart below shows the volume of wheat exported by Australia compared with the volume sold into the domestic market since 1980. The chart shows that the average level of exports over the period was around 13 million tonnes annually. The level of exports over the last five years has averaged 17 million tonnes per annum, reflecting the substantially higher production levels recently recorded.

Australian wheat domestic use and exports (1980/81 – 2000/01)



SOURCE: ABARE

Industry environment

Around 90% of grains exported from Australia are regulated by Single Desk or equivalent arrangements. AWBI is the only body that is authorised directly to export Australia's bulk wheat.

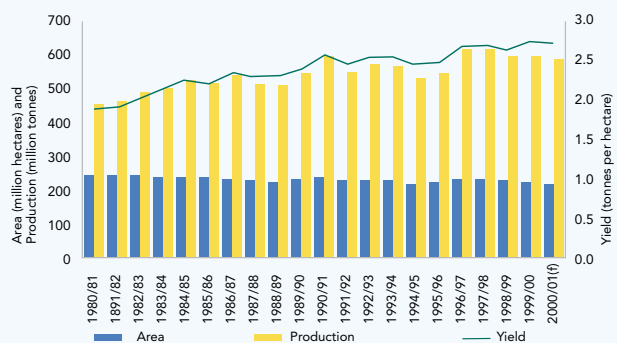
In the deregulated domestic market, in addition to wheat, AWB is able to trade in other grains such as barley, sorghum, faba beans and oats.

OVERVIEW OF THE GLOBAL WHEAT MARKET

Global production

Global wheat production levels have been growing, on average, at 1.0% per annum over the past 20 years. In general, on a global basis, the area harvested has remained relatively stable, with growth in production driven primarily by growth in the crop yield. The chart below shows each of these factors along with global production levels (including Australia) since 1980. It shows that annual production over this period has varied between 436 million tonnes and 609 million tonnes, with an average over the period of 531 million tonnes.

Global wheat production, area harvested and crop yield (1980/81 – 2000/01)

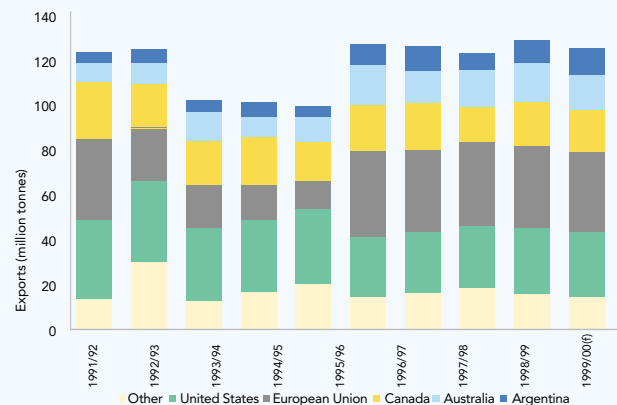


SOURCE: ABARE and USDA data for 2000/01

Global wheat trade

The world's five major wheat exporters are the US, the EU, Canada, Australia and Argentina, which, combined, account for approximately 90% of the supply of internationally traded wheat. The relative contributions of these exporters to international trade over the last 10 years is summarised in the chart below.

Export of wheat by country (1991/92 – 1999/00)



SOURCE: ABARE and USDA data for 1999/00 (including intra-EU trade)

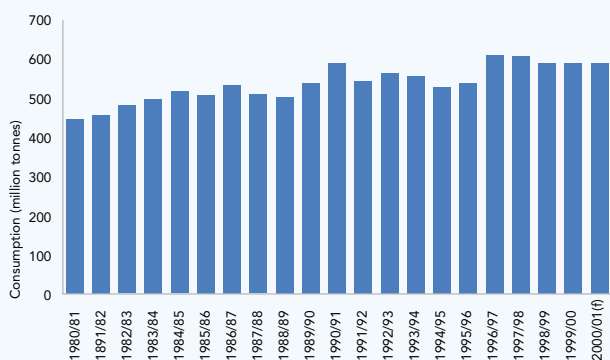


Apart from Australia, only Canadian wheat is exported via an explicit single desk marketer (the Canadian Wheat Board). Argentina, the EU and the US export through traders. However, in the EU and US domestic consumption is the predominant use of that production. The EU and the US are both subject to significant intervention from government price support policies.

Global consumption

Over the past 20 years, worldwide wheat consumption has been growing on average at a stable 1.0% per annum, as illustrated below. Total world consumption is around 590 million tonnes per year and this is expected to continue to grow, with forecast consumption of 617 million tonnes for 2004/05.

Global wheat consumption (1980/81 – 2000/01)



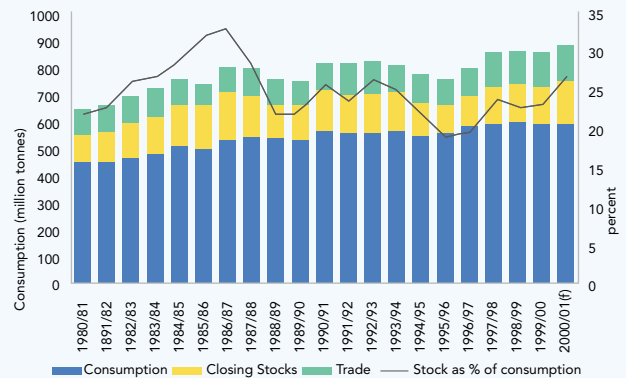
SOURCE: ABARE and USDA data for 2000/01

The major consumer of wheat is China, which utilises approximately 115 million tonnes per annum. China's imports have declined dramatically since 1996/97 as its production has increased and stocks were at high levels. India has recently been in a similar situation with high stock levels, allowing it to export wheat in 2001. India's consumption is approximately 68 million tonnes per annum. Other major consumers are, on an annual basis, Russia (approximately 36 million tonnes), US (approximately 35 million tonnes) and Pakistan (approximately 20 million tonnes).

Stock levels

The price for wheat is affected by production, demand and stock levels. Globally, current stock levels as a percentage of consumption are at relatively low levels, representing less than 3 months' supply. This is demonstrated in the following chart, which shows stock levels and stock levels as a proportion of consumption over the last 20 years.

Global wheat domestic consumption, exporting and closing stocks (1980/81 – 2000/01)



SOURCE: ABARE and USDA data for 2000/01

OVERVIEW OF THE COARSE GRAINS MARKET

Introduction

Coarse grains are grains that are utilised for stock feeding purposes, with barley also being used for malting purposes and maize used for human consumption. They are the second largest category of grain production in Australia. Coarse grains compete at times with wheat in providing energy and fibre to compound animal feeds.

Coarse grains include barley, sorghum, oats, triticale and maize. The two most significant crops within this category, and the ones from which AWB generates most trading revenue, are barley and sorghum. Further detail on these two crops is provided below.

Depending on seasonal production, around half of the coarse grain crop is disposed of on domestic markets. The domestic use of coarse grains has generally increased because of growth in the intensive livestock sector, particularly the beef feedlot sector, and for grain feeding of dairy cattle, poultry and pigs.

Barley

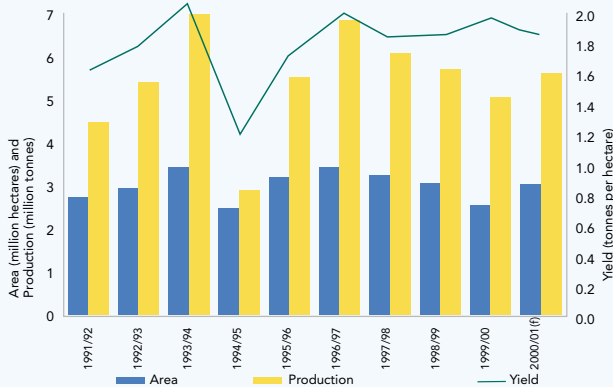
Barley is Australia's second largest field crop (both in area and production). Barley can generally be grown in the same areas as wheat in Australia, but is more suited to the lighter soils and coastal areas. Barley is also (after wheat) the only crop of significant tonnage. Australia accounts for approximately 18% of world barley trade.

Barley is grown predominantly in the southern parts of the continent, with production concentrated in the south-western and south-eastern regions. South Australia is the largest barley producing state, producing on average 1.9 million tonnes, followed by Western Australia (1.5 million tonnes), NSW (1.2 million tonnes) and Victoria (1.1 million tonnes). Queensland and Tasmania also produce small volumes.



The chart below shows Australia's production of barley, area harvested and crop yield over the last ten years.

Australian barley production, area harvested and crop yield (1991/92 – 2000/01)



SOURCE: ABARE

The majority of barley produced in Australia is exported. The remainder is used domestically for feeding animals or for malting and brewing, with a small amount used directly for human food.

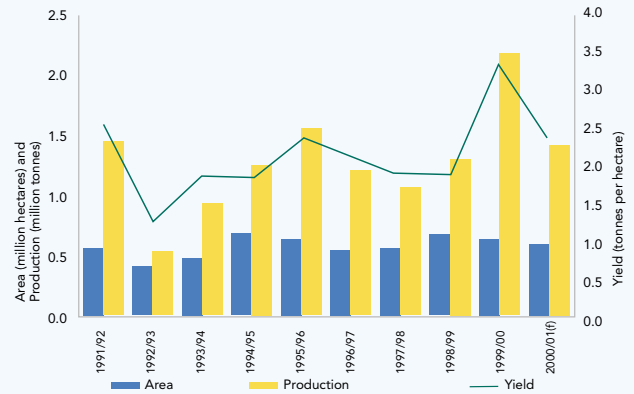
Export regulation of barley exists in all mainland states, with the exception of Victoria (which since 1 July 2001 has been deregulated).

Sorghum

Sorghum is Australia's fourth largest field crop both in terms of area and production. Presently, almost 100% of Australia's sorghum is grown in either Queensland or NSW. Historically, around 65% has been grown in Queensland and 35% has been grown in NSW.

Approximately 0.6 million hectares of sorghum is sown each year in Australia, producing approximately 1.6 million tonnes annually. This is illustrated in the following chart, which shows Australian production, area harvested and crop yield over the last 10 years.

Australian sorghum production, area harvested and crop yield (1991/92 – 2000/01)



SOURCE: ABARE

The majority of sorghum produced in Australia is consumed domestically due to high local demand. The domestic market in Australia uses sorghum as the cheapest alternative grain in feed rations, especially in northern Australia.

Demand in the domestic market for feed grains is forecast to increase in the short term. The major market segments remain beef, poultry, pigs and, increasingly, the dairy sector.

For many years, the export market has been of increasing importance to the sorghum industry of Australia. Australia exports predominantly to Japan, with exports of approximately 0.5 million tonnes annually.

The export market for sorghum is regulated in NSW, with regulation currently in place until September 2005.

OVERVIEW OF THE OILSEEDS MARKET

Introduction

Oilseeds are seed crops grown for the production of vegetable oil. They are primarily crushed to produce edible and industrial oil with vegetable meal being a by-product which is predominantly used in the intensive livestock sector as a protein source. Oilseeds are the third largest category of grains after wheat and coarse grains.

Oilseeds accounted for 2.8% of the average area cropped in Australia in 1989/90 and 9.2% in 2000/01. Australian oilseeds production was on an increasing trend throughout the 1990s, primarily reflecting increases in canola production.

The main oilseeds currently grown in Australia are canola, cottonseed, sunflower and soybeans, with small areas of safflower and linseed. The major product within this category is canola and a brief description of this product is provided following.



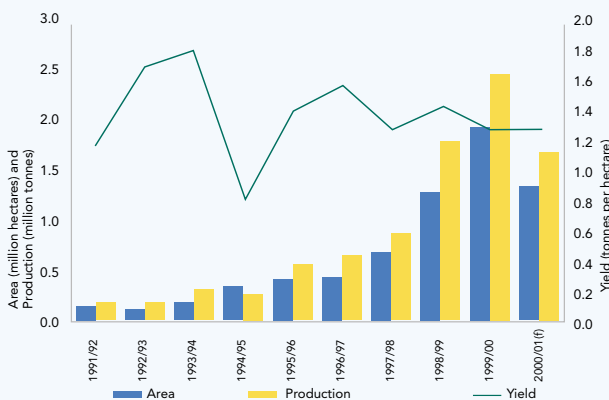
Canola

Canola is Australia's third largest field crop both in terms of area and production. The area of canola harvested in Australia increased rapidly from around 400,000 hectares in the mid 1990s to a record 1.9 million hectares in 1999/2000. Western Australia and NSW have experienced the most rapid growth over this period.

Canola has emerged as a significant crop in terms of the gross value of both oilseeds and total crop production. Canola provides a break in controlling disease cycles and has the capacity to improve soil structure.

Approximately 1.9 million hectares of canola was sown in Australia in 1999/2000, producing 2.4 million tonnes of canola. An average 1.9 million tonnes has been produced annually over the last three years.

Australian canola production, area harvested and crop yield (1991/92 – 2000/01)



SOURCE: ABARE

OVERVIEW OF THE PULSES MARKET

A major feature of the grains industry in Australia during the early 1990s was the increased production of pulses. Pulse production is dominated by lupins, which contribute around 70% of total pulse production. Over 70% of lupins are produced in Western Australia.

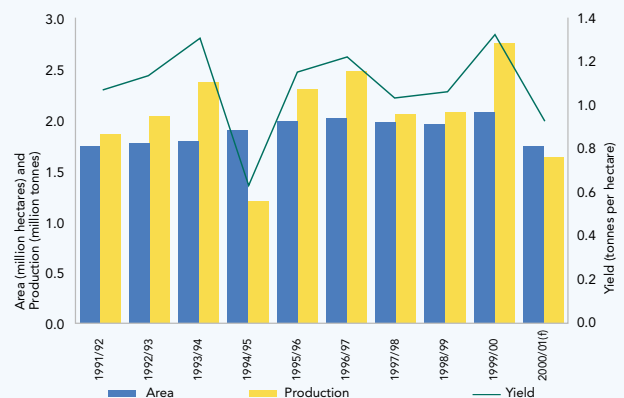
Pulse crops contributed around 10% to 12% of the total area harvested to grains in Australia in the 1990s.

A factor contributing to the growth in pulse production has been the recognition of the role of pulse crops in arresting the depletion of soil nitrogen reserves, primarily caused by a reliance on cereal crops. Pulse crops now play an important role in crop rotations through soil nitrogen enhancement and the breaking of cereal disease cycles.

Previously, greater reliance was placed on improved legume based pastures and extended periods of fallow in the crop rotations to overcome crop diseases.

Approximately 1.9 million hectares of pulses are sown annually in Australia, producing an average 2.2 million tonnes. Ten years of production, area harvested and crop yield are displayed in the following chart.

Australian pulses production, area harvested and crop yield (1991/92 – 2000/01)



SOURCE: ABARE

In addition to their role in crop rotations, pulses are consumed domestically in the dairy, pig, poultry and beef feedlot industries, with around 35% of the crop being consumed in domestic markets

