


Australian Government

Department of Agriculture, Fisheries and Forestry

Australian Food Statistics 2004

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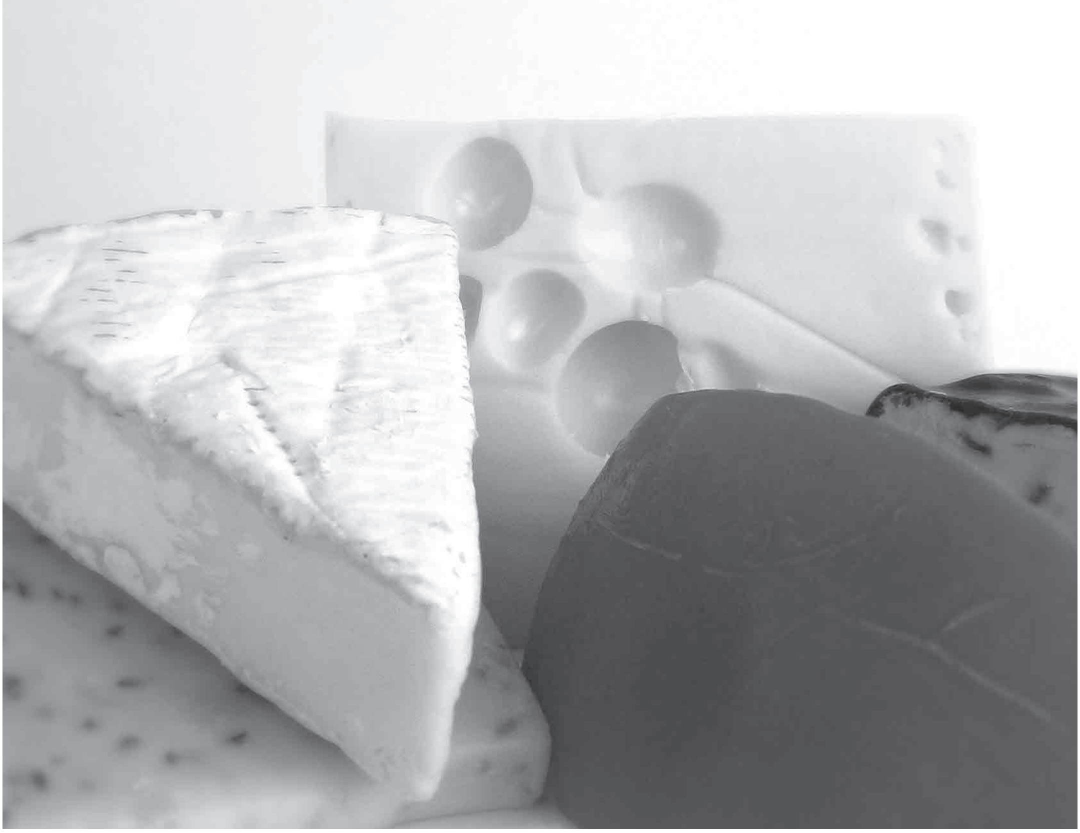

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foreword

This latest edition of *Australian Food Statistics* — like its predecessors — will prove a valuable tool for the Australian food industry, policy makers and researchers. *Australia Food Statistics 2004* contains a comprehensive range of data on food production and trade throughout the supply chain — from the farm gate to retail outlets. It highlights many of the food industry's key developments, identifies growth opportunities and helps measure business performance.

The food industry has an important role in the Australian economy. It brings together significant parts of primary industry, manufacturing, biotechnology, packaging, transport, marketing, retail and food service industries to provide value for Australian and international consumers. And this ensures the Australian food industry is well placed to deliver nutritious, natural, convenient and innovative products.

The data in the 2004 edition reveal that the industry remains competitive, despite facing many challenges, such as drought and rising exchange rates. Importantly, the processed food and beverage industry continues to be a major contributor to the Australian economy, and has a significant presence in rural and regional Australia.

Australia's exports continue to diversify by product and market. The relative value of wine, dairy products, oilseeds, live animals, fish and to a lesser extent, confectionery exports has greatly increased during the past decade. Japan and the United States remain our most important export markets, but other export destinations, such as the Republic of Korea, the United Kingdom and New Zealand, are becoming increasingly important.

The Australian Government is vigorously pursuing free trade agreements to increase Australia's access to export markets in the region. We expect our new free trade agreements with the United States and Thailand will significantly benefit Australia's agricultural and food industries.

Australia Food Statistics 2004 includes two papers that examine trade developments in the Australian dairy industry. One focuses on the specialty cheese sector and the other looks at dairy ingredients. The speciality cheese sector is an excellent example of how small and innovative Australian companies can succeed in niche export markets.

Dairy ingredients typify how our food processing industry is responding to rising global demand for high quality, highly functional food.

WARREN TRUSS
Australian Government Minister
for Agriculture, Fisheries and Forestry

acknowledgments and abbreviations

acknowledgments

Peter Berry, Max Foster, John Hogan and Alastair Peat prepared the overview and statistical appendix of this report, with valuable assistance provided by Amy Crago, Michelle McGranahan and Chris Ambler of the Food Policy and Safety Section of the Australian Government Department of Agriculture, Fisheries and Forestry.

abbreviations

kg	kilogram	2.20462 pounds
t	tonne	1000 kilograms
kt	kilotonne	1000 tonnes
Mt	megatonne	1 000 000 tonnes
A$	dollar (Australian)	
$m	million dollars (Australian)	
$b	billion dollars (Australian)	
US$	dollar (United States)	
US$m	million dollars (United States)	
US$b	billion dollars (United States)	
cif	cost, insurance and freight	
EVAO	estimated value of agricultural operations	
fas	free alongside ship	
fob	free on board	
GDP	gross domestic product	
nec	not elsewhere classified	
ABARE	Australian Bureau of Agricultural and Resource Economics	
ABS	Australian Bureau of Statistics	
DAFF	Department of Agriculture, Fisheries and Forestry	
FAO	Food and Agriculture Organisation of the United Nations	
WTO	World Trade Organisation	
UNCTAD	United Nations Conference on Trade and Development	

Small **discrepancies** in totals are generally caused by rounding.
0 is used to denote nil or a negligible amount.

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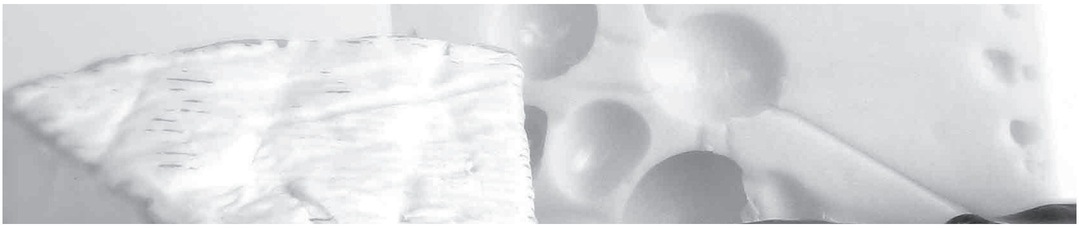


OVERVIEW

Australian food industry 2003-04

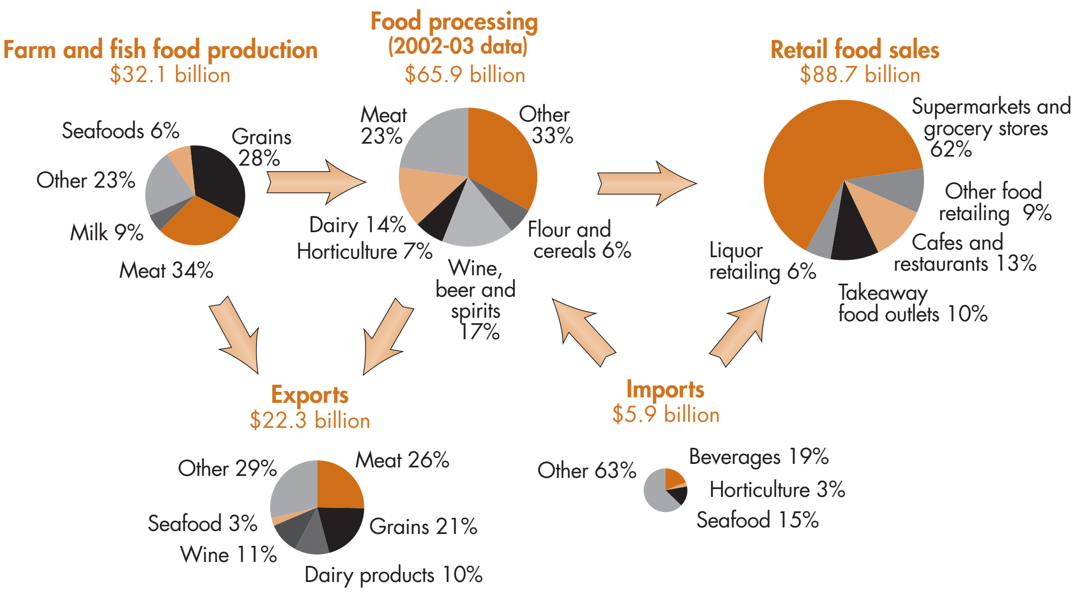
Peter Berry, John Hogan and Max Foster

In 2003-04, total consumer expenditure on food continued its rising trend, reaching nearly $89 billion, and maintained its market share of around 46 per cent of total Australian retail spending. However, while the value of Australian farm and fisheries production in 2003-04 rose by 16 per cent to $32.1 billion, the value of food exports was relatively unchanged at $22.3 billion. The flat export value was mainly a result of lower export volumes for commodities such as meat and certain dairy products because of the lingering affects of the drought on some sectors and a stronger Australian exchange rate offsetting higher world prices and increased grain exports.

In 2003-04, food exports made up 20 per cent of total Australian merchandise exports. Although the value of food imports increased marginally to nearly $5.9 billion in 2003-04, Australia continued to be a significant net exporter of food, with a surplus of $16.4 billion between the values of food exports and imports.

This publication provides a statistical overview of some major aspects of the Australian

A Value chain for food in Australia, 2003-04



1 Overview of the Australian food industry

		2000-01	2001-02	2002-03	2003-04
Value of farm and fisheries food production	$b	30.1	35.1	27.7	32.1 **a**
Value added, food processing	$b	16.1 **b**	16.2 **c**	16.6 **c**	na
– share of GDP	%	2.3	2.3	2.3	na
Food and liquor retailing turnover	$b	71.5	76.8	81.9	88.7
– share of total retailing	%	42.8	45.9	45.9	45.9
Value of food exports	$b	24.5	26.7	22.3	22.3
– share of total merchandise trade	%	21.2	23.0	19.3	20.4
– minimally transformed share	%	33.9	34.7	30.6	31.7
Value of food imports	$b	5.1	5.3	5.9	5.9

a Includes an imputed value for horticulture production in 2003-04. **b** Includes the spirits sector. **c** Excludes the spirits sector. Data not published by the ABS. **na** Not yet available.

food industry and its place in the domestic economy in 2003-04. The food industry encompasses many sectors — from the producers of raw materials used in food (the farm and fishing sectors) through export, import and processing sectors to domestic sales to consumers. The key components of the food supply chain in 2003-04 in value terms are shown in figure A and the main statistics are summarised in table 1.

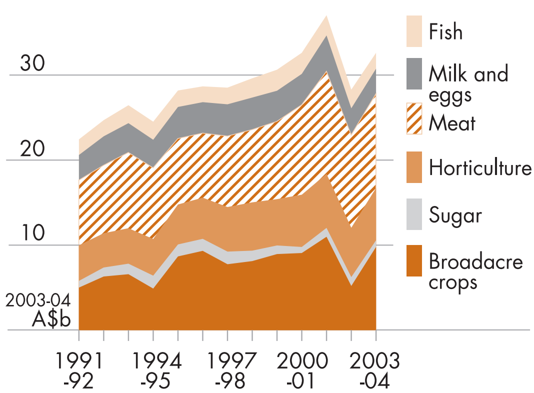
Australian farm and fisheries production

Following the widespread and severe drought of 2002-03, the value of Australian farm production recovered in 2003-04, rising by 16 per cent to $32.1 billion. This result comes despite the higher Australian dollar exchange rate which affected export and farm gate returns for some commodities (figure B).

Record production of broadacre crops (particularly wheat, barley and oilseeds), coupled with firm prices for many crops, resulted in the value of broadacre crop production increasing by nearly 80 per cent to $9.1 billion in 2003-04, compared with $5.1 billion in the previous, drought affected year. The value of livestock slaughterings and livestock products (milk and eggs) rose by 2 per cent in 2003-04 to $14.0 billion. The easing of the drought resulted in a decrease in the number of animals being slaughtered and some herd restocking. This led to higher farm gate returns for cattle, while for milk both production and prices were lower.

For 2004-05, the gross value of Australian farm and fisheries food production is forecast to fall by 3 per cent to around $31.0 billion. Dry conditions have continued to affect the livestock and dairy sectors in some parts of the country, and farmers where possible have turned to cropping enterprises to improve farm incomes. The area planted to winter crops in 2004-05 was slightly lower than the record area sown in 2003-04 as seasonal conditions were variable across the grain belt at the time of planting. In addition the growing season varied across the grain growing

B Value of Australian farm and fisheries production



belt with some cropping areas being affected by late season frost while other areas were affected by a hot, dry finish to the growing season. As a result, average yields are expected to be lower than those achieved in 2003-04 and hence total grain production is expected to be lower.

Australian food processing

While data are not yet available for the Australian food processing industry for 2003-04, the industry performed strongly in 2002-03, with total sales and service income estimated at $65.9 billion, nearly 3 per cent higher than the level achieved in 2001-02. In addition, industry value added by the food processing industry also rose by over 2 per cent to $16.6 billion in 2002-03. As a result of this increased growth in industry value added in 2002-03, the food and beverage sector remained the largest sector of Australia's manufacturing industry in 2002-03, providing around 20 per cent of industry value added, and 21 per cent of total sales and services income.

Of the sectors within the food processing industry, the fruit and vegetable, oil and fat, flour mill and cereal food, bakery products, sugar, confectionery, and beer and malt sectors all increased their sales income and industry value added in 2002-03 compared with 2001-02. The dairy products and wine sectors had lower sales income and industry value added in 2002-03 than in 2001-02. For the meat and seafood processing sectors, and the soft drink, cordial and syrup sector, although sales income was lower in 2002-03, their industry value added component was higher in 2002-03 than in 2001-02.

The meat processing sector's share of total food and beverages industry value added increased by over 2 per cent to 21 per cent in 2002-03, while both the dairy processing and wine sectors' shares fell by 2 per cent to 10 per cent and 8 per cent respectively.

Australian food retailing

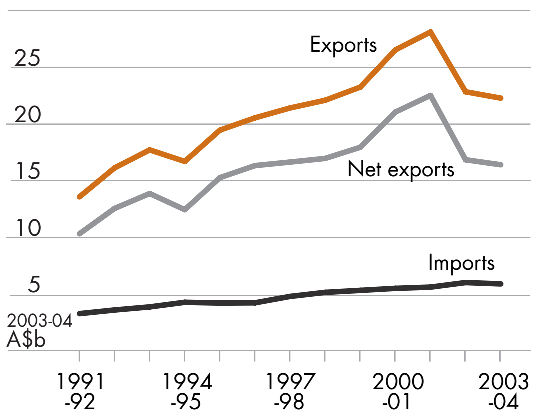
Retail turnover of food and liquor was estimated at $88.7 billion in 2003-04, an increase of over 8 per cent on 2002-03 levels. Part of this rise in turnover can be attributed to the drought, which resulted in higher prices for many agricultural food commodities — particularly for fresh meats, fruit and vegetables, and eggs. These price rises were partially offset by lower prices for some foods such as bread, breakfast foods, coffee, ice cream and other dairy products. Overall the increase in the food component of the consumer price index was 3.0 per cent in 2003-04, compared with 3.6 per cent in 2002-03. Food and liquor accounted for 46 per cent of total retail turnover in Australia in 2003-04 and has been constant at this level over the past eight years.

Supermarkets and grocery stores continue to be Australia's most important food sales outlets. However, their market share of food and beverage retailing by value declined slightly in 2003-04 from around 63 per cent in 2001-02 and 2002-03, to around 62 per cent. Both the liquor retailing and cafes and restaurant sectors increased their market shares of retailing value in 2003-04.

Australian food trade

The value of Australian food exports remained relatively unchanged at $22.3 billion in 2003-04, after falling by 16 per cent in 2002-03 (figure C). Drought was the major factor reducing export returns in 2002-03, while a higher average exchange rate — up more than 22 per cent for the year — reduced export returns for a wide

C **Trends in Australian food trade**



range of Australian agricultural commodities in 2003-04. The SARS (severe acute respiratory syndrome) epidemic in the Asia Pacific region also contributed to the decline in Australian food exports in the second half of 2003, particularly affecting food exports intended for the Asian restaurant sector.

Substantially and elaborately transformed exports fell in 2003-04

Food products within the substantially and elaborately transformed categories were particularly affected by the higher exchange rate and the slowdown in Asian demand. The value of these exports fell by 2 per cent and 5 per cent respectively in 2003-04. Falls in export values within these categories were recorded in processed fruit and vegetables (down 4 per cent), dairy products (down 8 per cent), flour mill and cereal foods (down 11 per cent), and processed seafood (down 12 per cent). Smaller falls were recorded for beverages and malt, and other foods.

… while minimally transformed exports rose

In contrast, the value of exports within the minimally transformed category rose by 3 per cent to $7 billion in 2003-04. Of these, the value of grains increased by 19 per cent to $4.6 billion and oilseeds increased by 37 per cent to $549 million, largely as a result of the strong post-drought increases in the production of these commodities. However, these gains were largely offset by falls in the export value of live animals (down 40 per cent to $598 million), fish or shellfish products (down 12 per cent to $676 million) and vegetables, fruit and nuts (down 22 per cent to $568 million).

Beverage exports

In the beverage and malt category, the value of exports declined by $5 million (0.2 per cent) to $2.87 billion mainly as a result of decreases in the export value of soft drink, cordial and syrup (down 21 per cent), beer and malt (down 13 per cent) and spirits (down 18 per cent). However, these falls were partially offset by continued growth in the value of wine exports, which were up 3 per cent to $2.49 billion in 2003-04. Since the late 1980s, the wine industry has been a strong contributor to growth in the value of Australian beverage exports, with a trend growth rate of around 20 per cent since 1999-2000 in constant dollar terms.

The increase in the value of wine exports reflects Australia's growing reputation as a supplier of quality wine at reasonable prices. The United States became Australia's largest customer in 2003-04, accounting for 35 per cent of the total value of wine exports, followed closely by the United Kingdom, which accounted for 34 per cent of the total value of exports. While the value of exports to the United Kingdom decreased by 3 per cent in 2003-04, growth in the value of exports to the United States was up 4 per cent, following strong growth in previous years. Australia's other key markets were Canada and New Zealand, with some sales inroads also being made into the European Union. Collectively, these markets accounted for around 92 per cent of the value of Australian wine exports in 2003-04.

Overall growth in trade

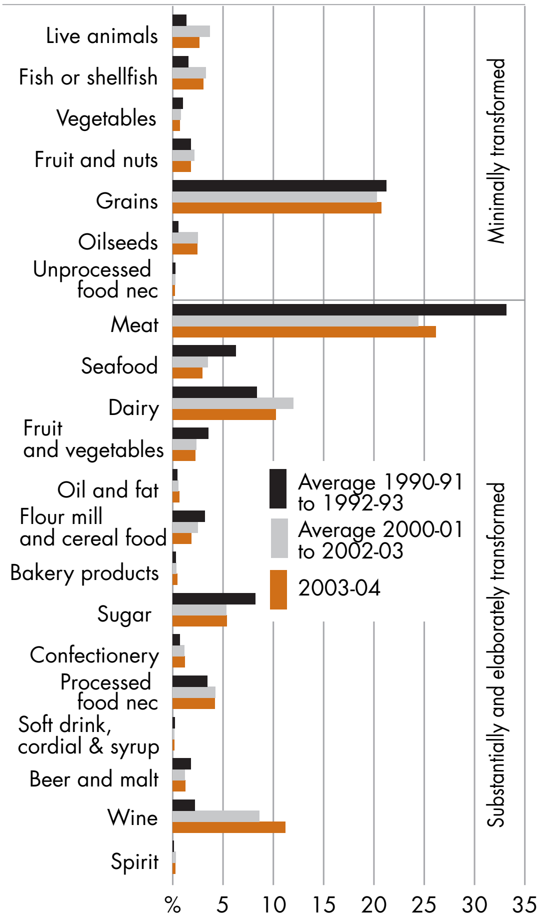
Figure C shows the overall trend in the value of Australian food exports and imports in constant dollar terms over the thirteen years to 2003-04. Over the period from 1991-92 to 2001-02, exports grew at an average rate of 7.6 per cent in real terms, while food imports grew at a slower rate of 5.6 per cent a year over the same period.

Australia's main food exports

Australia's main exports continue to be meat, grains and dairy products, and more recently wine, which in 2003-04 had a greater value than total dairy product exports. However, there has been considerable diversification in exports over the past decade.

Figure D shows the relative contribution of different food categories to the total value of exports for 2003-04, and the averages for the three years ended 1992-93 and the three years ended 2002-03. The relative value of wine, dairy products, oilseeds, live animals, fish or shellfish and to a lesser extent confectionery exports have increased most over the period since 1990-91, while the shares of total exports of meat, sugar,

D Composition of Australian food exports



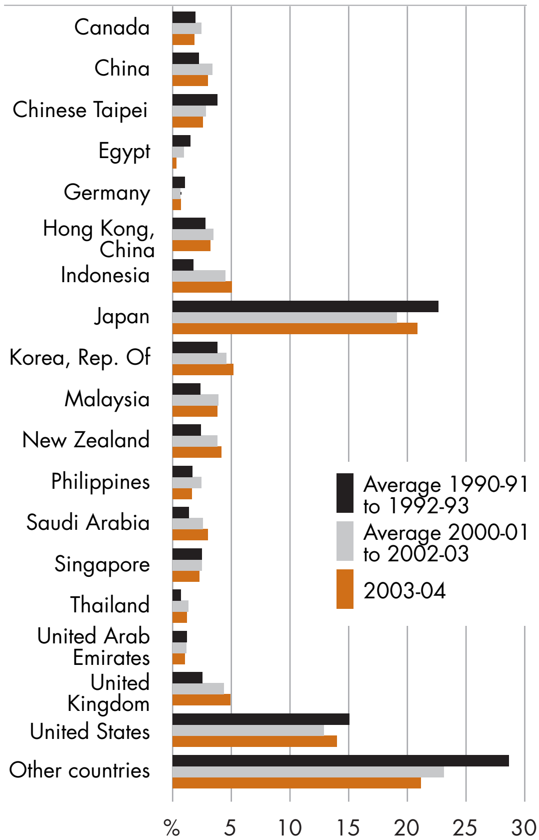
processed fruit and vegetables, processed seafood, flour mill and cereal food and to a lesser extent grains have shown the largest declines. However, the decline in grains, fruit and vegetables, and flour mill and cereal food mainly reflected lower export volumes because drought severely curtailed production in 2002-03. In 2003-04, the grain export share of food increased considerably as a result of a record 2003 winter grain crop.

Markets for Australia's food exports

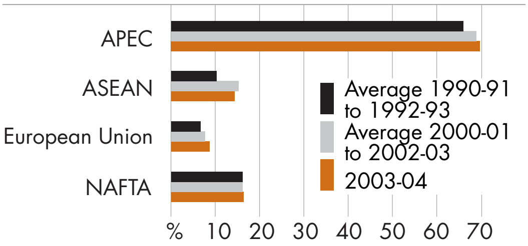
Australia's export markets have diversified over the past decade. Japan and the United States remain Australia's most important destinations for food exports (figure E) but their share of Australia's total food exports has declined. Other export destinations that have assumed greater importance include the Republic of Korea, the United Kingdom, New Zealand, Indonesia, Malaysia, Hong Kong, China, Singapore, Canada, Saudi Arabia and Thailand. Australian food exports to the United States rose in 2003-04 compared with the average of the previous three years, and are expected to rise further in coming years with the free trade agreement (FTA) between the United States and Australia coming into effect in 2005.

The bulk of Australian food trade occurs around the Pacific Rim, with Asia Pacific Economic Cooperation (APEC) member countries accounting for around 70 per cent of Australia's food exports in 2003-04. This compares with a 69 per cent share over the three years ended

E Value shares of Australian food exports, by country of destination



F Value share of Australian food exports, by country destination groupings



2001-02 and a 66 per cent share over the three years ended 1992-93 (figure F). While Australia's food exports in 2002-03 and 2003-04 declined as a result of drought, exchange rate and SARS, this belies strong overall growth in exports since 1998-99. This growth was largely accounted for by New Zealand, the Republic of Korea and member countries of the North America Free Trade Area (the United States, Canada and Mexico) that are also APEC members.

However, despite the decline in Australia's total food exports in 2003-04, the value of food exports to the European Union went against this trend and rose by more than 6 per cent for the year. It should be noted that the size of the European Union has recently increased from 15 to 25 members. As a result, historical trade figures for the European Union as a bloc have been revised in this issue of *Australian Food Statistics* to reflect the increased EU membership. The total value of Australian exports to the European Union over the past five years has been revised upwards by around 5 per cent, on average.

Impact of free trade agreements

The recently concluded free trade agreement with the United States is expected to provide benefits to Australian agricultural and food industries through the liberalisation of trade. In value terms, Australia food trade maintained a surplus of around $2.6 billion with the United States in 2003-04, with total exports of $3.1 billion and imports of $0.5 billion. The main Australian exports in 2003-04 were meat (55 per cent of total value), wine (28 per cent), dairy products (5 per cent) and processed seafood (4 per cent). Australia's main imports from the United States were processed fruit and vegetables (21 per cent of total value), spirits (20 per cent), fresh fruit and nuts (9 per cent) and processed seafood (8 per cent). The value of Australian food exports to the United States has quadrupled since 1995-96.

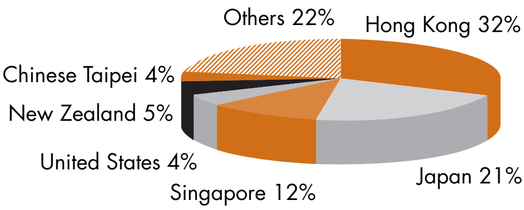
Australia has also negotiated a free trade agreement with Thailand. In 2003-04 Australia had a deficit in food trade with Thailand of $108 million, comprising total imports of $374 million and exports of $266 million. The Australia–Thailand free trade agreement will ensure greater access for Australian food products into Thailand, liberalising trade in products and services and investment. Over 75 per cent of Australia's current exports to Thailand will be tariff free from the first day of the agreement, which entered into force on 1 January 2005. In the first year of the agreement it is estimated that Australian industries could save more than $100 million in duties on exports to Thailand.

The Australian Government is also conducting studies into the possibility of bilateral free trade agreements with other countries in the Asia Pacific region, particularly with China (Australia's third largest trading partner) and Malaysia, and along with New Zealand, has also agreed to negotiating principles for a free trade agreement with ASEAN. The conclusion of such agreements could further increase Australia's access to export markets in the region.

Airfreighted food exports

In 2003-04, airfreighted food exports represented 5.6 per cent of the total value of food exports (compared with 6.4 per cent in 2002-03) and mainly comprised high value products where freshness is an important attribute demanded in the market place. Fresh seafood — particularly lobster, tuna, salmon and abalone — made up around half of these exports. The other main components of airfreight exports by value were meat (21 per cent), live animals (11 per cent), and fresh fruit and vegetables (9 per cent). The main destinations for Australia's airfreighted exports were Hong Kong, Japan, Singapore and New Zealand, which together accounted for around 70 per cent of the total value in 2003-04 (figure G).

G **Value share of Australian airfreight exports, by destination, 2003-04**



In parallel with Australian food exports in general, the value of airfreighted Australian food exports fell by 13 per cent in 2003-04 to $1.26 billion. The decline in exports was largely caused by the SARS epidemic that cut tourism and restaurant patronage in some Asian countries in the second half of 2003. With a significant amount of Australian food exports going to the Asian restaurant sector, sales declined sharply as people in affected countries avoided restaurants and tourism for fear of catching the disease. This substantially reduced consumption of some types of food in Asia, with vegetables, fruit and nuts, fish, shellfish and processed seafood being particularly affected.

The higher Australian dollar (averaging US$0.71 in 2003-04, up from US$0.58 in 2002-03) was also a strong contributor to the decline in airfreighted exports. The increased exchange rate made Australian food products more expensive to overseas consumers.

Australian food imports

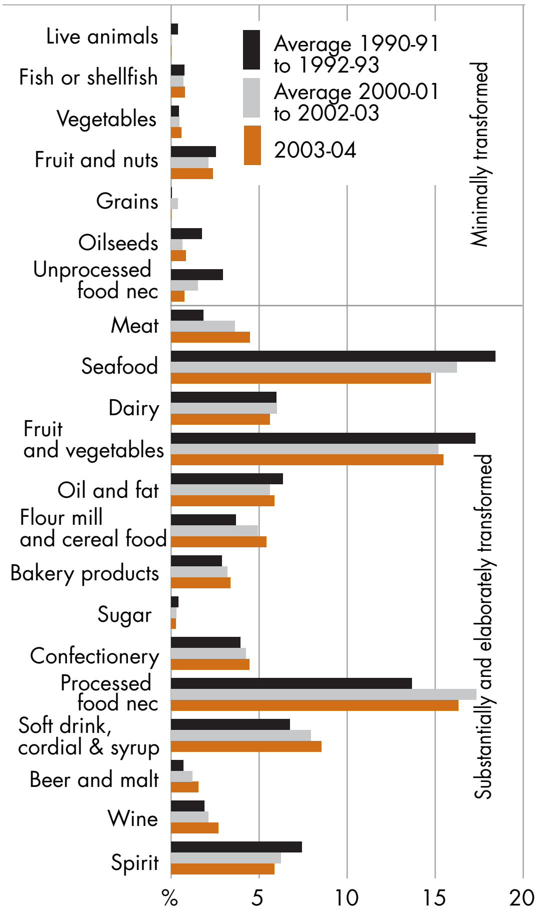
Australian imports of food rose only marginally in 2003-04 to $5.88 billion, with processed foods making up around 95 per cent of the total value of food imports.

Processed seafood and processed fruit and vegetables are Australia's two largest food imports, although their share of total imports declined over the decade to 2002-03, as imports of beverages, processed cereals, bakery products, meat and confectionery increased (figure H). The drought also affected the composition of Australia's food imports over the past two years. For example, drought conditions adversely affected Australian canola production — which had been rising strongly over the past decade — and resulted in increased imports of oilseeds in 2002-03 and 2003-04. Drought also resulted in a large jump in imports of feed grains in 2002-03, mainly for use in the domestic poultry based industries.

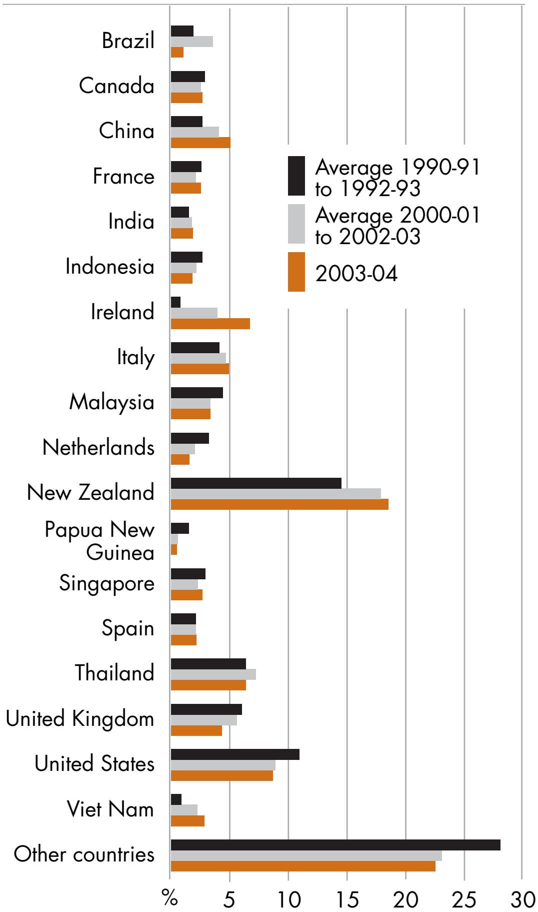
New Zealand the main supplier of Australia's imports

Reflecting in part the Closer Economic Relations Agreement that exists between New Zealand and Australia, New Zealand is by far the main source of Australia's food imports and has substantially increased its share of Australia's total imports over the last decade (figure I).

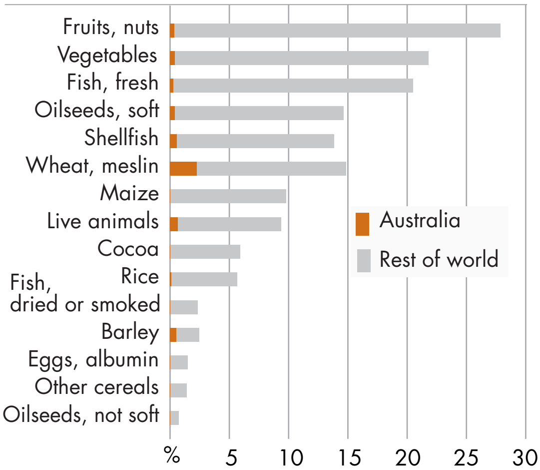
H **Composition of Australian food imports**



I Value shares of imports, by country of origin



J World exports of minimally transformed food, 2002



However, the conclusion of free trade agreements with the United States and Thailand (Australia's second and fourth most important sources of imports in 2003-04) is expected to result in increased food imports from these countries in coming years. Also of note is the diversity of food products imported and the large number of sources of Australia's imports: Canada, China, Ireland, Italy, France, Singapore and Viet Nam all increased their share of Australia's food imports in 2003-04.

World food trade

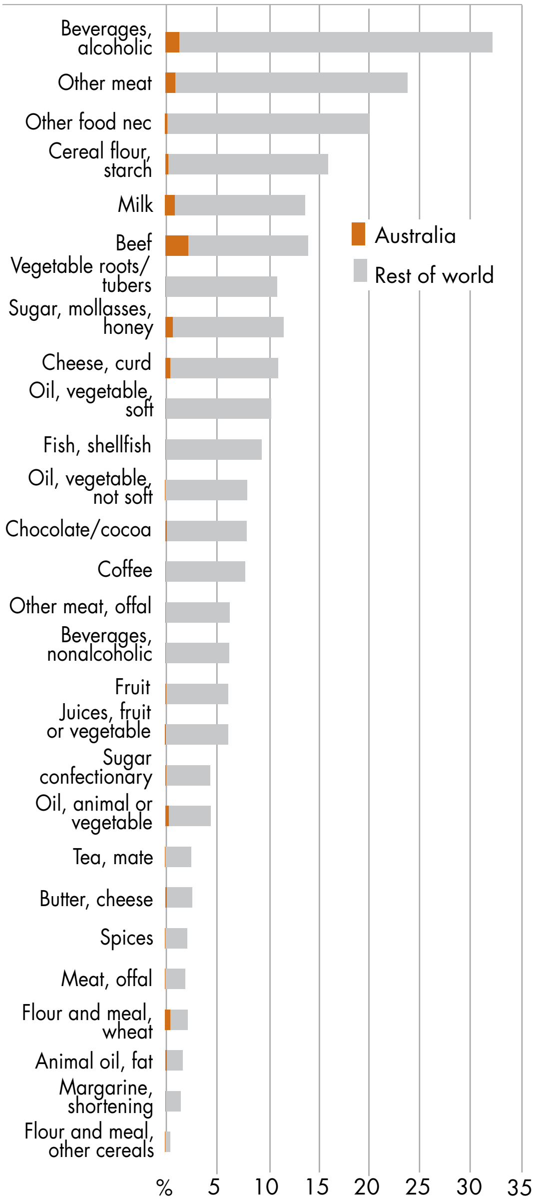
In value terms, Australia remained the world's eleventh largest exporter of food in 2002 (table 2), with US$14.1 billion in exports. Total world food exports were valued at around US$421 billion in 2002, of which around 36 per cent was minimally processed, with the remainder being substantially or elaborately transformed.

2 Main food trading countries, by value of trade, 2002

Rank	Country	Share
		%
Exporters		
1	United States	11.5
2	France	8.2
3	Netherlands	6.5
4	Germany	6.0
5	Spain	4.5
6	Canada	4.4
7	Belgium	4.2
8	Italy	4.0
9	Brazil	3.8
10	China	3.7
11	Australia	3.4
Importers		
1	United States	12.4
2	Japan	9.7
3	Germany	8.3
4	United Kingdom	6.6
5	France	5.6
6	Italy	4.8
7	Netherlands	4.2
8	Spain	3.7
9	Belgium	3.6
10	Canada	3.1
30	Australia	0.7

The minimally transformed products that are most traded on world markets in value terms are fruit and nuts, vegetables, fish and shellfish, grains and oilseeds. Australia is ranked seventh in world exports of minimally transformed food, with its largest shares in grains, shellfish, fruit, nuts and vegetable trade (figure J).

K World exports of substantially transformed food, 2002



In contrast, Australia has only a small share of the major substantially transformed products traded internationally and is ranked eleventh by value as an exporter. Australia's largest shares of processed food exports are beef and other meat, alcoholic beverages (mostly wine), dairy products and sugar (figure K).

Typically, the world's largest food exporters are also the world's largest importers (table 2). Most of the main food importing countries are located in western Europe and north America, with Japan being the only major exception. High levels of wealth give these countries the ability to purchase a wider variety of food types than are produced locally. In particular, these countries tend to import foods such as tropical fruit that is produced more economically in warmer regions.

Drivers of world food trade

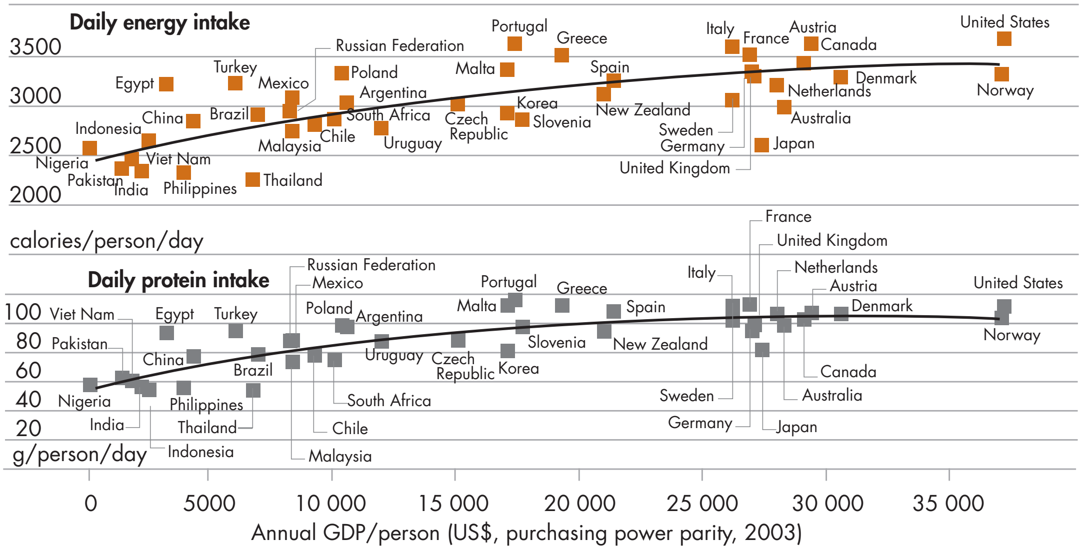
World food markets are constantly evolving, reflecting a range of demand, supply and institutional factors. The demand for a food is strongly influenced by factors such as income, relative prices of substitute foods, cultural preferences, demographics, lifestyle choices and tastes. Changes in these factors drive trends in the types of foods eaten and where and how these foods are consumed.

Figure L shows a strong positive relationship at the country level between nutrient intake and income levels, although the rate of increase declines. Generally, the higher the average per person income of a country, the higher is its intake per person of energy and protein from food.

Typically there is a strong relationship between the quantity of foods consumed and incomes; however, the nature of that relationship may differ widely between foods and between countries.

For example, figure M shows the per country consumption of meat and gross domestic product per person, which indicates that meat consumption per person generally rises as income per person increases but at a decreasing rate. In contrast, per person consumption of cereals (figure N) generally declines as income per person increases.

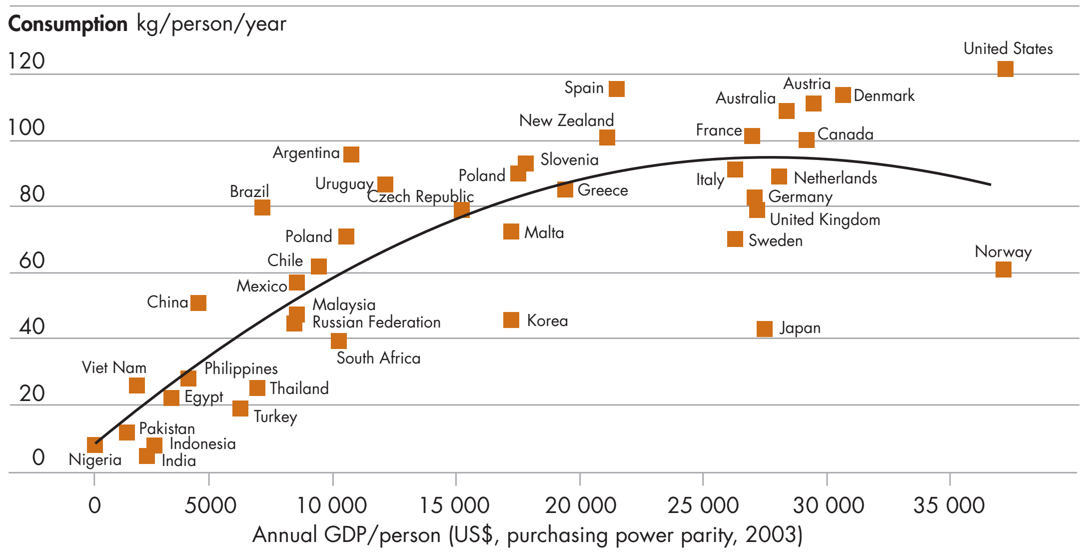
L Relationship between nutrient intake and annual income, selected countries



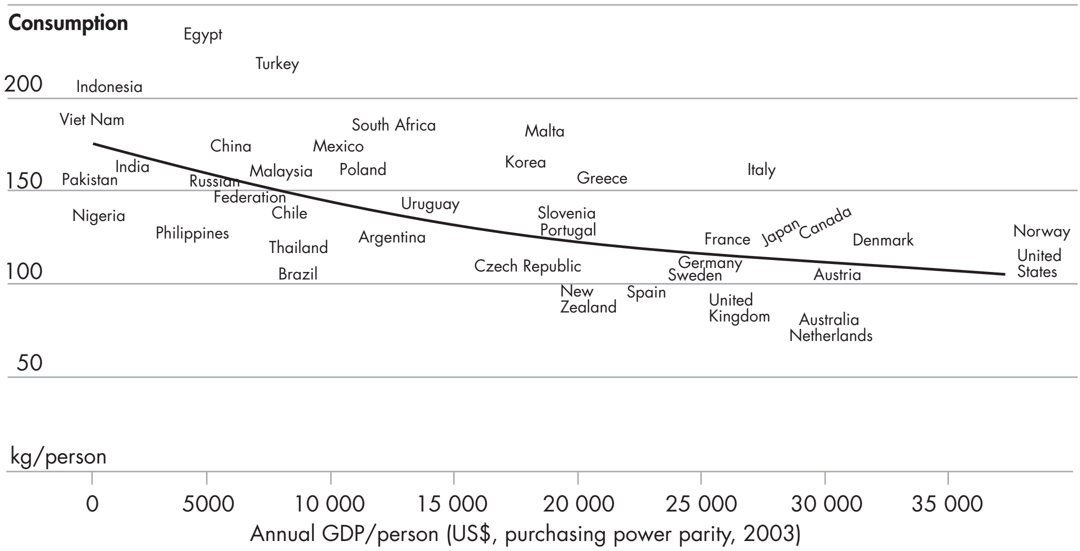
The pattern of world food production is strongly influenced by climate and regional natural resource endowments that determine the economic viability of producing certain foods. Other factors contributing to economic viability in production include labor costs and skills, political stability, technological innovation and tariff and nontariff barriers to trade.

Globally, food producers are expected to come under increased pressure to improve their

M Relationship between meat consumption and annual income, selected countries



N Relationship between cereal consumption and annual income, selected countries



productive efficiency with the trend toward greater liberalisation of world trade. The main features of this trend in international food trade are increased competition in domestic and world markets, the emergence of international brands and market power and increased mobility of the factors of production between countries. This will create a stronger focus on efficiency, productivity and innovation. In Australia, a response to this trend has been to develop the National Food Industry Strategy, a joint industry and whole of government partnership that aims to improve food industry competitiveness through actions in four areas — encouraging industry innovation, developing a more integrated export strategy, enhancing the business environment and ensuring environmental sustainability.

Despite this, the economic and social benefits of an increasingly efficient world food industry will be limited if trade continues to be distorted by barriers. Governments in many countries use a number of measures to protect and bolster domestic food industries that are perceived to have been disadvantaged by changes in comparative advantage. Protection measures include subsidy arrangements, such as the farm program in the United States or the Common Agricultural Policy in the European Union. Tariffs and a range of nontariff barriers also hinder trade. Australia's activities in the World Trade Organisation and in bilateral negotiations are largely directed toward removing or lowering these trade barriers.

Food in Asia

Annual food and beverage expenditure in Asia totaled US$858 billion in 2000 (based on the most recent available data from the Household Income and Expenditure Survey quoted in DFAT 2004). Japan (US$322 billion) and China (US$188 billion) are Asia's largest two markets by value. Growth in demand for food — as well as the pattern of food consumption — in Asia is largely driven by rapid population growth, rising incomes, changing demographics, increasing health consciousness and changing tastes.

Rising per person incomes in Asia have a major effect not only on the total quantity of food that can be consumed, but also on the types of food eaten. Higher incomes broaden the range of foods that can be consumed, with much of this consumption being of the more expensive foods — particularly livestock products like meat and dairy products as well as higher value fruit and vegetable products. Higher per person incomes also raise the opportunity cost of time spent on procuring and preparing food so that it becomes economical to consume more ready-to-eat foods such as takeaways, snacks and soft drinks. As a result, the pattern of Asian food consumption has changed dramatically over the past few decades, with the adoption of more western style diets that are characterised by increased protein and nutrient intake.

The pattern of food consumption is also strongly linked to urbanisation. Asian populations have become increasingly urbanised over the past few decades, reflecting greater employment opportunities and higher incomes in the manufacturing and services sectors. In urban areas, higher incomes result in greater per person expenditure on food and beverages, although this represents a smaller percentage share of total household expenditure than it does for rural inhabitants. Urban areas also provide access to a wider range of foods. Together with higher incomes, this results in the consumption of greater amounts of food and beverages, of better quality and greater variety than usually exists in rural areas. Typically, much of the consumption in urban areas is of the more highly processed foods available from restaurants and fast food outlets, together with increased amounts of pre-prepared meals available from supermarkets.

Population demographics also have a strong impact on the pattern of food consumption. Asia is the world's most populous region and maintains the highest rates of population growth — a strong driver of food demand. However, this growth is slowing. Falling birth rates and rising life expectancies are particularly evident in the developed Asian economies such as Japan. The aging of the population in Asia has resulted in a changing pattern of food consumption, as older people tend to eat smaller quantities of food and favor foods that are of higher quality — particularly those with greater health and nutritional benefits. However, despite the aging of the population, for the next several decades Asia's developing economies will continue to be dominated by younger age groups, whose tastes tend toward greater amounts of highly processed foods such as takeaways, soft drinks and icecream. Across all age groups, the more highly processed and higher valued foods are expected to remain the major areas of growth in Asian food demand.

Reference

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SPECIALTY CHEESE

a growing sector of the Australian cheese industry

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The Australian specialty cheese sector has experienced rapid growth over the past decade, with production more than doubling. Despite this growth, the domestic specialty cheese production sector and the domestic market remain relatively small, consuming relatively low amounts of specialty lines per person. The specialty sector is well established and plays an important role within the Australian dairy industry, serviced by a membership organisation, the Australian Specialty Cheesemakers Association (ASCA), which represents about 70 per cent of an estimated 100 specialist manufacturers nationwide (D. Brown, ASCA, personal communication, 2004).

Key features of the Australian specialty cheese sector

- ASCA, with approximately 70 members, accounts for an estimated 70 per cent of all Australian specialist cheesemakers
- 27 000 tonnes of specialty cheese were produced by ASCA members in 2003-04 — over 7 per cent of total cheese production
- 30 per cent of specialty cheeses sold in Australian supermarkets are imported
- Australian market for speciality cheeses in 2003-04 was valued at more than $300 million at wholesale
- About 4 per cent of Australian specialty cheeses are exported
- Cumulative annual volume growth of the sector has been 6–7 per cent over the past ten years

In this article the growing prominence of the specialty cheese market, both in Australia and worldwide, is examined. It provides an overview of the specialty cheese sector, details of sector dynamics and leadership, and a summary of domestic and international market performance. It also explores differing business models occurring within the industry.

Overview of the sector

Defining ‘specialty cheese’ is often an ambiguous and disputed issue. The term is commonly used to describe any cheese variety that is differentiated, or non-commodity, in style or packaging. However, some view specialty cheeses as consisting only of the cheese groups defined as fresh, stretched curd, blue and surface ripened. A third view includes a wider range of hard cooked and semihard cooked varieties within the definition.

The sector is dominated by cheeses made from cow’s milk (estimated at 97 per cent of specialty lines by volume), with sheep and goat’s milk products making up the remainder. Specialty cheeses are often produced in small factory operations with labor intensive processes, carry the perception of a value added product, usually with ethnic origins and/or specialised manufacturing processes, or are distributed in unique packaging (D. Brown, ASCA, personal communication, 2004).

The range of Australian specialty cheese making operations is diverse — from a small number of groups that are divisions of large dairy con-

1 Specialty cheese segments and products
according to the Australian Speciality Cheesemakers Association

Fresh	Hard cooked	Semihard	Stretched curd	Surface ripened	Other [blue]
Bakers cheese	Gruyere	Buetten	Bocconcini	Camembert	Blue cheese
Cottage*	Malca	Cheddar*	Casalinga	Triple cream	Blue fresh ripened
Cream cheese*	Parmesan*	Chesire	Fior di latte	Brie	Blue vein
Cream-double	Pecorino	Edam	Haloumi	Double brie	
Fetta*	Pepato	Emmenthal	Kasseri	Limburger	
Fresh curd	Romano	Fontina	Mozzarella*	Raclette	
Fromage blanc	Sardo	Fynbo	Provolene	Vacherin	
Marscapone	Swiss	Gloucester	Scamoraza	Tilsit	
Neufchatel		Gouda	Treccia		
Quark		Havarti			
Ricotta*		Lanchashire			
Stracchino		Leicester			
Whey cheese		Samsoe/maribo			
		Steppen			

*While these cheese styles are produced and consumed in sufficient quantities to be classified as commodity products, specialty cheese manufacturers may be differentiating these cheeses through branding, distribution and/or packaging.
Source: ASCA and Dairy Australia (2003).

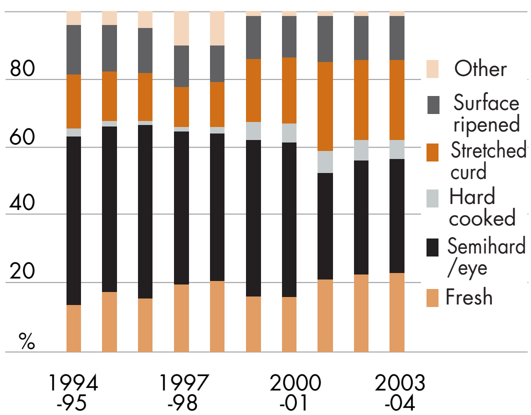
glomerates, right through to small farm production facilities consuming only part of the output of a small dairy herd. The sector now features many readily identifiable brands, including King Island, Jindi, Ashgrove Farm Cheese, Tarago River Cheese Company, Water Wheel, Yarra Valley Dairy, Margaret River, South Cape, Milawa, Lemnos, and Tasmanian Heritage.

Table 1 details the cheese styles included in the Australian Specialist Cheesemakers Association product class definition. The ASCA credits cheeses as 'specialty' if they are produced by ASCA members. These include dessert cheeses, salad cheeses, indulgence/premium cheeses and cooking items.

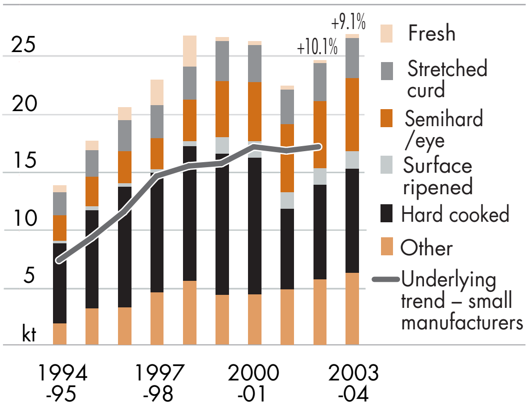
What may be termed 'specialty' in the Australian market includes many cheese styles that are traditional varieties produced as commodity lines in a number of European dairy regions.

The product mix in the specialty sector is dominated by semihard/eye cheese types (eye cheeses are cheeses with holes, for example, Swiss) — representing about a third of total specialist cheese production (figure A). However, this dominance is declining as consumers become increasingly adventurous, demanding more diverse products and flavors. The next largest categories are stretched curd and fresh cheeses, each boasting steady growth and representing almost a quarter of total specialty cheese production. Surface ripened cheeses represent 13 per cent of total production, and specialist hard cooked cheeses account for less than 6 per cent. Growth across all product categories is expected to continue, with the highest growth expected for the fresh and stretched curd segments (ASCA and Dairy Australia 2003).

A Specialist cheese types



B Specialist cheese production



The Australian specialty cheese sector produced close to 27 000 tonnes of specialty cheese during the 2003-04 financial year, an increase of 9.1 per cent on the previous year (figure B). This total output gives a slightly inflated indication of market growth, as there was a drop in total milk supply available to cheesemakers during 2001-02 (caused by the drought that affected major milk production regions). However, growth over the past decade has consistently remained high, averaging 6–7 per cent a year. The total output of the sector has (following the effects of the drought) regained the level it last reached in 1998-99. Specialty cheese production represents about 7 per cent of total Australian cheese production, a level it has maintained since the mid 1990s (ASCA and Dairy Australia 2003; P. Wilson, Dairy Australia, personal communication, 2004).

The specialty cheese industry is concentrated in the southern major dairying regions of Australia, primarily reflecting the clustering of the dairy industry activity in these areas, which provides an abundance of available milk flows, and service infrastructure to producers.

Markets

Supermarkets are the primary vehicle for retail sales of specialty cheese in Australia, accounting for 60 per cent of total sales, in line with the total cheese market (Dairy Australia 2004b). Australian supermarkets supplied more than 128 000 tonnes of cheese to consumers during 2002-03. Of this total, 30 per cent is imported product. While commodity cheese products dominate supermarket sales, specialty cheese sales grew at four times the rate of the total cheese category (ASCA and Dairy Australia 2003).

The major chain retailers' share of the market has grown in recent years, as retailers have devoted more prominent shelf space in the fresh foods sections of retail stores to capture market share from specialty retail outlets. Specialty cheese plays an important role in the expanding gourmet/premium food offering of retailers.

Limited quantitative research that seeks to identify market drivers in the Australian specialty cheese sector has been conducted to date by either ASCA or the industry as a whole. However, substantial qualitative evidence is available from the food industry that suggests several key catalysts to industry growth. These include:

■ Ethnicity/cosmopolitan eating (affecting demand for many of the European styles) — Australia's multicultural heritage has led to

Case studies

Of the more than 100 specialty cheesemakers operating across Australia, almost all remain small, family-run enterprises. There are exceptions — such as King Island, part of National Foods, a publicly listed company; and Lactos, which since 1981 has been part of the French dairy corporation Bongrain SA, which ranks in the top ten dairy companies in the world.

Despite this proliferation of small producers, it is not expected that the industry will consolidate. The nature of the industry allows for greater diversity of products and flavors, and market intelligence suggests that consumers will continue to demand products from boutique manufacturers.

Several Australian specialty cheese producers have been selected as case studies for indepth analysis. These producers — King Island, Ashgrove Cheese, and Kervella Cheese — have contrasting company size and market shares, but all exhibit high levels of innovation and marketing success.

the assimilation of ethnic, European cuisine into Australian diets. The increased worldliness of the Australian population (as more citizens experience international travel or are exposed to ethnic cuisine) is also believed to have had a positive impact on domestic consumption of European-style cheeses.

- Indulgence/experience (affecting products such as brie, camemberts, blue vein lines etc) — increasing living standards and disposable incomes in Australia are believed to have led to the increased consumption of indulgence lines such as brie and camembert.
- Diet (affecting products such as cottage, ricotta, fetta etc) — the push toward healthy eating and low-fat diets beginning during the 1990s is believed to have increased the domestic market for low-fat cheeses such as cottage cheese and ricotta. The preference of natural health practitioners and health food stores for non-dairy products has seen an increased market for goat's milk cheeses, particularly low-fat goat's milk fetta.

Specialty cheeses maintain significant price premiums over commodity cheeses in Australia for a variety of reasons. Australian specialty cheese products sold through supermarkets averaged a premium of $7.00 a kilogram over conventional volume lines of cheddar cheese items during the 2002-03 financial year (commodity tasty cheddar retails in supermarkets at an average of $7–8 a kilogram for larger pack sizes). This premium typically increases by at least $1 a kilogram in peak demand periods such as the Christmas season (ASCA and Dairy Australia 2003).

The prices of specialty cheese lines are determined by several issues along the supply chain. However, differentiation in the specialty cheese category results in less substitution and higher brand loyalty — creating opportunities for higher retail prices and margins. In a survey conducted

King Island Dairy

King Island Dairy, Australia's largest specialty cheese manufacturer has undergone significant changes in recent years. National Foods acquired the King Island Group along with its premium cheese brands of King Island Dairy, South Cape, Clover Creek, Tilba and Timboon and other gourmet foods brand of Superior Gold in February 2002. National Foods is Australia's only publicly listed dairy company, with an annual turnover in excess of A$1.3 billion. Leading National Foods brands include Pura, Farmers Union, Classic, Yoplait, Fruche and Yogo.

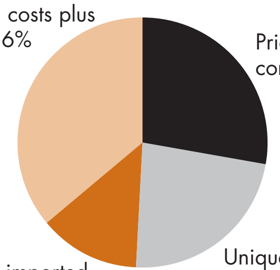
King Island Dairy produces in excess of 2500 tonnes of specialty cheese a year, employs more than 300 staff, and is by far Australia's most recognisable specialty cheese brand (National Foods Limited 2003a).

Following takeover by National Foods, King Island Dairy has been transformed into a business unit that is capable of achieving a satisfactory return on the investment that has been ploughed into the business by its owner. National Foods has restructured the operations, rebuilding their foundations and focusing on getting 'the basics right'. Specifically, King Island management has put resources into getting quality product into the right distribution channels at the right times. King Island's focus on inventory management saw them implement new sales and operating planning systems — a move that resulted in a significant improvement in cold chain management and decreases in wastage (National Foods Limited 2003b).

The changes at King Island have had impressive quantifiable results — an increase in domestic market share from 18 per cent to 22–23 per cent of the total specialty cheese market. King Island is also Australia's leading exporter of specialty cheeses — exceeding $1 million a year. The United States, Japan, Singapore and Hong Kong have traditionally absorbed these exports; however, King Island imports have recently become available in China.

King Island won the Tasmanian Emerging Exporter award for 2002, following their prestigious segment win at the New York Fancy Food Show in 2000 (National Foods Limited 2003b).

C Factors affecting specialty cheese manufacturers' selling price



by the Australian Specialist Cheese Association, manufacturers indicated that covering costs plus margin was the greatest factor affecting the selling price achieved by producers, followed by the influence of unique characteristics of the product (figure C).

Supply chain

The majority of Australian specialty cheeses are sold to industry wholesalers, representing 47 per cent of total distribution in recent years (table 2). The most significant recent change in the distribution channel is the increase in sales direct to consumers, which have increased from an average 11.25 per cent of sales between 1995-96 and 2001-02 to 23 per cent of total distribution in 2002-03. These sales are primarily conducted at the farm gate, through onsite retail stores. Sales direct to supermarket/delicatessens have remained relatively steady since 1995-96, averaging 19.5 per cent of total distribution. Direct sales to food service outlets and export markets were forecast for 2003-04 at 6 per cent and 4 per cent respectively (ASCA and Dairy Australia 2003).

Vertical integration in the specialty cheese sector (between farm production, cheese processing and marketing) is especially high. Many small to medium size manufacturers have their own herds to ensure control over milk quality and supply. The small size of most cheesemakers also dictates that marketing efforts remain inhouse (D. Brown, ASCA, personal communication, 2004).

To remain competitive, many specialty cheese manufacturers are working more closely with retailers and food service organisations to gain advantage in product development, forecasting and quality control. The increase in direct-to-consumer sales has also resulted in the integration of the retail sector into many specialty cheesemakers' portfolios. This direct relationship with consumers allows for not only increased margins to the manufacturer, but also valuable marketing intelligence on consumer preferences.

Horizontal integration has taken place within the specialty cheese sector. In 2002, National Foods Ltd purchased Australia's largest specialty cheese manufacturer King Island Dairy, along with several other smaller brands owned by King Island — South Cape, Clover Creek,

2 Product distribution through various channels

	Direct to consumer	Wholesalers	Direct to supermarket/ delicatessens	Direct to food service outlets **a**	Export markets
	%	%	%	%	%
1996-97	10	67	15	7	1
2002-03	23	47	20	8	2
2003-04 **f**	23	47	20	6	4

a Includes restaurants etc. **f** Forecasts.
Source: ASCA and Dairy Australia (2003).

Tilba and Timboon (National Foods Limited 2003a).

Trade

International trade significantly influences the Australian specialty cheese sector, with the domestic market exposed to significant imports, as noted earlier. The majority of these imported products are sourced from Europe as the source of many of the traditional 'name' cheese styles, with a small amount from New Zealand.

A controversial issue in the sector remains the Australian regulation preventing the sale of cheese products made with raw milk. This applies to both domestically produced products, and any imports coming into the Australian market. This regulation was introduced as a health-safety measure; however, many foreign cheese manufacturers ague that it is merely a disguised trade barrier.

Significant media attention has also been dedicated to this issue, citing the desire of Australian specialty cheese manufacturers to use unpasteurised milk in their products. Countering media reports contend this desire has been vastly overstated, given that a survey of Australian Specialist Cheesemakers Association members indicated only 5 per cent of manufacturers would be interested in making cheese from unpasteurised milk ((D. Brown, ASCA, personal communication, 2004). However, not all specialty cheese manufacturers belong to ASCA, and some cite the strong lobbying of the organisation for the continued restrictions on unpasteurised milk as their reason for not joining (Newton 2004). In any case, this issue is one that creates a significant divide within the industry.

Ashgrove Cheese

The successful Ashgrove Cheese emerged on the specialty cheese scene through necessity rather than desire. During the early 1990s, the Bennett family, Ashgrove owners, realised they needed to add value to their milk production to survive in a dairy industry moving toward deregulation.

Starting production in 1993, Ashgrove strategy was for import replacement, rather than direct competition with domestic brands. Ashgrove pursued this strategy by producing cheeses not manufactured in Australia at the time – English county styles such as Cheshire, Red Leicester, Double Gloucester and Lancashire. However, imports were still formidable competitors, especially those coming out of the European Union advantaged by generous subsidies (J. Bennett, Ashgrove Cheese, personal communication, 2004).

However, in 1997 the Uruguay Round of GATT talks dramatically changed Australian market dynamics for specialty cheeses. EU agricultural subsidies were cut by 30 per cent, and the resulting price increase of imported cheeses, particularly from France, made Ashgrove's products far more competitive. Jane Bennett of Ashgrove Cheese claims that as a result of the decreased subsidies, Ashgrove's market doubled overnight. In the same year, Jane was also awarded ABC's 'Rural Woman of the Year'. Bennett seized on this opportunity for publicity and leveraged her new-found exposure to build the Ashgrove brand (Development Tasmania 2003).

Ashgrove has also ventured into export markets, achieving market penetration in the United States, Singapore, Taiwan, Hong Kong, and now in Japan with a customised wasabi cheese. However, Ashgrove's first attempt at introducing the product to Japanese importers was unsuccessful – with importers disgusted and appalled by the wasabi cheese line. It wasn't until the product found fame through a Japanese TV travel show that the wasabi cheese entered the Japanese market. Its popularity has since surpassed all expectations (Development Tasmania 2003).

Ashgrove has also included tourist destination to its business model. The cheesemakers operates a retail store at its Tasmanian factory, following an industrywide trend toward direct-to-consumer sales. Staff at Ashgrove (20 in total) provide free cheese education to tourists, investing in consumer confidence and brand loyalty.

Ashgrove management credit much of their success to their investment in skill development, and the relationships they have developed with quality distributors.

Global industry and international competitors

At the present time it remains very difficult to assess the total size of the global industry and market for specialty cheese. This is linked to the ambiguity of definition for the specialty cheese category, which is as much an issue in major cheese production centres overseas as it is in Australia. As well as the differing definitions used within the Australian industry, globally the definition is even more obscure — as what is a specialty cheese in one country may be a mass-produced, commodity product in another. For example, while camembert produced in Australia is considered to be a specialty cheese (part of the 3200 tonnes of surface ripened cheese produced in 2002-03), to French manufacturers it is a commodity line, with production reaching approximately 130 000 tonnes a year (Couvelaere and Jadji 2003).

While Australia's specialty cheese industry has grown rapidly since the 1980s, it remains very small by world standards. European nations such as France, Greece, Switzerland, Italy and Denmark are seen as the more traditional producers of specialty cheeses.

French consumption of cheese is the largest in the world, averaging 24.5 kilograms per person each year, with total consumption exceeding 1.45 million tonnes a year. Production of goat's cheese has increased significantly in France during the past few years. In 2002, goat cheese production rose by 5.7 per cent, compared with only 0.6 per cent for the more established cow's milk cheese (accounting for 93.3 per cent of total production), and 0.8 per cent for the smaller ewe's milk cheese sector. In total, there are more than 400 varieties of cheese produced in France (Couvelaere and Jadji 2003).

France is universally considered by Australian specialty cheese industry experts as Australia's most significant competitor in both the domestic and export markets. French exports of cheese total more than 500 000 tonnes a year – valued at more than €2 billion. Germany absorbs the largest proportion of this product (25.2 per cent), followed by Belgium (13.6 per cent), the United Kingdom (10.4 per cent), Italy (8.7 per cent), Spain (7.7 per cent), the United States (4.6 per cent), and the Netherlands (4 per cent) (Couvelaere and Jadji 2003).

Export market

Only about 4 per cent of Australian specialty cheese produce is exported. Like for many other food sectors and bulk commodity cheese products, Japan stands out as a key export market for Australian specialty cheeses. The Japanese market for cheese has shown steady growth since the mid 1990s, and now absorbs approximately half of all Australian cheese exports, making that country the most valuable single market destination for dairy products. Australia remains the leading exporter of cheese to Japan, responsible for 44 per cent of imported product by volume and 41 per cent by value (P. Wilson, personal communication, 2004).

Most of this cheese is used as an ingredient in food production; however, growth has occurred in Japanese consumption of cheese by itself. Much of this growth is attributed to the increase in popularity of wine in Japan, and the ability of distributors to cross-promote specialty cheeses simultaneously.

Cheese consumption in Japan is on an upward trend in both value and volume; however, consumption per person remains very low — approximately 2 kilograms a year (Japan Today 2003). This low figure suggests room for further growth in the market; however, Australian producers face high competition chiefly from French exporters. Reports indicate that Japanese tastes favor milder cheeses and small, individual packaging (M. Freeman, Dairy Marketing International, personal communication, 2004).

Growth in the specialty cheese sector has also occurred in the United States. US reports indicate an expected growth in domestic retail sales of 22 per cent between 2000 and 2005, pushing the retail market value near US$2.9 billion (Cheese Reporter 2001). Reports from the United States suggest that per person consumption of specialty cheese has not yet reached its limit, and industry growth should continue to be strong for some time (Wisconsin Specialty Cheese Institute 2002). Many Australian cheesemakers are already taking advantage of the lucrative US market; however, the minimum quantity of product required by many retailers is beyond the manufacturing capabilities of most Australian companies.

The US–Australia Free Trade Agreement will allow some concessions for specialty cheese manufacturers into the US market. However, the quotas determining which manufacturers gain access are to be based on quantity rather than value, favoring larger cooperatives.

Dairy Marketing International (DMI), one of Australia's largest export brokers of specialty cheeses, cites Japan, north America, and continental Asia as the key markets for Australian specialty cheese exports — now and into the future. There is also potential in the Middle Eastern and south east Asian markets; however, the long shelf life and durable packaging demanded by these markets has so far reduced their attractiveness for Australian exporters (D. Freeman, DMI, personal communication, 2004).

China, as the world's largest growing economy, also shows potential for specialty cheese consumption; however, the market remains very underdeveloped. While Chinese consumers have been introduced to cheese through major food service chains such as Pizza Hut and McDonald's, this increased product awareness has so far only translated into commodity product sales.

However, as the market develops and affluent Chinese consumers are increasingly exposed to western trends, it is expected that consumption of specialty cheeses will grow. This will almost entirely come from imported product, as China lacks availability of farming land to provide sufficient dairy production to meet its potential domestic market demand. China's entry into the World Trade Organisation will also result in import tariffs for cheese into the market dropping from their current rate of just under 30 per cent, to an expected 12–15 per cent by 2005 (Austrade 2004).

Kervella Cheese

A truly boutique cheesemaker if there ever was one, Kervella produces less than one tonne of cheese a year. Cheesemaker and owner Gabrielle Kervella learnt her cheese making skills on a goat cheese farm in France during the early 1980s. She had long dreamed of setting up her own small farm; however, the vastly different conditions in Australia from what she was used to in France presented numerous hurdles. However, with the help of a lecturer at the University of Western Australia experienced in goat farming, she commenced trading in 1984 (Hyde 2000).

Kervella's big break came though a fresh food show in Perth, where a journalist, impressed by this unknown cheese, took some back to Sydney and shared it with a specialty cheese distributor. Despite Gabrielle's reluctance to move so quickly into an interstate market, wholesales distributors have since become Kervella's largest distribution channel (Hyde 2000).

Kervella now has 'Demeter' biodynamic certification and takes full advantage of the enterprise's organic methods. Gabrielle believes that consumers appreciate and seek out biodynamic certification and awards, and worked hard to gain certification for many years. As with many other primary industries, feed has been a major stumbling block, and Kervella has struggled to grow enough biodynamic feed for their herd (G. Kervella, Kervella Cheese, personal communciation, 2004).

In 2004 Kervella cheese boasted a resounding reputation. The Sydney Morning Herald has voted Kervella Rondolet the best overall cheese in Australia for three of the past five years.

Kervella has also experienced resounding success in the United States, where according to Gabrielle, customers often think that Kervella is the generic name for Australian goat cheese. This type of first mover advantage is priceless in a vast market such as the United States. However, Gabrielle does feel her cheeses are restricted by regulation requiring her to only use pasteurised milk, and given the opportunity she would love to try her hand at cheese making with raw milk, like she was taught in France (Hyde 2000).

International reputation

Australia's reputation as a cheese producer is mixed. While many sing the praises of domestic cheese manufacturers, and companies such as Jindi and King Island have recently won international awards (Dairy Australia 2004a; National Foods Limited 2003b), others are more sceptical about the skill level in the local industry and the quality of produce coming out of it (when compared with the strength of reputation enjoyed by European producers). The sector must deal with perceptions of a lack of diversity in training in the production of farmhouse cheeses, and a lack of respect among Australian producers from those in nations such as France or Greece, where cheese making has been at the centre of culture for hundreds of years (Newton 2004).

Australia's export success in the commodity cheese market may have also negatively impacted on Australia's reputation as a specialist cheese making nation. This has been particularly true in Japan, Australia's largest importer of commodity cheeses. Industry intelligence suggests that Japanese importers and wholesalers have often associated Australian cheeses only with commodity cheddars, and look to France and other European producers for specialty lines (M. Freeman, personal communication, 2004).

Despite this, Australia does benefit from a strong basis for competitive advantage. Australia's strong regulatory environment provides 'clean and green' assurances to sophisticated consumer markets, and the shorter distance to Asian markets increases product freshness and reduces distribution costs.

Sector leadership

Specialty cheesemakers in Australia are represented by the Australian Specialist Cheesemakers Association, founded in 1994. ASCA estimates that its membership includes 70 per cent of specialist cheesemakers in Australia; however, the exact number of specialist cheesemakers is difficult to determine because of the abundance of very small players operating within the industry. ASCA provides members with a combined voice to government and media, provides a forum for members on business issues, and promotes awareness and appreciation of Australian specialty cheeses. Results from the survey of ASCA members identify the informational role of the organisation as the most important benefit to members (ASCA and Dairy Australia 2003).

To date, ASCA has played no role in coordinating demand and supply within the sector, nor has this been explored by other agencies. The overall level of coordination among specialist cheesemakers is very low. ASCA does stage an annual show that, through awards to individual cheesemakers, allows some ad hoc insight into industry benchmarking.

Industry best performance and skill development is also channelled through the Gilbert Chandler Institute of Dairy Technology at the University of Melbourne. Services offered by the institute include a hotline for cheesemakers and courses to develop cheese making skills (D. Brown, ASCA, personal communication, 2004).

The relationship between ASCA and dairy industry service provider, Dairy Australia, is important. Dairy Australia primarily assists the specialty cheese sector through product promotion to consumers, and through their compilation and production of statistical data pertinent to the sector. ASCA also maintains a strong relationship with Australian Dairy Farmers Limited, the peak organisation that represents dairy farmers throughout Australia.

Barriers to entry

While the continued growth of specialty cheese consumption in both domestic and international markets alludes to an attractive investment opportunity, the market realities for manufacturers are significantly more sobering. The most significant barriers to entry are the high entry capital and the technical skills needed to begin and sustain cheese production. Due to Australian food safety requirements, there appears to be a lack of small stepping stones into the industry (that is, manufacturing from home as is often done in other industries). Cheesemakers wishing to manufacture in Australia require upward of \$300 000 to set up a factory, and an additional \$100 000 or more of working capital (personal interview with D. Brown, ASCA, 2004). Furthermore, the level of government financial assistance available to Australian cheesemakers is not of the significance of that provided to EU producers (S. Standen, Wool and Dairy Policy Unit, Department of Agriculture, Fisheries and Forestry, personal communication, 2004).

Major barriers to entry and constraints on industry expansion also include:

- managing the peaks and troughs in milk production,
- insufficient total milk supply (particularly for goats milk),
- variations in milk composition,
- the extent of competition in the relatively small Australian market,
- high costs of product logistics and storage, and
- the perishable nature of the product.

Innovation

Investment in technology and innovation is of high importance to the specialty cheese industry. Several initiatives and institutions across Australia are involved in research and development in cheese making, such as the Australian Cheese Technology Program, the CSIRO Dairy Research Laboratory, Australian Starter Culture Research Centre's (ASCRC), and Food Science Australia.

Currently research is under way that is aimed at improving specialty cheese manufacturing processes. To date, a significant portion of specialty cheeses are produced through manual manufacturing methods (hand made) or semi-automated manufacturing processes, increasing manufacturer reliance on cheese making skills and education of staff. And while this manufacturing process creates product differentiation, it also creates a high level of risk to the manufacturer associated with human error.

To combat this, public and private resources are being dedicated to research hoping to improve manufacturing processes for specialty cheeses. For example, Lemnos Foods is currently undertaking a $2.9 million project (co-funded by the Food Innovation Grant Scheme) aimed at developing a fully automated manufacturing process for specialty cheese to produce consistently high quality cheese at reduced cost and in less time. Lemnos anticipate that the manufacturing capacity of the new plant will reach 5 tonnes a day (NFIS 2004).

At the ASCRC research and development facility in Werribee, Victoria, high priority is given to assisting cheesemakers through improvements in the selection, analysis and application of starter cultures for cheese production. The ASCRC is attempting improve mass production of lactic acid bacteria, which if successful will improve cheese flavor and digestibility. The production of high quality lactic acid bacteria in Victoria will also cut costs to Australian specialty cheesemakers, who spend approximately $8 million a year importing cultures from Europe. It is anticipated that the reduction in cost may be as large as 30 per cent (VIIRD 2002).

The Rural Industries Research and Development Corporation (RIRDC) has also invested in the identification and development of markets for goat's milk cheese through its New Industries Program (Stubbs and Abud 2002).

Marketing

Given the scope for differentiation in the specialty cheese sector, marketing remains a key challenge for the industry. Manufacturers overwhelmingly see improving the education of the wholesaler, retailer and, most importantly, consumer to be of paramount importance in achieving growth in the category. This is in line with general 'gourmet food' marketing intelligence, which promotes stakeholder education and relationship building. Value adding (generally through packaging and branding) is also of high importance, as manufacturers realise that in a non-commodity market, consumers regularly associate price with quality, and seek out prestige products (ASCA and Dairy Australia 2003).

Larger specialty cheese manufacturers have tended to promote their product through advertising in glossy food magazines, while the smaller cheesemakers have focused on building niche markets — often through combining a link to tourism into their business models (personal interview with D. Brown, 2004). As with competition in major dairy product lines, growth of the overall specialty cheese category is likely to be led into a new phase of growth by major brand owners, such as National Foods. This follows their purchase of the King Island business which has secured significant market positions within the domestic retail market, and is investing in a broadening of its product portfolio to encompass gourmet food lines. This may ensure that more specialty cheese reaches the attention of the Australian consumer, allowing other producers an opportunity to take advantage of that greater awareness.

It is likely that this greater consumer awareness and exposure will benefit the entire sector as consumers seek more knowledge and variety, and look to experience a wider range of specialty cheese styles and names. Coordinated marketing initiatives have also created success for some producers, linking boutique cheese brands and lines to wine/food trails in certain themed geographic regions (for example, Margaret River region).

Future marketing prospects look promising in the specialty cheese sector. As consumers generally become increasing worldly and adventurous with their food, the market for specialty cheese lines with rich flavours and ethnic origins is expected to grow further. US reports also indicate that consumer are choosing quality over quantity – eating less, but eating fuller flavored, specialty cheeses.

Consumer demographics have been found to play a significant role in specialty cheese purchase. A US study published in 2001 found education and income to be important determinants of retail sales of specialty cheese (Food Processing Center 2001). Similarly, RIRDC (in their study of goat milk products) identified affluent to middle income areas as having the greatest availability of chevre, or French style goat cheese (Stubbs and Abud 2002). This type of market segmentation is not surprising, and typical of gourmet, or high end food segments.

There have also been indications of a growing consumer preference in overseas markets for cheese and other dairy products using organic agriculture. Australia's stringent regulatory environment has resulted in other agricultural sectors moving in this direction and taking advantage of Australia's 'clean and green' image for competitive advantage. However, market intelligence suggests that, so far, international consumers have not sought out Australian specialty cheese lines for these qualities, nor has there been a significant demand for organic cheese within the Australian market (M. Freeman, personal communication, 2004).

If Australia continues to follow European trends in cuisine, it is anticipated that the market for goat and sheep cheeses will increase. However, looking only to European consumption trends for Australian marketing intelligence can be dangerous. European consumer patterns are largely built on their historical culture — something that cannot be easily replicated in another nation. Not withstanding this warning, local market intelligence also indicates strong growth for the goat cheese sector, and attributes much of the market success to consumer perceptions of goat's milk as a healthier alternative to cow's milk.

Conclusion

The specialty cheese sector is one of the success stories of the Australia food industry, adding scope for future diversity and value as consumer awareness and affluence increases. The sector has enjoyed strong growth over the past decade and faces significant opportunities and challenges in the future as it moves into another phase of development. While the sector faces 'hard yards' in growing a significant export presence, the premium and ethnic food markets in the Australian market provide scope for continued strong growth, once smoother supply chain management is achieved between farm and consumer.

The sector has become a critical part of the premium fresh food category in the domestic retail market. Increased investment in marketing by major corporate brand owners will, we believe, provide the sector with greater exposure and provide all producers and suppliers with benefits that flow from increased consumer awareness.

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TRADING DAIRY INGREDIENTS

thinking outside the 'glass and a half'

Chris Ambler and Michelle McGranahan

Over the past two decades the Australian dairy industry has changed considerably. Ongoing rationalisation at the farm level has resulted in fewer dairy farms, with larger herd sizes and more efficient operating systems. Consequently the volume of Australian milk production doubled over that period to more than 10 billion litres in 2003-04, expanding at a faster rate than domestic consumption (Dairy Australia 2004).

One of the key successes of the dairy industry has been to capitalise on the growing global demand for dairy products (both as an ingredient and a final product) by establishing a significant export oriented industry to take advantage of production surplus. In recent years the diversity of processed dairy products and ingredients being exported from Australia has increased. This article will explore two of these products in detail.

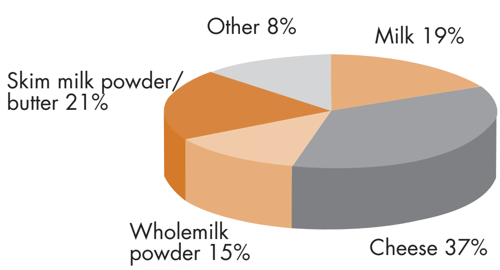
Australian dairy production

Dairy is one of Australia's leading food industries, with a major role in both agriculture and manufacturing. It is the third largest agricultural industry, valued at $2.8 billion at the farm gate in 2003-04. Through value adding, dairy is also the third largest food manufacturing sector, accounting for 14 per cent of total food manufacturing turnover in 2003-04 (table 3.1, statistical appendix). Importantly, dairy products are also key ingredients for other manufactured foods, particularly bakery and confectionery products and infant formula. As a result, dairy products add further value to the food manufacturing industry.

Australia produces a wide range of high quality manufactured dairy products, including fresh lines such as yogurt, a wide variety of cheese types, and bulk and specialised milk powders. Cheese is the most significant manufactured product group in the industry, in terms of total sales value and the volume of milk used. Milk powders and butter are also significant components (figure A; Dairy Australia 2004).

Innovations in dairy processing and pressures to increase the overall returns from milk processing have led to further product diversification. In particular, new products have been derived from what was previously discarded as waste. Many of these new products are specialised ingredients, such as whey powders and protein concentrates, lactose, casein and caseinates, and colostrum. These products are produced in relatively small volumes but are sold at high unit prices and have a diverse range of uses, from food ingredients to products with special health benefits.

A Utilisation of Australian milk, 2003-04
Share of volume produced



Export performance

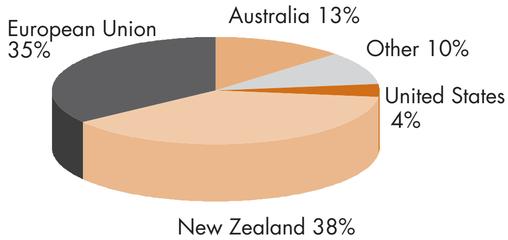
Between 1992-93 and 2003-04 the volume of milk used in exports (either as milk or other manufactured products) has increased from 44 per cent to 51 per cent respectively of total milk production (figure B; Dairy Australia 2004). In 2003-04, exports of dairy products were valued at $2.4 billion and, most significantly, Australia accounted for 13 per cent of world trade in dairy products, behind the European Union and New Zealand (figure C; Dairy Australia 2004).

Globally, demand for dairy products is largely focused on bulk processed lines, such as cheese and milk powders (both whole milk and skim milk powders. These products are often repackaged into smaller sizes for the retail market or used as ingredients in food manufacturing or food service. Additionally, in less developed markets, milk powders and buttermilk are traded instead of liquid milk because of the relative ease and cost of transport. They are then converted back into liquid milk in market.

Correspondingly, cheese and milk powders were the major products exported from Australia over the past decade (figure D; Dairy Australia 2004). In 2003-04, 60 per cent of cheese and 77 per cent of milk powder exports were to Asia.

The diversity of processed dairy products being exported from Australia has increased over the past decade. For example, other dairy products, which include whey and casein, have assumed greater importance as exports. As shown in figure D, the value of other products as a share of dairy product exports, increased from 4.5 per cent in 1993-94 to 14 per cent in 2003-04. The growth in these products is, in part, reflective of their diverse applications, and in some cases they are used as a substitute for traditional dairy products. For example, whey powder is being used in Asia as a lower cost product and convenient alternative and convenience to milk powders in the manufacture of ice cream and infant milk formula.

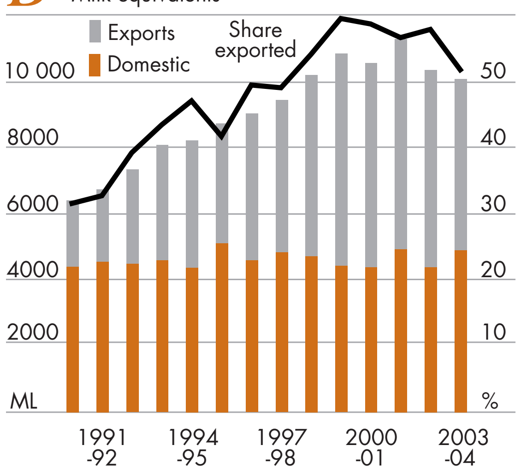
C Exporters' share of world trade, 2003



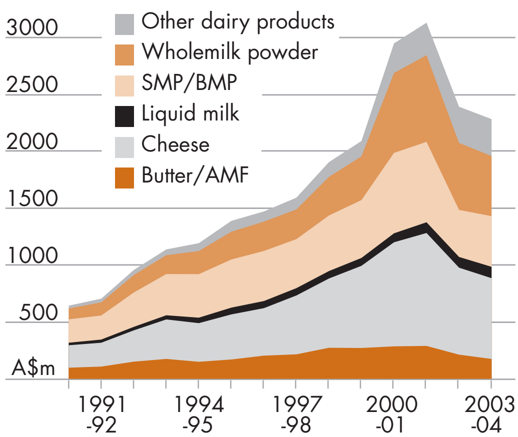
Future export opportunities

Global demand for dairy products is expected to increase strongly over the next five years. Much

B Australian consumption and exports
Milk equivalents



D Value of Australian exports, by product



Key points

- Australia produced 10 075 million litres of milk in 2003-04.
- Over half of annual production is sold in world markets, earning $2.4 billion in export revenue in 2003-04.
- Bulk cheese and milk powders are the major dairy exports.
- Exports of specialised dairy ingredients have been increasing – the volume of casein and whey product exports has doubled over the past decade.
- Asia is an important growing market for Australian dairy ingredient exports.

of this demand will be driven by Asia, which is undergoing strong economic growth and continued population growth. Furthermore, more people in Asia are eating away from the home, and westernised diets that include a large proportion of dairy ingredients are gaining in popularity. It is unlikely that many Asian countries will be able to produce enough raw milk for processing to meet domestic demand (DFAT 2004). This situation will provide increased export opportunities for Australian dairy processors. In particular, the growth in demand for processed foods and processed dairy products in Asia translates into growth in demand for imports of dairy ingredients, such as casein and whey powders.

The following case study explores dairy ingredients that are showing potential for strong growth in the global food market — highlighting their applications, key markets, and future prospects.

Case study – functional dairy protein ingredients

Worldwide requirements for functional, protein based ingredients have generated increased demand for protein products from bovine milk. Bovine milk has two proteins: casein, which accounts for approximately 80 per cent of milk protein, and whey, which accounts for approximately 20 per cent.

Whey is more soluble than casein and is also the most nutritious dietary protein available, containing both non-essential and essential amino.

Whey products

Whey is a byproduct of the cheese making process and until recently was regarded as a waste product.

Recognition of the functional properties of whey components and advances in dairy processing technologies has resulted in the development of a range of value added products, as shown in box 1.

Box 1: Range of value added products

Increasing technical sophistication ↓	Liquid whey Dried whey Whey protein concentrate (+ lactose and minerals) Whey protein isolate Whey protein fractions

Source: Dairy Farmers (2003).

Whey protein concentrate (WPC) has anywhere between 29 and 89 per cent protein depending on the product. As the protein level in whey protein concentrate decreases the amounts of fat and/or lactose usually increase. The market value of this product varies according to the amount of protein in the product.

Whey protein isolate (WPI) is the most pure and concentrated form of whey protein available. It contains 90 per cent or more protein and very little (if any) fat and lactose.

A range of pure, individual proteins in whey, or whey protein fractions, have been isolated. Each has unique functional properties and, as a result, whey protein fractions have the potential to allow individuals with special nutritional needs to tailor their diet to improve health.

Lactoferrin, an iron binding and transport protein that enhances iron absorption, providing antibacterial benefits, is the most commonly

Box 2: Benefits of incorporating whey products in processed foods

Food product	Benefits
Baked goods	Enhance crumb structure, retard staling, enhance bread flavor, enhance crust browning, improve toasting qualities, enhance flavor
Processed meats	Improve flavor, texture, emulsification, water binding, cook yield functional performance
Snacks and seasonings	Enhance flavor and appearance, reduce fat and calorie content
Confectionery	Enhance flavor, color, texture, and nutritional quality, improve shelf life and appearance (smoothness and shininess)

Sources: Bouzas (2004); Burrington (2004); Johnson (2004); Keaton (2004).

produced whey protein fraction in Australia for commercial sale. It comprises only two hundredths of a percent of milk volume and is used in minute quantities but is of high value (Food Australia 2004). Nonetheless, it has been generating large interest in the functional foods market, largely because of its immune boosting properties. There have been six global conferences solely dedicated to lactoferrin since 1992 to try to determine its biological roles or functions, which is indicative of the extent of interest and its importance (Food Australia 2004).

Whey has a diverse range of applications, from speciality products to incorporation in everyday foods and non-food items. As a food ingredient, whey products are often used to improve the texture, mouth feel, appearance, taste and nutritional value of food products, resulting in improved consumer acceptance of the finished product. Whey products are often used in preference to other sources of protein ingredients because they are flavor neutral and do not interfere with the normal flavor of the product. Whey products are an excellent source of lactose, minerals, protein and vitamins and thus are also used as a cost effective alternative to replace milk solids (Do it with Dairy 2004).

Whey products are commonly used in the manufacture of infant formula, bakery products, ice cream and frozen desserts, confectionery, yogurt, milk, functional foods and drinks, processed meat, snack foods, seasonings, and dietetic products (meal replacements). A significant market is in sports supplements for body builders and athletes. Whey products are also an important flavor enhancer in reduced-calorie foods and reduced-fat food coatings (Johnson 2004). The benefits of using whey products in some of these foods are described in box 2.

Whey products are also incorporated in animal feed, calf milk replacer, carrier for herbicides, cosmetics, skin creams, oral care products, bath salts, detergent, and films and coatings for food products (Dairy Australia 2004).

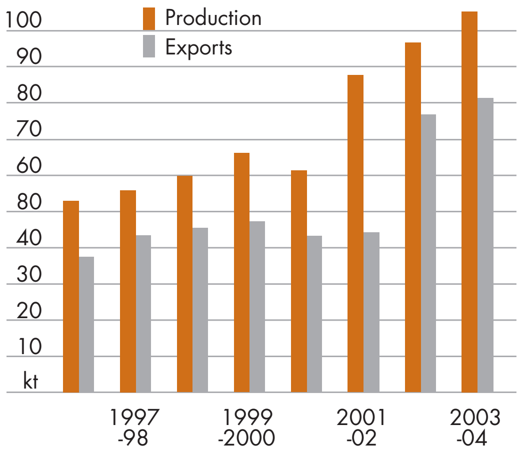
More recently, whey products have developed a niche market as a functional ingredient in heath products such as pharmaceuticals and nutritional supplements. As research on the functional properties of whey products continues it is expected that the range of applications will increase.

Australian whey production and exports

Australian production of whey products has doubled over the past decade (figure E). This has largely occurred as an expansion in cheese production has led to an increased supply of liquid whey and as a result of continual advances in processing technology, enabling an increasing variety of whey products to be made. The recent drought has been the main setback to continued growth in whey production, with more than an 8.4 per cent decline in milk available for processing between 2001-02 and 2002-03.

In 2003-04, 105 389 tonnes of whey products were produced by Australian dairy processors

E Australian whey production and exports



(Dairy Australia 2004). Valued at $82.8 million, this accounted for 3.6 per cent of total revenue for the dairy processing sector. The revenue for processors is largely affected by world prices for milk solids. Even though the volume of whey produced increased by 6 per cent between 2002-03 and 2003-04, the value of whey products declined by 2 per cent due to a drop in world prices.

Approximately a quarter of the annual production was consumed domestically in 2003-04, while the majority was destined for export markets. Although the volume of whey products being exported has fluctuated, overall the share of total exports has doubled over the past decade.

Most dairy processing companies in Australia produce whey products for domestic and export sales. However, Murray Goulburn and Dairy Farmers Group are the main whey exporters (Dairy Australia 2005).

Asia represents the most important export destination for Australian whey products, accounting for 87 per cent of whey exports. China (21 per cent), the Philippines (17 per cent), Indonesia (14 per cent) and Japan (11 per cent) were the largest markets for Australian whey products in 2003-04.

Global production and trade

In 2002, 94.3 million tonnes of whey was traded globally. The United States was the largest producer of whey products, accounting for 21 per cent of global production in 2002 (table 1). Australia was ranked as tenth largest producer and fifth largest exporter, taking a 5 per cent share of the global whey trade through a rapid increase in whey production.

The major importers, by volume, are the Netherlands, China, France and Germany. France and Germany are major exporters, by volume, of whey powders.

Asia represents almost two-thirds of demand for whey powders. Demand for whey powders has been growing very rapidly primarily as a

1 Global production and trade of whey

Production	kt	Imports	kt	Exports	kt
United States	19 825	Netherlands	2 928	France	5 075
France	10 508	China	1 979	Germany	3 185
Germany	9 000	France	1 202	United States	2 411
Italy	6 347	Germany	891	Netherlands	1 073
Netherlands	4 748	Mexico	702	Australia	949
Poland	4 103	Italy	587	Italy	826
Argentina	3 770				
United Kingdom	2 861				
Canada	2 539				
Australia	2 514				
Total global	94 255		15 531		18 705

Source: FAOSTAT (www.fao.org).

food processing ingredient, due to its cost competitiveness, its use as a replacement for other dairy ingredients or for ingredients such as palm oil or coconut oil, and its use as a feed ingredient (DFAT 2004).

Casein and caseinates

Casein is the principal protein in milk, extracted through a process of pasteurisation, acidification, precipitation and drying. Caseinates, which have enhanced nutritive value and functional properties, are produced by treating casein with a range of products, including sodium and calcium hydroxide. Sodium caseinates are the most common form of spray-dried, water-soluble caseinate and are also the most versatile of all milk proteins, having a higher nutritive value than other caseinates and a range of functional properties which enable it to be used in different products (Morescope Publishing Pty Ltd, 1996). Calcium caseinate is used for its milky appearance and its smooth feel in the mouth.

Casein and caseinates are used as extenders, emulsifiers, tenderisers, nutritional fortifiers and texturisers in a wide range of foods, including baked goods, pasta and noodles, chocolate, confectionery, mayonnaise, ice cream, instant drinks and in cheese manufacture (Dairy Australia 2004). They are also used as a milk substitute in processed foods. Both casins and caseinates are heat stable, which make them suitable for incorporation in products undergoing very harsh heat treatment.

Other non-food applications of caseins and caseinates are in the manufacture of paper coatings, adhesives, paints, plastics, concrete, textile fabrics, cosmetics and calf milk replacers (Dairy Australia 2004).

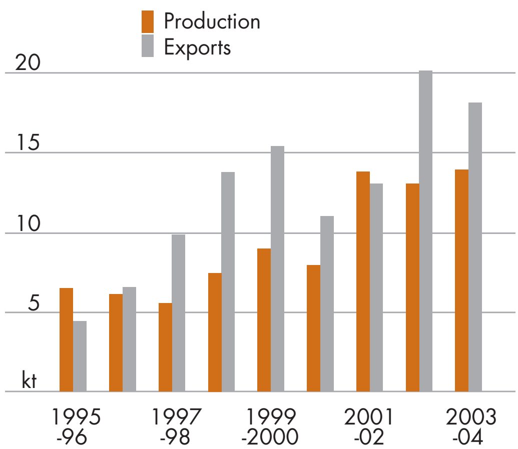
Domestic casein production and markets

In 2003-04, Australia produced an estimated 10 000 tonnes of casein, primarily for export. The United States and Japan are Australia's largest export markets. Only a small amount of casein is used domestically in Australia and supplemented by imports from New Zealand (figure F; Dairy Australia 2004).

Casein is a relatively high value added dairy product, reflecting its technical complexity and capital intensity. Casein exports were valued at an estimated average of $6000 per tonne in 2003-04 compared to an estimated average of $2490 per tonne in 2003-04 for skim milk power. Profitability and price are determined by economies of scale and prices for alternative dairy products, such as whey. Australian producers of casein include Dairy Farmers, Bonlac, Murray Goulburn, Hoogwegt and Intermix (Dairy Australia 2005).

Branding strategies and product differentiation are becoming a means of alleviating price pressure and building margins. However, the market for casein is still heavily price driven, impacting on the margins. This partly reflects the global nature of the ingredient business and avenues for alternative supply sources.

F Australian casein production and exports



Research and development is becoming increasingly important. Currently Murray Goulburn is looking to enter overseas markets for milk peptide ingredients with products of superior and/or unique functionality at competitive prices. It expects to generate substantial export income of more than $20 million a year from new products sold into overseas markets (NFIS 2005).

Global demand trends

Global casein exports have tripled from 5948 tonnes in 1994-95 to 18 191 tonnes in 2003-04. Casein exports are dominated by New Zealand and EU suppliers such as Ireland.

Japan and the United States remain key end user markets for this product. Until recently the United States produced no casein or milk protein concentrates.

Future opportunities for caseins and whey – functionality

While the aforementioned factors affecting whey and casein production will continue, perhaps the two areas of greatest potential for growth are functional foods and consumer interest in healthier foods.

The National Centre of Excellence in Functional Foods (2005) describes functional foods as those 'foods that support human health and wellbeing, providing health benefits beyond basic nutrition'. The global functional food market is large — estimated to be valued at US$50 billion in 2002 and was predicted to grow at 7 per cent a year to 2005. The United States has the greatest share of the market, estimated to be worth US$18.25 billion, followed by Europe at US$15.4 billion and Japan at US$11.8 billion. Germany is the largest European functional food market at US$5.59 billion (Sloan 2002).

Rapid growth in the functional foods market is generating new trade opportunities for whey and casein products as their specific functional properties meet consumer requirements. Consumers have become more health aware, demanding foods that have additional benefits beyond basic nutrition, such as boosting immunity, preventing disease or enhancing sports performance.

Functional dairy foods and dairy ingredients represent more than 10 per cent, or US$5.3 billion, of the functional food market, and are also showing strong growth. Consumers' preference for proteins derived from whey is expected to increase as their benefits are more widely communicated. These benefits are summarised in box 3 for a range of functional food trends, as identified by Sloan (2002).

The recent trend away from a high carbohydrate toward high protein diets has offered new opportunities for whey and casein products. Both whey and casein can boost the protein content of the food without a decline in taste.

Studies examining the effects of the dairy proteins whey and casein on appetite regulation have been conducted through the National Centre of Excellence in Functional Foods. These studies suggest that both proteins exert appetite suppressant effects compared to an isocaloric glucose load and similar to a low GI carbohydrate (lactose) load.

There is great scope for product development in this area but this will require companies to address the technical and marketing issues

Box 3: Benefits of whey products as a functional ingredient

Functional food trends	Functional benefits of whey
Specialty ingredient	Whey proteins have a higher biological value than other protein sources, expansive complement of sulphur and branched-chain amino acids, and other bioactive health benefits
Lifestyle enhancers	A wide range of whey proteins including immunoglobulins, alpha-lactalbumin have been shown to have immune-stimulating activity
Sports nutrition	Whey proteins are used to enhance the protein content of sports powders, beverages and power bars
Functional snacks	Whey proteins can be used to enhance the protein content and nutritional value of snack foods

Source: Sloan (2002)

associated with commercialisation of any new product. These issues include development and scale-up of appropriate processes for production of the peptides, together with cost effectiveness, substantiation of activity and ease of incorporation into a diverse range of food products.

As more is learned about the link between the human genome, diet and health, the need for specific proteins for individuals with different health concerns is expected to increase. This new knowledge must be developed hand in hand with new inexpensive separation process technologies to manufacture these protein fractions. Furthermore, palatable foods such as high protein beverages must be developed to provide attractive routes for consumption (Etzel 2004).

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Statistics

ABOUT THE DATA

Australian commodity production and value

Since 1997-98, estimates of farm crop and livestock production have been based on the Australian Bureau of Statistics' Agricultural Commodity Survey (ACS) that is conducted at 30 June each year. Approximately every fifth year an Agricultural Census will be conducted in place of the ACS. The last Agricultural Census was conducted at 30 June 2001. Prior to 1997-98 this information was collected annually in the Agricultural Census.

Information covering commodities such as livestock slaughterings and dairy produce is obtained from separate collections and from organisations such as the Australian Dairy Corporation.

Gross values are derived by multiplying the production quantity data by price (or unit value) data. All crop price information is obtained from non-ABS sources such as marketing boards, marketing reports, wholesalers, brokers and auctioneers. Price information for livestock slaughterings is obtained from ABS collections.

Scope of ABS surveys

Estimates from the Agricultural Commodity Surveys are based on production from farms having an estimated value of agricultural operations (EVAO) of $5000 or more.

- The EVAO of a farm is calculated by applying three year average weighted prices to livestock turnoff and livestock numbers on the farm and to area and production data for crops. The aggregation of these commodity values is the EVAO.

This is the same scope as that used for the Agricultural Censuses from 1993-94 to 1996-97 and for the Agricultural Commodity Survey from 1997-98 to 1999-2000. Prior to 1993-94 the scope varied. Details are available from the ABS.

Australian trade

Data on international merchandise trade movements to and from Australia are collected by the Australian Customs Service, as part of its responsibility to administer government policy on tariffs and barrier control.

Harmonised trade statistics

The merchandise trade statistics are compiled by the ABS according to classifications that conform to an international standard, the International Harmonised Commodity Description and Coding System, with extra detail to meet Australian statistical needs.

- All exports are classified according to the Australian Harmonised Export Classification (AHECC).
- All imports are classified according the Harmonised Tariff Item Statistical Code (HTISC), with extra detail to meet Australian Customs Service and statistical needs.

Confidentiality

Restrictions are placed on the release of trade statistics where the data relating to an individual or organisation is likely to enable the identification of the trade of that individual or organisation, and that entity has requested that the data be suppressed.

- The main confidentiality restrictions that apply to food trade statistics are that no country details are provided for exports of unprocessed sugar, bulk wheat and malting barley.

Trade values

The method of valuation for trade is:

- the value of exports is the free on board (fob) transactions value of the goods expressed in Australian dollars; and
- the value of imports is the Australian Customs value — goods are valued at the point of containerisation (in most cases) or the port of shipment, or at the customs frontier of the exporting country, whichever comes first.

World trade in food

The data on world trade in food — both imports and exports — were obtained from the COMTRADE database that is established and maintained by the United Nations' Statistics Division.

- More than 100 countries supply their updated trade statistics to this database, representing over 90 per cent of world trade.
- The data are recorded according to the Harmonised Commodity Description and Coding System and Standard International Trade Classification Revision 3.

World food balances

The data on country food balances were obtained from the FAOSTAT database of the Food and Agriculture Organisation of the United Nations (FAO).

- Details of how standardised food balance sheets are derived are provided in FAO (2000 – www.fao.org).

The elements of an FAO food balance sheet are:

- production, imports and changes in stocks that together define the supply available to a country; and
- exports, livestock feed, seed use, industrial use, human consumption and losses during storage and transport that together add up to total utilisation.

FAO food balance sheets are standardised in order to reduce the amount of data for analytical purposes. Standardisation takes the form of:

- conversion of processed commodities back to their primary equivalents (so-called 'vertical standardisation'); and
- aggregation of similar products — for example, chicken meat and turkey meat aggregated as poultry meat (so-called 'horizontal standardisation').

To keep the amount of data contained in *Australian Food Statistics* to manageable proportions, FAO food balance data reported are further simplified in two ways:

- only data at the major food type level of aggregation (thirteen different categories in all) are reported (FAOSTAT has 87 different food types); and

INFORMATION

selected Australian and world sources

General

Agency	Publication or source	Description
Australian		
Australian Bureau of Agricultural and Resource Economics (ABARE) www.abareconomics.com	*Australian Commodity Statistics*, December (annual)	Compendium of statistics providing a comprehensive coverage of current and historical data on price, production and export information, covering most agricultural commodities. Also included is comprehensive information on farm sector output and employment, balance of trade figures and macroeconomic indicators. Up to forty years of historical data are provided.
	Australian Commodities (quarterly)	A journal containing: • an overview of the performance of and prospects for the Australian primary commodities sector; • forecasts for the major agricultural, minerals and energy industries; • comprehensive statistical tables covering production, export, cost and price information; • macroeconomic indicators; and • articles on topical economic issues.
	Australian Fisheries Statistics, April (annual)	Compendium providing information on production and trade for the Australian fishing industry for a three year period. Also includes a profile of Commonwealth and state fisheries.
	Australian Horticulture in the Global Environment, February 2000	Research report profiling over twenty horticultural products exported by Australia, providing information on Australian production and exports, major markets and competitors, and the trade policies of key markets.
Australian Bureau of Statistics (ABS) www.abs.gov.au	AusStats (www.abs.gov.au/ausstats)	An internet based information service providing ABS's full product range (both free and charged material) online. Includes: • all ABS publications from 1998 onwards; • over 2000 spreadsheet tables with time series data.

continued

General *continued*

Agency	Publication or source	Description
Australian *cont'd*		
Department of Agriculture, Fisheries and Forestry (DAFF) www.daff.gov.au/ foodinfo)	Food Info Australia	Website providing online access to processed food and beverage industry statistics and Australian Government policy information.
Horticulture Australia www.horticulture.com.au	*Australian Horticultural Statistics Handbook* (annual)	Handbook highlighting production in Australia and competitor countries and exports from Australia to major markets for a range of horticultural commodities. Also includes statistics on per person consumption and main horticultural imports to Australia.
Australian Pork Limited www.apl.au.com	*PigStats*	Compilation of pig industry statistics focusing on pig industry structure, farm performance and a range of information on trade and consumption.
World		
International Grains Council www.igc.org.uk	*World Grain Statistics* (annual)	Report containing 45 detailed tables on production, trade, consumption, stocks and prices for wheat (including durum and wheat flour) and coarse grains. Additional tables deal with ocean freight rates. Most tables cover a ten year period.
Food and Agriculture Organisation of the United Nations www.fao.org	FAOSTAT By subscription on CD-ROM or online (apps.fao.org). There is limited free use allowed of the online version.	An online and multilingual database currently containing over 1 million time series records for 210 countries and territories, covering international statistics for production, trade, food balance sheets, food aid shipments, fertiliser and pesticides, land use and irrigation, forest products, fishery products, and population.
Central Intelligence Agency of the United States of America www.cia.gov	*World Fact Book* (annual). Available in printed, CD-ROM, or online (free) (www.cia.gov/cia/ publications/factbook/ index.html)	Compendium containing, for virtually every country in the world, information on their geography, people, government, economy, communications, transport, military and transnational issues.

Australian food processing industry

Agency	Publication or source	Description
Australian Bureau of Statistics www.abs.gov.au	*Manufacturing Industry*, cat. nos 8221.0, 8221.1, 8221.2, 8221.3, 8221.4, 8221.5, 8221.6 (quarterly)	Information on the Australian processed food industry, including data on employment, wages and salaries, turnover and industry gross production. The data are classified by state and selected major commodities together with aggregate data for the past two years.
	Available on AusStats (www.abs.gov.au/ausstats)	An internet based information service providing ABS full product range (both free and charged material) online.

Australian retail food industry

Agency	Publication or source	Description
Australian Bureau of Statistics www.abs.gov.au	*Retail Trade*, cat. no. 8501.0 (quarterly)	Information on the Australian retail food industry including data on retail turnover by subgroup, such as supermarkets and grocery stores, takeaway outlets, other food retailing, other retailing, hospitality services, such as cafes and restaurants, hotels and licensed clubs.
	Available on AusStats (www.abs.gov.au/ausstats)	An internet based information service providing ABS full product range (both free and charged material) online.
Retail World Pty Ltd www.reatailworld.com.au	*Grocery Industry Marketing Guide* (annual)	Information on market shares, by product group suppliers and retail developments.

Australian retail food prices

Agency	Publication or source	Description
Australian Bureau of Statistics (www.abs.gov.au)	*Consumer Price Index*, cat. no. 6401.0 (quarterly) *Average Retail Prices of Selected Items*, cat. no. 6403.0	Information on the Australian retail food prices and consumer price indexes, by industry, including data on retail prices by subgroup, such as dairy products, grain products, meat and seafood, fruit and vegetables, processed fruit for the past five years. Information on consumer price indexes, including data by subgroups, such as food, clothing, housing, transport, health and personal care etc, and by food group, such as dairy and related products, cereal products, meat and seafoods, fruit and other food.
	Available on AusStats (www.abs.gov.au/ausstats)	An internet based information service that provides ABS full product range (both free and charged material) online.

Australian trade

Agency	Publication or source	Description
Australian Bureau of Statistics www.abs.gov.au	*International Merchandise Trade*, cat. no. 5422.0 (quarterly)	Information on the value of Australia's merchandise exports and imports with major trading partners, including data classified by state, broad economic category, industry of origin and selected major commodities, together with aggregate data on trade with major trading partners for the past fourteen years.
	Available on AusStats (www.abs.gov.au/ausstats)	An internet based information service providing ABS's full product range (both free and charged material) online.
Australian Department of Foreign Affairs and Trade (DFAT) www.dfat.gov.au	*Composition of Trade Australia* (published twice yearly in calendar year and financial year format) Extract available free online (www.dfat.gov.au/ publications/ statistics.html)	A compendium of statistics on merchandise exports and imports, analysing the growth, direction and commodity breakdown of Australia's trade over the past five years. It also includes individual reports showing the composition of trade with over eighty of Australia's trading partners.
	Direction of Trade, Time Series (annual)	Contains value and percentage shares of Australia's exports to, and imports from, every one of our trading partners on a consistent basis over a twenty year period. It also includes total trade and trade balances with each of these countries.

World food trade

Agency	Publication or source	Description
International Trade Centre, an organisation operated jointly by the World Trade Organisation (WTO) and United Nations Conference on Trade and Development (UNCTAD) www.intracen.org	Trade statistics (www.intracen.org/tradstat/welcome.htm) Also available on CD-ROM with time series data for the five years 1996–2000. (Data are obtained from the Commodity Trade Statistics Data Base (COMTRADE) of the United Nations Statistics Division)	International trade statistic (imports and exports) by: • section and product group, 1996–2003 • country and product group, 1996–2003. Has coverage of over 100 reporting countries and territories representing about 90 per cent of world trade. The data are recorded according to the Harmonised Commodity Description and Coding System (HS 96 and HS 88) and Standard International Trade classification (Rev. 3, Rev. 2 and Rev. 1). Also includes information on product classification and trade performances, by country.
	Infobases (www.intracen.org/tradstat/ welcome.htm)	As well as trade statistics, contains market briefs, information on trade contacts and information sources.
United Nations Statistics Division www.un.org/Depts/unsd	*International Trade Statistics Yearbook* (annual)	Volume I provides historical information on the external trade performance of individual countries in terms of current values and, if available, exchange rate, as well as quantum and unit value indexes. Information showing important commodities traded by an individual country (latest four years) and the country's trade with its major trading partners and regions (latest five years) are also shown. Summary tables for each country show imports by broad economic categories, exports by industrial origin and the percentage share of the country's top ten trading partners and selected regions in relation to its total trade. This volume contains data for 168 countries or reporting customs areas. Volume II contains selected commodity tables showing total world trade of those commodities analysed by regions and countries, as well as various specialised tables.

World food consumption

Agency	Publication or source	Description
International Trade Centre, an organisation operated jointly by the World Trade Organisation (WTO) and United Nations Conference on Trade and Development (UNCTAD) www.intracen.org	Trade statistics (www.intracen.org/tradstat/ mainproduct.htm) Also available on CD-ROM with time series data for the five years 1996–2000. (Data are obtained from the Commodity Trade Statistics Data Base (COMTRADE) of the United Nations Statistics Division.)	International trade statistic (imports and exports) by: • section and product group, 1996–2000 • country and product group, 1996–2000. Has coverage of over 100 reporting countries and territories representing about 90 per cent of world trade. The data are recorded according to the Harmonised Commodity Description and Coding System (HS 96 and HS 88) and Standard International Trade classification (Rev. 3, Rev. 2 and Rev. 1). Also includes information on product classification and trade performances, by country.
	Infobases (www.intracen. org/tradstat/ welcome.htm)	As well as trade statistics, contains market briefs, information on trade contacts and information sources.
United Nations Statistics Division www.un.org/Depts/unsd	*International Trade Statistics Yearbook* (annual)	Volume I provides historical information on the external trade performance of individual countries in terms of current values and, if available, exchange rate, as well as quantum and unit value indexes. Information showing important commodities traded by an individual country (latest four years) and the country's trade with its major trading partners and regions (latest five years) are also shown. Summary tables for each country show imports by broad economic categories, exports by industrial origin and the percentage share of the country's top ten trading partners and selected regions in relation to its total trade. This volume contains data for 168 countries or reporting customs areas. Volume II contains selected commodity tables showing total world trade of those commodities analysed by regions and countries, as well as various specialised tables.

1.1 Agricultural food production, by commodity

	Unit	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04
Crops							
Grains a							
Wheat	kt	21 464	24 758	22 108	24 299	10 132	25 700
Barley	kt	5 987	5 032	6 743	8 280	3 865	8 728
Oats	kt	1 798	1 118	1 050	1 434	957	1 520
Maize	kt	338	406	345	457	309	392
Rice	kt	1 390	1 101	1 643	1 192	438	535
Lupins	kt	1 696	1 968	1 055	1 215	726	953
Field peas	kt	370	357	456	512	178	407
Chickpeas	kt	188	230	162	258	136	178
Mung beans	kt	78	41	52	43	34	47
Navy beans	kt	3	6	6	7	5	5
Faba beans	kt	194	226	325	350	108	277
Lentils	kt	39	103	163	266	67	175
Oilseeds							
Canola	kt	1 690	2 460	1 775	1 756	871	1 622
Sunflowerseed	kt	220	170	77	70	25	58
Soybeans	kt	107	104	49	63	18	74
Cottonseed	kt	1 024	1 046	1 140	1 054	546	494
Other oilseeds	kt	65	90	53	48	72	75
Other							
Sugarcane	kt	40 128	39 699	28 117	31 424	36 995	36 741
Peanuts	kt	39	43	35	37	37	38
Horticulture							
Fruit							
Apples	kt	334	320	325	321	326	255
Pears	kt	157	159	169	145	136	138
Nashi	kt	5	3	3	3	4	4
Avocado	kt	24	24	30	28	41	na
Melons	kt	175	178	198	174	175	na
Pineapples	kt	131	139	120	119	105	108
Bananas	kt	225	257	358	313	265	na
Kiwifruit	kt	3	4	4	3	3	na
Mangoes	kt	26	38	37	41	39	na
Wine grapes	kt	1 101	1 129	1 422	1 606	1 411	1 895
Table and dried grapes	kt	193	209	169	227	137	88
Oranges	kt	448	517	651	414	633	410
Mandarins	kt	94	91	79	78	98	97
Lemons/limes/grapefruit	kt	45	43	47	45	50	41
Nuts and berries							
Almonds	kt	7	9	9	10	10	9
Chestnuts	t	790	1 250	1 400	1 200	700	600
Macadamia	kt	19	23	23	25	24	29
Berries b	kt	31	na	18	22	24	na

Continued

1.1 Agricultural food production, by commodity *continued*

	Unit	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04
Horticulture (continued)							
Stonefruit							
Peaches	kt	66	86	74	89	97	na
Nectarines	kt	27	36	34	29	30	na
Apricots	kt	21	20	21	12	20	na
Plums	kt	23	24	31	25	33	na
Cherries	kt	6	6	8	7	9	na
Vegetables							
Potatoes	kt	1 327	1 200	1 302	1 333	1 247	na
Onions	kt	224	247	222	283	229	na
Carrots	kt	257	283	321	331	306	na
Asparagus	kt	9	16	13	14	12	na
Broccoli	kt	39	39	46	46	55	na
Cauliflower	kt	73	76	76	88	73	na
Tomatoes	kt	395	414	556	425	364	na
Mushrooms	kt	46	46	39	43	39	na
Lettuce	kt	131	152	153	135	122	na
Capsicum/chillies	kt	41	44	42	43	41	na
Cabbage	kt	53	69	81	76	na	na
Beans	kt	30	34	33	34	35	na
Other	kt	296	303	349	337	na	na
Livestock slaughterings							
Cattle and calves	’000	9 097	8 642	8 930	8 587	9 228	8 779
Cattle exported live **c**	’000	713	846	846	797	968	578
Sheep	’000	14 393	15 585	16 628	14 441	13 657	10 421
Lambs	’000	16 053	17 557	18 629	17 400	16 870	16 562
Sheep exported live **c**	’000	4 959	4 859	5 936	6 443	5 843	3 843
Pigs	’000	5 176	5 025	5 016	5 402	5 742	5 591
Poultry for meat	million	375	394	399	416	419	424
Livestock products							
Milk	ML	10 178	10 847	10 545	11 271	10 326	10 075
Eggs	’000 dozen	198 432	182 179	203 163	187 027	190 706	na
Fisheries products							
Tuna	kt	17	16	16	16	15	14
Other fish	kt	127	113	122	137	151	163
Prawns	kt	31	27	30	29	26	27
Rock lobster	kt	19	20	17	14	17	20
Abalone	kt	6	6	6	6	5	6
Scallops	kt	11	12	9	6	8	9
Oysters	kt	9	10	10	10	11	8

a Includes products for non food use. **b** Includes strawberries, raspberries, blackberries, blueberries and blackcurrants. **c** Excludes animals for breeding. **na** Not available.

Sources: ABARE, *Australian Crop Report,* Canberra; ABARE, *Australian Fisheries Statistics,* Canberra; ABS, *Selected Agricultural Commodities, Preliminary,* cat. no. 7112.0, Canberra; ABS, *Agriculture, Australia,* cat. no. 7113.0, Canberra; ABS, *Agricultural Commodities,* Australia, cat. no. 7121.0, Canberra; ABS, *Livestock Products, Australia,* cat. no. 7215.0, Canberra; ABS, *Summary of Crops,* cat. no. 7330.0, Canberra; Horticulture Australia Limited, *Australian Horticultural Statistics Handbook, 2000-2001 and previous editions,* Sydney; Australian Citrus Growers Incorporated, *Annual Report 2000,* Adelaide; ABARE.

1.2 Value of agricultural food production, by commodity

	1998-99 $m	1999-00 $m	2000-01 $m	2001-02 $m	2002-03 $m	2003-04 $m
Crops						
Grains a						
Wheat	4 011	4 831	5 130	6 356	2 692	5 596
Barley	836	865	1 344	1 725	984	1 615
Oats	157	118	138	251	210	228
Maize	61	62	65	90	72	78
Rice	361	289	350	327	153	162
Lupins	242	286	217	304	212	215
Field peas	91	106	100	147	61	99
Chickpeas	72	78	75	130	65	58
Mung beans	33	25	27	25	19	26
Faba beans	47	58	94	123	52	131
Oilseeds						
Canola	643	760	545	675	389	657
Sunflowerseed	81	64	28	27	10	23
Soybeans	44	36	18	22	7	27
Cottonseed	192	172	207	200	118	105
Other oilseeds	40	42	33	23	43	43
Other						
Sugarcane	1 044	882	657	989	1 019	848
Total crops	7 954	8 675	9 029	11 416	6 105	9 910
Horticulture						
Fruit						
Apples	321	274	282	348	381	352
Pears	112	72	90	99	80	na
Nashi	10	6	6	6	9	na
Avocado	52	55	58	69	92	na
Melons	127	109	128	117	114	na
Pineapples	39	44	44	40	33	na
Bananas	266	284	409	415	322	na
Kiwifruit	6	10	10	10	6	na
Mangoes	66	80	92	98	82	na
Wine grapes	973	903	1 245	1 426	1 143	1 607
Table and dried grapes	227	215	211	203	192	167
Oranges	296	276	277	281	337	na
Mandarins	82	89	87	94	120	na
Lemons/limes/grapefruit	23	23	25	35	28	na
Other fruit	59	61	130	119	118	na
Nuts and berries						
Almonds	46	40	41	44	53	na
Chestnuts	4	5	5	5	5	na
Macadamia	44	49	52	68	75	na
Berries b	107	133	130	132	161	na

Continued

1.2 Value of agricultural food production, by commodity *continued*

	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04
	$m	$m	$m	$m	$m	$m
Horticulture (continued)						
Stonefruit						
Peaches	66	74	73	76	84	na
Nectarines	59	71	70	65	70	na
Apricots	28	32	30	18	25	na
Plums	42	43	59	53	64	na
Cherries	35	40	60	55	70	na
Vegetables						
Potatoes	438	382	458	485	485	452
Onions	119	114	120	163	126	na
Carrots	167	154	189	199	162	na
Asparagus	53	96	58	66	58	na
Broccoli	62	55	70	65	82	na
Cauliflower	56	56	53	56	59	na
Tomatoes	192	190	257	230	226	273
Mushrooms	149	149	164	184	193	na
Lettuce	88	104	123	113	106	na
Capsicum/chillies	62	60	69	64	72	na
Cabbage	22	24	39	27	30	na
Beans	43	44	47	53	61	na
Other	289	324	409	445	354	na
Total horticulture	4 828	4 741	5 667	6 027	5 676	na
Livestock slaughterings						
Cattle and calves	4 134	4 615	5 949	6 617	5 849	6 338
Cattle exported live **c**	343	433	482	526	562	314
Sheep	227	205	368	544	468	455
Lambs	645	669	776	1 181	1 161	1 321
Sheep exported live **c**	182	180	258	392	408	266
Pigs	690	792	822	968	911	878
Poultry meat	1 019	1 031	1 060	1 175	1 281	1 281
Livestock products						
Milk	2 900	2 845	3 053	3 717	2 795	2 808
Eggs	337	321	333	320	294	326
Total livestock	10 475	11 090	13 101	15 440	13 729	13 986
Fisheries products						
Tuna	221	257	329	323	317	276
Other fish	443	454	490	546	560	550
Prawns	416	415	453	429	360	355
Rock lobster	438	546	481	502	460	406
Abalone	173	221	276	247	216	196
Scallops	38	43	39	23	33	24
Oysters	45	53	55	57	62	72
Total fisheries d	1 927	2 154	2 288	2 255	2 155	2 030

a Includes products for non food use. **b** Includes strawberries, raspberries, blackberries, blueberries and blackcurrants. **c** Excludes animals for breeding. **d** Total includes pearls, other crustaceans and other molluscs. **na** Not available.

Sources: ABARE, *Australian Fisheries Statistics, Canberra;* ABS, *Agriculture, Australia,* cat. no. 7113.0, Canberra; ABS, *Livestock Products, Australia,* cat. no. 7215.0, Canberra; ABS, *Value of Principal Agricultural Commodities Produced,* cat. no. 7501.0, Canberra; ABS, *Value of Agricultural Commodities Produced,* cat. no. 7503.0, Canberra; Horticulture Australia Limited, *Australian Horticultural Statistics Handbook, 2000-2001 and previous editions,* Sydney; Australian Citrus Growers Incorporated, *Annual Report 2000,* Adelaide; ABARE.

1.3 Number of enterprises engaged in agricultural food production a

	1998-99	1999-00	2000-01	2001-02	2002-03
	no.	no.	no.	no.	no.
Main activity					
Grape growing	4 835	5 924	6 115	6 081	5 714
Apple and pear growing	1 227	1 145	969	860	836
Stone fruit growing	928	993	1 000	984	1 096
Other fruit	3 995	4 499	4 495	4 344	4 382
Vegetables	4 253	4 557	4 480	4 303	3 930
Grain growing	15 702	15 578	15 682	15 297	11 411
Grain–sheep/beef cattle farming	17 615	17 492	15 384	15 197	16 622
Sheep–beef cattle farming	6 972	8 014	7 993	7 421	9 009
Sheep farming	12 278	10 853	9 925	10 767	10 803
Beef cattle farming	15 362	19 582	21 169	19 245	24 195
Dairy cattle farming	13 241	13 566	12 605	10 999	10 709
Poultry farming (meat)	738	845	782	773	717
Poultry farming (eggs)	471	454	463	481	457
Pig farming	1 016	1 040	1 052	1 061	921
Deer farming	54	85	88	49	194
Sugar cane growing	5 067	4 909	4 743	4 747	4 762
Cotton growing	1 198	974	996	697	520
Total	104 952	110 510	107 941	103 306	106 278
Other agriculture					
Other livestock (including horses)	1 407	1 972	1 210	1 223	357
Other crops and plant growing nec	1 047	4 391	4 331	4 090	3 734
All other industries	1 023	1 182	1 599	1 058	624
Total	108 429	118 055	115 081	109 677	110 993

a Farm businesses with an EVAO over $22 500 as at 31 March.
Source: ABS, *Agriculture, Australia,* cat. no. 7113.0; ABS, *Agricultural Commodities Australia,* cat. No. 7121.0.

1.4 Employment by agricultural industry a

	NSW b	Vic.	Qld.	SA	WA	Tas.	NT	Australia c
	no.	no.	no.	no.	no.	no.	no.	no.
2001-02								
Horticulture and fruit growing	19 708	20 825	26 775	17 075	9 075	3 850	475	97 783
Grain, sheep and beef cattle farming	74 708	42 950	44 775	18 850	24 100	6 200	3 100	214 683
Dairy cattle farming	4 125	19 200	3 725	275	1 875	1 800	100	31 100
Poultry farming	2 600	2 575	1 825	775	1 275	250	na	9 300
Other livestock farming	3 650	3 025	3 475	1 375	650	400	100	12 675
Other crop growing	4 850	525	11 525	200	350	100	na	17 550
All agriculture	110 025	90 225	93 175	38 800	37 450	13 125	3 650	386 450
2002-03								
Horticulture and fruit growing	19 750	16 025	27 225	17 750	8 550	3 575	375	93 250
Grain, sheep and beef cattle farming	50 750	31 950	40 625	16 625	19 900	5 525	1 050	166 425
Dairy cattle farming	5 700	12 875	3 250	1 425	775	1 700	na	25 725
Poultry farming	5 025	2 100	1 100	1 275	1 450	225	na	11 175
Other livestock farming	3 225	2 950	2 850	1 050	1 600	350	100	12 125
Other crop growing	3 225	300	9 425	na	400	150	na	0
All agriculture	87 700	67 575	85 275	38 900	32 750	12 025	1 500	325 725
2003-04								
Horticulture and fruit growing	18 017	24 675	24 375	16 225	8 300	2 650	725	94 967
Grain, sheep and beef cattle farming	49 625	32 025	36 325	16 025	24 950	5 550	625	165 125
Dairy cattle farming	5 050	9 225	1 225	2 375	1 225	1 025	na	20 125
Poultry farming	3 300	2 375	2 375	500	800	375	na	9 725
Other livestock farming	2 475	3 000	2 400	1 150	775	200	100	10 100
Other crop growing	1 600	925	8 025	200	300	233	200	11 483
All agriculture	83 575	74 050	75 950	37 450	37 475	10 550	1 400	320 450

a Includes proprietors and partners and employees working for farm businesses with an EVAO over $22 500. Excludes non salaried directors, consultants, contractors and unpaid labor. 2000-01 data not available. **b** Includes ACT. **c** Includes NT for 1999-2000, data for this territory were not available for 1997-98 and 1998-99. **d** Totals are not the sum of components due to various data categories having a standard error greater than 50%. **na** Not available.
Source: ABS, *Agriculture, Australia,* cat. no. 7113.0; unpublished data ABS.

2.1 Supply and use of Australian wheat, canola and pulses a

	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04 p
	kt	kt	kt	kt	kt	kt
Wheat						
Production	21 464	24 758	22 108	24 299	10 132	25 700
Domestic use **b**	4 306	4 863	4 715	4 882	5 676	5 167
Human and industrial **b**	2 117	2 159	2 185	2 208	2 418	2 443
Feed **c**	1 641	1 930	2 000	2 100	2 700	2 185
Seed	548	546	519	503	558	540
Net exports	16 391	17 557	16 085	16 304	9 113	17 867
Change in stocks	768	2 338	1 308	3 113	–4 657	2 666
Canola						
Production	1 690	2 460	1 775	1 756	871	1 622
Domestic use **b**	355	370	286	399	354	419
Crushers	345	362	279	393	349	279
Seed	10	7	7	6	5	6
Exports	1 355	2 033	1 392	1 380	517	1 203
Canola meal						
Production	193	203	156	220	206	252
Domestic use **b**	193	201	156	220	206	252
Exports	0	2	0	0	0	0
Canola oil						
Production	142	149	114	161	151	185
Domestic use	94	112	90	136	155	152
Exports	50	41	29	29	0	36
Pulses – major crops						
Production						
Lupins	1 696	1 968	1 055	1 215	726	953
Field peas	370	357	456	512	178	407
Chickpeas	188	230	162	258	136	178
Apparent domestic use **b**						
Lupins	501	516	546	534	376	462
Field peas	31	68	93	75	85	90
Chickpeas	28	26	23	24	5	30
Exports						
Lupins	969	1 439	714	414	199	430
Field peas	267	289	362	428	96	221
Chickpeas	109	217	218	278	89	164

a Wheat and legume export figures are for winter crop years defined as follows: October–September for wheat; November–October for canola (seed and products), peas and lupins. **b** Domestic use may not equal production less exports in any one year due to reductions or increases in stock levels. **c** Calculated as a residual: production less exports less other domestic uses less change in stocks. **p** Preliminary.
Note: The export data refer to market year export periods, so are not comparable with financial year export figures published elsewhere.
Sources: ABS, *International Trade,* electronic data service, cat. no. 5464.0, Canberra; ABS, *Agriculture, Australia,* cat. no. 7113.0, Canberra; ABARE.

2.2 Supply and use of Australian coarse grains a

	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04 p
	kt	kt	kt	kt	kt	kt
Barley						
Production	5 987	5 032	6 743	8 280	3 865	8 728
Domestic use **b**	2 158	2 009	2 325	2 535	1 986	2 429
As malt and other human use	151	154	158	161	165	168
Feed	1 890	1 700	2 000	2 200	1 650	2 100
Seed	117	155	168	174	171	161
Export	4 765	3 325	4 567	5 274	2 607	6 997
Feed barley	2 607	1 524	2 143	2 971	885	4 239
Malting barley	1 635	1 234	1 824	1 705	1 099	2 135
Malt (grain equivalent)	525	569	602	600	624	637
Oats						
Production	1 798	1 118	1 050	1 434	957	1 520
Domestic use **b**	1 550	983	964	1 254	836	1 301
Human	116	119	122	125	128	131
Feed	1 406	833	805	1 085	666	1 128
Seed	28	31	37	44	42	42
Export	248	135	86	190	121	210
Triticale c						
Production	708	764	840	860	269	675
Domestic use **b**	708	763	840	865	327	675
Feed	690	744	820	845	309	658
Seed	18	19	20	20	18	17
Sorghum						
Production	1 891	2 116	1 935	2 021	1 465	1 851
Domestic use **b**	1 399	1 624	1 434	1 646	1 401	1 271
Feed	1 396	1 620	1 430	1 643	1 398	1 267
Seed	3	4	4	3	3	4
Export	184	493	665	501	375	64
Maize						
Production	338	406	345	457	309	392
Domestic use **b**	302	353	300	396	291	372
Human, industrial	94	96	99	101	104	106
Feed	206	256	200	293	186	265
Seed	1	1	1	1	1	1
Export	19	36	53	45	61	18
Total coarse grains						
Production	10 722	9 436	10 913	13 052	6 865	13 166
Domestic use **b**	6 116	5 733	5 864	6 695	4 840	6 047
Human, industrial	361	369	378	387	396	406
Feed	5 588	5 153	5 255	6 066	4 209	5 417
Seed	167	210	231	242	235	224
Export	5 543	4 177	5 199	5 900	2 810	7 789

a Market years are November–October for barley, oats and triticale, and March–February for sorghum and maize. This means that the 1998-99 barley crop harvested in November 1998 to January 1999 is marketed from November 1998 to October 1999. The 1998-99 sorghum crop harvested in March to May 1999 is marketed from March 1999 to February 2000. The sum of domestic use and exports may differ from production as a result of changes in grain stock levels. **b** Domestic use may not equal production less exports in any one year due to reductions or increses in stock levels. **c** Excludes small quantities of triticale for export. **p** Preliminary.

Note: The export data refers to market year export periods and so are not comparable with financial year export figures published elsewhere.

Sources: ABS, *International Trade,* electronic data service, cat. no. 5464.0, Canberra; ABS, *Agriculture, Australia,* cat. no. 7113.0, Canberra; ABARE.

2.3 Supply and use of Australian dairy products

	Unit	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04 p
Production of wholemilk	ML	10 178	10 847	10 545	11 271	10 326	10 075
Manufacture							
Butter **a**	kt	187	183	172	178	149	122
Cheese	kt	327	373	376	431	368	375
Non–cheddar	kt	141	157	163	192	173	173
Cheddar	kt	187	216	213	238	195	202
Wholemilk powder	kt	145	187	205	239	170	168
Skim milk powder **b**	kt	255	247	249	243	215	198
Casein	kt	14	15	13	14	13	10
Buttermilk powder	kt	17	18	16	17	16	16
Consumption							
Butter	kt	58	59	57	57	57	57
Cheese **c**	kt	204	219	219	246	281	263
Australian	kt	167	182	182	208	238	223
Wholemilk powder	kt	18	15	14	23	23	24
Skim milk powder **b**	kt	35	37	37	43	44	45
Casein	kt		1	1	1	1	1
Market milk	ML	1 931	1 934	1 920	1 916	1 924	1 961
Exports							
Butter and butterfat **a**	kt	104	124	108	108	100	76
Cheese	kt	175	220	219	218	208	212
Wholemilk powder	kt	126	153	167	165	142	117
Skim milk powder	kt	220	218	203	210	181	155
Casein	kt	13	14	10	9	8	8
Other products							
Fresh milk	ML	82	86	83	87	88	86
Other fresh products	kt	6	5	3	1	2	2
Condensed milk	kt	62	69	63	71	102	100
Other powders	kt	38	54	49	67	75	69
Imports							
Cheese	kt	31	32	37	38	44	40

a Includes the butter equivalent of butter oil, butter concentrate, ghee and dry butterfat production. **b** Includes mixed skim milk powder and buttermilk powder. **c** In natural equivalent weight. **p** Preliminary.
Sources: ABS, *Apparent Consumption of Foodstuffs, Australia,* cat. no. 4306.0, Canberra; ABS, *Apparent Consumption of Selected Foodstuffs, Australia,* cat. no. 4315.0, Canberra; ABS, *International Trade,* electronic data service, cat. no. 5464.0, Canberra; Australian Dairy Corporation, *Dairy Compendium,* Melbourne; Australian Dairy Corporation, *Monthly Statistics,* Melbourne; Australian Dairy Corporation; ABARE.

2.4 Supply and use of Australian meats

	Unit	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04 p
Beef and veal							
Slaughterings **a**	'000	9 097	8 642	8 930	8 587	9 228	8 779
Production **b**	kt	2 011	1 988	2 119	2 028	2 073	2 033
Exports **c**	kt	883	852	959	902	902	860
Consumption **bd**	kt	721	726	674	729	754	758
Closing stocks **b**	kt	30	30	30	30	30	30
Mutton							
Slaughterings	'000	14 393	15 585	16 628	14 441	13 657	10 421
Production **b**	kt	302	328	348	296	268	220
Exports **bc**	kt	155	171	180	158	119	120
Consumption **bd**	kt	99	102	112	89	65	48
Closing stocks **b**	kt	12	12	12	9	8	10
Lamb							
Slaughterings **a**	'000	16 053	17 557	18 629	17 400	16 870	16 562
Production **b**	kt	312	347	367	348	329	341
Exports **c**	kt	85	99	115	109	98	112
Consumption **bd**	kt	216	236	238	224	225	206
Closing stocks **b**	kt	5	5	5	5	5	5
Pig meat							
Slaughterings	'000	5 176	5 025	5 016	5 402	5 742	5 591
Production **b**	kt	370	363	365	396	420	406
Imports **be**	kt	16	37	26	44	47	60
Exports **be**	kt	16	39	44	59	63	51
Consumption **bd**	kt	365	380	366	407	443	na
Closing stocks – pork **b**	kt	2	3	3	4	4	4
Poultry meat f							
Slaughterings	million	382	402	397	428	418	420
Production **b**	kt	604	638	657	705	726	722
Exports **b**	kt	19	17	21	21	23	20
Consumption **d**	kt	585	621	635	684	703	702

a Includes calves. **b** Carcass weight. **c** Includes canned and miscellaneous product. **d** Apparent consumption. **e** Includes preserved pig meat. **f** Includes chicken, turkey and duck. **p** Preliminary.
Sources: ABS, *Apparent Consumption of Foodstuffs, Australia,* cat. no. 4306.0, Canberra; ABS, *International Trade,* electronic data service, cat. no. 5464.0, Canberra; ABS, *Principal Agricultural Commodities, Australia,* Preliminary, cat. no. 7111.0, Canberra; ABS, *Agriculture, Australia,* cat. no. 7113.0, Canberra; ABS, *Agricultural Commodities, Australia,* cat. no. 7121.0, Canberra; Department of Agriculture, Fisheries and Forestry, *Export Statistics,* Sydney; ABARE.

2.5 Supply and use of selected Australian horticultural products

	Unit	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03 p
Grapes and grape products							
Grape production							
Total	kt	1 147	1 294	1 338	1 591	1 833	1 549
Grape use							
Wine making	kt	951	1 101	1 129	1 422	1 606	1 411
Red grapes	kt	350	436	538	795	911	804
White grapes	kt	601	666	591	627	696	607
Drying and table	kt	196	193	209	169	227	137
Wine production							
Fortified wine	ML	29	21	27	19	23	na
Unfortified wine	ML	651	772	779	1 016	1 181	na
Total wine	ML	680	793	806	1 035	1 204	na
Domestic sales							
Table wine	ML	277	287	307	325	330	344
Red wine	ML	87	99	114	126	130	143
White wine	ML	190	188	193	200	200	202
Sparkling wine	ML	31	33	33	31	29	32
Fortified wine	ML	25	24	23	22	20	21
Other wine	ML	6	4	7	7	6	6
Total wine **a**	ML	339	348	369	385	385	402
Exports							
Table wine	ML	184	206	276	331	406	501
Red wine	ML	86	100	144	180	234	309
White wine	ML	99	106	132	151	171	192
Sparkling wine	ML	6	7	8	7	7	7
Fortified wine	ML	3	3	2	2	2	2
Other wine	ML	1	1	1	0	1	1
Total wine	ML	194	216	288	340	415	511
Imports							
Table wine	ML	21	20	14	8	9	12
Sparkling wine	ML	3	3	4	3	3	4
Fortified wine	ML	0	0	1	0	0	0
Other wine	ML	1	1	1	2	2	2
Total wine	ML	26	24	20	13	14	17
Dried vine fruit							
Production (dried weight)	kt	29	44	31	17	34	17
Exports	kt	12	14	5	6	6	10
Imports	kt	12	16	17	17	21	19
Table grapes							
Production	kt	65	70	67	65	87	na
Exports	kt	27	29	33	31	57	40

Continued

2.5 Supply and use of selected Australian horticultural products *continued*

	Unit	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03 p
Oranges and orange juice							
Navel oranges							
Production	kt	210	149	180	252	178	296
Fresh domestic consumption	kt	84	60	75	75	65	na
Processed	kt	52	28	36	78	26	na
Exports	kt	74	61	69	99	87	101
Valencia and other oranges							
Production	kt	356	299	337	399	236	337
Fresh consumption	kt	85	79	83	135	na	na
Processed	kt	227	168	211	213	na	na
Exports	kt	44	52	43	51	48	32
Total oranges							
Production	kt	566	448	517	651	414	633
Fresh consumption	kt	170	140	159	210	78	na
Processed	kt	279	196	247	291	201	na
Exports	kt	117	112	111	150	135	133
Imports	kt	13	6	14	12	9	9
Orange juice (equivalent tonnes of fresh oranges) **b**							
Production	kt	266	186	234	277	na	na
Exports of processed juice	kt	21	21	32	34	29	31
Imports of FCOJ	kt	222	367	293	309	325	380
Stocks of Australian FCOJ	kt	55	29	50	90	na	na
Apparent consumption	kt	412	503	445	462	na	na
Apples							
Production	kt	309	334	320	325	321	326
Fresh domestic consumption	kt	163	173	166	154	na	na
Processed	kt	110	136	121	131	na	na
Exports	kt	35	25	33	39	25	33
Tomatoes and tomato products							
Tomato production	kt	380	395	414	556	425	364
Tomato use							
Fresh domestic consumption	kt	39	81	96	na	na	na
Processed (raw material)	kt	334	309	368	na	na	na
Fresh exports	kt	7	5	5	4	3	3
Processed production	kt	125	117	138	na	na	na
Processed exports	kt	7	12	9	7	14	19
Processed imports	kt	37	34	24	22	16	19
Apparent processed consumption	kt	154	140	157	na	na	na

a Includes carbonated wine and vermouth. **b** 1 tonne fresh weight = 500 litres (single strength) orange juice. 1 tonne FCOJ = 13 Australian fresh fruit tonnes (approximately). **p** Preliminary. **na** Not available.

Note: FCOJ – Frozen concentrated orange juice.

Sources: ABS, *Australian Wine and Grape Industry,* cat. no. 1329.0, Canberra; ABS, *International Trade,* electronic data service, cat. no. 5464.0, Canberra; ABS, *Agriculture, Australia,* cat. no. 7113.0, Canberra; Shepherd, A, *Wine Grapes,* ABARE Research Report 99.15, Canberra; Australian Horticultural Corporation, *Australian Horticulture Statistics Handbook, 1999-2000,* Sydney; Australian Processing Tomato Industry Council, *Annual Industry Survey 1999,* Blackburn South, Victoria; Australian Citrus Industry Council Inc, *Annual Report 2001;* ABARE.

3.1 Summary statistics for the Australian processed food industry

	Employment at 30 June a		Wages and salaries b		Sales and service income c		Industry value added	
	1999-00	2000-01	2001-02	2002-03	2001-02	2002-03	2001-02	2002-03
	'000	'000	$m	$m	$m	$m	$m	$m
Meat								
Meat processing	28	28	1 036	1 211	10 251	9 505	1 584	2 005
Poultry processing	13	16	556	614	3 315	3 604	941	957
Bacon, ham and smallgoods	7	8	294	313	1 964	2 060	451	510
Total	47	53	1 886	2 138	15 530	15 168	2 976	3 473
Dairy								
Milk and cream processing	6	5	310	260	2 724	2 803	696	506
Ice cream	3	2	59	69	478	520	110	133
Other dairy products	9	12	480	501	5 901	5 586	1 056	958
Total	17	19	849	831	9 103	8 909	1 862	1 598
Fruit and vegetables	11	16	568	581	4 001	4 439	1 063	1 072
Oil and fat	1	4	145	165	1 544	1 833	326	393
Flour mill and cereal food								
Flour mill products	2	3	125	131	1 608	1 775	334	339
Cereal food and baking mixes	6	7	239	274	2 078	2 319	543	600
Total	8	10	364	405	3 685	4 094	876	939
Bakery products								
Bread	10	12	452	449	1 712	1 814	718	693
Cakes and pastry products	10	9	233	239	956	1 028	346	366
Biscuits	5	7	222	237	1 050	1 045	409	431
Total	25	28	908	924	3 719	3 887	1 473	1 491
Other food								
Sugar	6	6	241	246	2 357	2 399	468	476
Confectionery	6	6	278	315	1 649	1 862	638	741
Seafood	4	4	121	133	1 595	1 515	218	225
Prepared animal and bird feed	5	4	228	240	2 666	3 083	493	495
Food nec	14	15	860	1 023	6 743	7 192	1 832	1 942
Total	35	35	1 727	1 958	15 010	16 052	3 648	3 879
Beverage and malt								
Soft drink, cordial and syrup	6	6	378	351	3 330	3 194	968	1 018
Beer and malt	3	4	284	292	3 165	3 420	1 287	1 310
Wine	9	12	661	637	5 079	4 866	1 717	1 397
Spirits	np	np	np	np	np	np	np	np
Total **d**	18	22	1 323	1 279	11 574	11 479	3 971	3 725
Total food and beverages	163	187	7 770	8 281	64 165	65 861	16 195	16 568
Total manufacturing	933	946	42 331	45 887	294 543	309 283	81 137	88 688

a Includes working proprietors. Data not available after 2000-01. **b** Excludes drawings of working proprietors. **c** Previously turnover. **d** Excludes spirits for 2001-02 and 2002-03. **np** Not published.
Sources: ABS, *Manufacturing Industry,* cat. no. 8221.0, Canberra; ABS unpublished data, Canberra.

4.1 Retail food turnover, by state and category

	2000-01 $m	2001-02 $m	2002-03 $m	2003-04 $m
New South Wales				
Supermarkets and grocery stores	14 215	15 430	16 067	17 206
Takeaway food outlets	2 241	2 242	2 392	2 811
Liquor retailing	1 422	1 489	1 707	1 936
Cafes and restaurants	3 596	3 161	2 963	3 495
Other food retailing	2 374	3 076	3 508	3 153
Victoria				
Supermarkets and grocery stores	11 505	12 161	13 171	13 899
Takeaway food outlets	1 580	1 757	1 987	1 942
Liquor retailing	840	845	934	1 138
Cafes and restaurants	2 142	2 396	2 539	3 129
Other food retailing	1 677	1 786	1 683	1 905
Queensland				
Supermarkets and grocery stores	9 027	9 685	10 143	11 066
Takeaway food outlets	1 452	1 534	1 658	1 955
Liquor retailing	344	440	695	931
Cafes and restaurants	1 597	1 616	1 944	2 569
Other food retailing	1 211	1 271	1 246	1 328
Western Australia				
Supermarkets and grocery stores	4 795	5 100	5 626	5 809
Takeaway food outlets	732	791	802	937
Liquor retailing	606	661	740	822
Cafes and restaurants	792	952	1177	1 223
Other food retailing	508	640	633	626
South Australia				
Supermarkets and grocery stores	3 166	3 521	3 838	4 163
Takeaway food outlets	483	534	534	506
Liquor retailing	276	303	282	294
Cafes and restaurants	479	565	583	661
Other food retailing	702	758	816	721
Tasmania				
Supermarkets and grocery stores	1 029	1 115	1 174	1 252
Takeaway food outlets	158	154	136	155
Liquor retailing	61	62	61	81
Cafes and restaurants	93	88	116	160
Other food retailing	166	135	114	158

Continued

4.1 Retail food turnover, by state and category *continued*

	2000-01	2001-02	2002-03	2003-04
	$m	$m	$m	$m
Australian Capital Territory				
Supermarkets and grocery stores	865	980	1 019	1 049
Takeaway food outlets	108	120	123	131
Liquor retailing	44	55	73	89
Cafes and restaurants	253	276	296	279
Other food retailing	143	193	160	151
Northern Territory				
Supermarkets and grocery stores	588	625	649	693
Takeaway food outlets	90	97	112	120
Liquor retailing	27	26	27	31
Cafes and restaurants	109	106	119	119
Other food retailing	22	22	46	45
Australia				
Supermarkets and grocery stores	45 191	48 617	51 686	55 136
Takeaway food outlets	6 844	7 229	7 744	8 556
Liquor retailing	3 619	3 880	4 520	5 322
Cafes and restaurants	9 061	9 160	9 737	11 634
Other food retailing	6 801	7 881	8 205	8 087
Total food and liquor retailing	71 515	76 767	81 891	88 735
Total retailing	166 936	167 404	178 501	193 313

Sources: ABS, *Retail Trade,* cat. no. 8501.0, Canberra; ABS, unpublished data, Canberra.

4.2 Consumer price index for food groups a

	1999-00	2000-01	2001-02	2002-03	2003-04
Food	129	136	143	148	152
Dairy and related products	142	142	151	157	159
Milk and cream	158	155	162	169	174
Cheese	116	116	128	131	133
Ice cream and other dairy products	136	144	154	160	158
Cereal products	144	149	156	162	163
Bread	167	173	181	185	184
Cakes and biscuits	131	138	144	150	152
Breakfast cereals	121	121	128	137	141
Other cereal products	126	125	130	136	141
Meat and seafoods	114	119	133	135	141
Beef and veal	110	118	139	141	148
Lamb and mutton	127	133	165	177	199
Pork	121	126	145	146	148
Poultry	96	94	99	98	103
Bacon and ham	115	120	134	134	136
Processed meat	121	128	144	147	150
Fish and other seafood	115	118	122	124	124
Fresh fruit and vegetables	116	122	128	136	144
Fresh fruit	131	132	153	145	157
Fresh vegetables	107	116	113	131	136
Non-alcoholic drinks and snack food	139	139	142	149	152
Soft drinks, waters and juices	131	127	129	134	136
Snacks and confectionery	150	154	159	168	174
Other food	131	132	139	143	144
Eggs	153	151	165	172	180
Jams, honey and sandwich spreads	144	145	149	172	177
Tea, coffee and food drinks	136	138	142	141	136
Food additives and condiments	124	125	130	131	130
Fats and oils	119	119	127	136	138
Food nec	127	131	138	140	142
Meals out and take away foods	128	143	148	153	158
Restaurant meals	130	146	150	156	161
Take away and fast foods	128	142	148	152	158

a Weighted average, capital cities, base year 1989-90 = 100.
Source: ABS, *Consumer Price Index,* electronic data service, cat. no. 6401.0, Canberra

4.3 Average retail prices of selected foods

	Unit	1999-00 cents	2000-01 cents	2001-02 cents	2002-03 cents	2003-04 cents
Dairy products						
Milk, fresh	L	137	139	148	155	158
Cheese	500gm	363	348	384	377	381
Butter	500gm	196	203	222	230	238
Grain products						
Bread	650gm	229	241	256	266	253
Breakfast foods	550gm	294	293	309	337	328
Flour	kg	155	158	167	179	179
Rice	kg	158	166	176	191	201
Meat and seafood						
Beef	kg	1 041	1 112	1 311	1 325	1 394
Lamb	kg	725	763	935	1 016	1 143
Pig meat	kg	842	885	1 011	1 017	1 030
Chicken	kg	359	354	384	385	387
Seafood	210gm	258	262	256	251	247
Fruit and vegetables						
Oranges	kg	215	206	269	231	267
Banana	kg	230	230	267	235	214
Potatoes	kg	127	137	140	165	177
Tomatoes	kg	302	339	314	398	362
Carrots	kg	158	177	177	192	179
Onions	kg	132	151	183	168	224
Processed fruit						
Jam, strawberry	500gm	245	248	262	269	281
Other food						
Sugar	2kg	226	229	241	222	214
Tea	250gm	342	346	371	365	368
Coffee	150gm	594	612	616	617	543
Eggs	dozen	298	294	326	308	323
Margarine	500gm	175	174	190	220	234
Milk chocolate	250gm	312	317	323	332	336
Alcohol and beverages						
Beer, bottled, low alcohol	24x375mL	2 133	2 281	2 377	2 425	2 450
Scotch	30mL	335	371	385	392	398

Source: ABS, *Average Retail Prices of Selected Items,* cat. no. 6403.0, Canberra; ABARE.

4.4 Apparent consumption of selected foods Australia

		Average for 3 years ended					
		1948-49	1958-59	1968-69	1978-79	1988-89	1998-99
Meat and meat products							
Beef and veal	kg	49.5	56.2	40.0	64.8	40.0	36.4
Lamb	kg	11.4	13.3	20.5	14.4	14.9	11.8
Mutton	kg	20.5	23.1	18.8	3.6	7.3	4.5
Pigmeat	kg	3.2	4.6	6.7	13.3	17.5	19.0
Total meat	kg	84.6	97.2	85.9	96.1	79.8	71.6
Canned meat (canned weight)	kg	1.2	1.9	2.2	1.6	na	na
Bacon and ham (cured carcass weight)	kg	5.3	3.2	3.6	6.0	6.9	8.7
Total meat and meat products	kg	91.1	102.3	91.7	103.7	na	na
Poultry							
Poultry (dressed weight)	kg	na	na	8.3	17.1	24.1	30.8
Seafood a							
Fish (edible weight)							
Australian	kg	1.5	1.8	1.8	2.1	3.1	3.6
Imported	kg	2.1	2.1	2.7	3.0	3.6	4.5
Crustaceans and molluscs	kg	0.5	0.6	1.1	1.3	1.6	2.9
Total	kg	4.1	4.5	5.6	6.4	8.3	11.0
Dairy products							
Condensed, concentrated and evaporated milk							
Full cream							
Sweetened	kg	1.6	1.2	1.1	0.8	na	na
Unsweetened **b**	kg	1.8	2.9	3.5	2.5	na	na
Total	kg	3.4	4.1	4.6	3.3	2.2	0.4
Skim milk	kg	na	0.6	0.7	1.6	1.2	1.0
Powdered milk							
Full cream	kg	1.5	1.1	0.8	1.3	0.9	0.9
Skim	kg	0.3	1.1	4.3	2.7	2.8	1.8
Infants' and invalids' food	kg	0.6	1.0	1.3	1.2	1.2	na
Cheese **c**	kg	2.5	2.6	3.5	5.3	8.8	10.7
Market milk (fluid) **d**	L	138.7	128.7	128.2	100.5	101.7	102.4
Total **e**	kg	22.3	22.1	25.4	22.1	23.8	23.3
Fruit and fruit products							
Fresh fruit (incl. fruit for fruit juice)							
Citrus	kg	16.9	16.1	22.5	34.5	39.1	56.4
Other	kg	39.5	35.6	40.8	34.6	49.9	55.4
Jams, conserves etc. (product weight)	kg	5.6	3.9	3.3	2.0	2.1	1.9
Dried fruit (product weight)	kg	3.9	2.8	2.5	2.0	2.4	3.0
Processed fruit (product weight)	kg	3.4	6.0	9.9	10.5	8.4	6.8
Total (fresh fruit equivalent)	kg	80.9	72.2	86.5	91.0	111.6	135.0
Vegetables							
Potatoes	kg	56.3	51.7	53.7	50.1	61.5	68.0
Other root and bulb vegetables **f**	kg	19.1	15.9	17.1	16.7	19.3	24.4
Tomatoes	kg	11.5	13.0	14.2	13.6	19.3	24.9
Leafy and green vegetables	kg	20.5	17.9	21.3	24.3	23.8	19.5
Other vegetables	kg	22.3	18.6	18.1	17.9	24.2	25.1
Total (fresh equivalent weight)	kg	129.7	117.1	124.3	122.5	148.1	162.0
Eggs and egg products							
Total **g**	doz.	12.7	10.2	12.6	12.4	na	na
Equivalent number of eggs **g**	no.	255.0	206.0	222.0	220.0	146.0	137.0

Continued

4.4 Apparent consumption of selected foods Australia *continued*

		Average for 3 years ended					
		1948-49	1958-59	1968-69	1978-79	1988-89	1998-99
Grain products							
Wheaten flour **h**	kg	91.6	82.3	77.4	69.6	72.6	69.7
Breakfast foods	kg	6.1	6.2	6.8	7.8	9.7	7.9
Table rice	kg	0.4	na	1.9	2.4	na	7.1
Bread	kg	64.0	69.1	59.5	47.7	44.4	53.4
Total grain products	kg	162.1	na	145.6	127.5	na	138.1
Nuts (in shell)							
Peanuts	kg	4.2	3.1	2.8	2.1	2.3	2.3
Tree nuts	kg	1.8	3.4	5.8	2.9	3.8	4.8
Total nuts	kg	6.0	6.5	8.6	5.0	6.1	7.1
Oils and fats							
Butter **i**	kg	11.2	12.3	9.8	5.1	3.2	2.9
Margarine							
Table	kg	0.4	na	1.5	5.4	6.8	4.5
Other	kg	2.4	2.2	3.4	3.1	2.2	1.9
Total (fat content) **j**	kg	14.0	na	14.3	21.6	20.4	18.5
Sugars							
Cane sugar							
As refined sugar	kg	31.2	27.0	21.0	14.9	8.8	na
In manufactured foods	kg	23.1	23.6	27.7	34.6	33.9	na
Total	kg	54.3	50.6	48.7	49.5	42.7	na
Total sugars **k**	kg	56.8	53.0	51.9	54.5	48.3	43.4
Beverages							
Tea	kg	2.9	2.7	2.3	1.7	1.2	0.9
Coffee **l**	kg	0.5	0.6	1.2	1.6	2.0	2.4
Aerated / carbonated waters **m**	L	na	na	47.3	67.4	87.4	113.0
Beer	L	76.8	99.7	113.5	133.2	113.1	93.2
Wine	L	5.9	5.0	8.2	14.7	20.2	19.8
Alcohol content n							
Beer	L al	3.6	4.8	5.5	6.4	5.1	4.0
Wine	L al	0.8	0.9	1.2	2.0	2.4	2.3
Spirits	L al	0.8	0.7	0.9	1.2	1.2	1.2
Total	L al	5.2	6.4	7.5	9.6	8.7	7.5

a Comprises fresh, frozen and otherwise prepared seafood. **b** Included in 'Ice-cream mix' prior to 1972-73. **c** Combined product and natural weight equivalent weights prior to 1971-72. **d** Prior to 1978-79 known as fluid whole milk. **e** Includes an allowance for estimated cream consumption. Excludes infants and invalids food after 1993-94. **f** Sweet potatoes included with 'Other root and bulb vegetables' since 1968-69; formerly included with 'Other vegetables'. **g** Data from 1988-89 onwards includes an estimate for home production of eggs. **h** Includes flour for breadmaking. From 1994-95 data excludes flour used in production of starch and gluten. **i** Includes butter equivalent of butter oil, butter concentrate and ghee. **j** Includes an estimate for vegetable oils and other fats. Prior to 1975-76 this was estimated at 2 kg, from 1975-76 onwards estimated at 10 kg. **k** Includes sugar content of syrups, honey and glucose. **l** Coffee and coffee products in terms of roasted coffee. **m** Includes bulk pre-mix and post-mix concentrates in terms of drink equivalent. **n** From 1984-85, data for beer have been compiled on the basis of excise data. Prior to this the alcohol content of beer was calculated using 2.4 per cent by volume for low alcohol beer and 4.8 per cent for other beer. **na** Not available.
Source: ABS 2000, *Apparent Consumption of Foodstuffs, 1997-98 and 1998-99,* cat. no. 4306.0, Canberra.

5.1 Australian food exports, by level of transformation

	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04
	$m	$m	$m	$m	$m	$m	$m	$m
Minimally transformed								
Live animals except fish	621	532	528	625	753	938	993	598
Fish or shellfish	449	470	517	639	771	867	772	676
Horticulture								
Vegetables	177	209	218	191	201	218	199	161
Fruit and nuts	348	359	372	396	476	561	531	406
Total	525	568	590	587	677	779	730	568
Grains a	5 231	4 267	4 193	4 208	5 294	5 854	3 873	4 654
Oilseeds	198	364	683	798	721	752	400	549
Food nec	34	37	88	54	81	59	72	45
Substantially and elaborately transformed								
Meat								
Meat processing	2 943	3 714	3 986	4 440	5 770	6 215	5 625	5 722
Poultry processing	14	18	23	21	26	26	22	20
Bacon, ham and smallgoods	69	64	61	86	65	80	82	84
Total	3 027	3 795	4 070	4 548	5 862	6 320	5 729	5 826
Seafood	647	726	721	907	974	857	744	656
Dairy								
Milk and cream processing	899	897	1 056	1 126	1 550	1 650	1 176	1 073
Ice cream	44	47	41	36	34	32	29	35
Other dairy products	852	1 008	1 193	1 305	1 486	1 592	1 285	1 174
Total	1 795	1 952	2 291	2 467	3 070	3 275	2 490	2 282
Fruit and vegetables	491	436	480	522	566	656	528	508
Oil and fat	104	167	170	131	129	147	144	146
Flour mill and cereal food								
Flour mill products	158	174	204	209	207	233	213	202
Cereal food and baking mix	438	528	513	529	544	400	257	217
Total	596	702	717	738	751	632	471	419
Bakery products								
Bread, cake and pastry	16	11	11	19	15	8	3	4
Biscuit	72	83	79	69	73	92	96	105
Total	88	94	89	88	88	99	99	109
Other food								
Sugar **a**	1 595	1 742	1 377	1 111	1 236	1 446	1 238	1 206
Confectionery	170	162	176	230	261	287	291	267
Food nec	767	788	734	900	1 087	1 148	876	931
Total	2 532	2 692	2 288	2 241	2 585	2 881	2 405	2 404
Beverages and malt								
Soft drink, cordial and syrup	34	28	23	26	45	30	47	37
Beer and malt	215	216	207	213	266	317	324	282
Wine	604	874	1 068	1 374	1 753	2 105	2 424	2 494
Spirit	29	31	38	55	73	81	72	59
Total	883	1 150	1 336	1 667	2 136	2 533	2 867	2 872
Total food and beverage								
Minimally transformed	7 057	6 238	6 601	6 911	8 297	9 249	6 840	7 090
Substantially transformed	9 926	11 481	11 915	13 035	15 857	17 065	15 116	14 879
Elaborately transformed	238	232	247	273	302	336	360	342
Total	17 221	17 951	18 763	20 219	24 456	26 650	22 317	22 311

a Includes ABARE estimates where ABS confidentiality restrictions apply.
Source: ABS, *International Trade,* electronic data service, cat. no. 5464.0, Canberra.

5.2 Australian grain exports, by level of transformation

	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04
	$m	$m	$m	$m	$m	$m	$m	$m
Minimally transformed								
Cereals								
Barley, feed	372	264	427	326	409	585	233	627
Barley, malting	443	280	271	320	467	432	457	371
Maize	8	3	6	11	15	14	13	6
Oats	26	30	38	27	22	37	44	38
Rice, husked (paddy)	0	1	29	17	8	29	9	0
Sorghum	70	50	14	4	59	109	17	61
Wheat	4 301	3 630	3 398	3 413	4 135	4 527	3 036	3 399
Other **a**	10	8	10	11	11	10	5	4
Total	5 231	4 267	4 193	4 130	5 126	5 743	3 814	4 506
Oilseeds								
Canola	124	256	558	638	544	572	289	453
Cottonseed	45	68	91	122	137	148	82	62
Sunflowerseed	8	7	10	19	11	2	7	4
Other	21	33	25	16	28	28	22	30
Total	198	364	683	796	720	751	400	549
Other	0	0	0	78	168	111	58	148
Substantially and elaborately transformed								
Milled								
Barley, maize, oats	13	13	14	13	15	21	23	26
Rice	313	394	380	363	357	253	101	64
Wheat	9	16	12	13	15	16	15	12
Other	1	2	1	1	1	2	1	1
Total	335	425	406	389	388	291	139	103
Flour								
Rice	5	7	8	7	5	4	3	4
Wheat	45	57	69	68	62	84	73	76
Other	0	1	1	1	1	1	1	2
Total	50	65	77	76	69	90	77	82
Oil								
Canola	6	24	52	25	18	25	30	41
Cottonseed	1	18	2	0	1	2	1	1
Sunflowerseed	0	4	7	6	10	11	9	2
Other	74	92	85	79	72	75	70	62
Total	81	139	145	110	101	113	109	105
Cereal starches								
Wheat	83	77	99	104	105	104	97	78
Rice	1	1	1	1	1	1	2	3
Other	1	1	0	0	0	0	0	0
Total	85	78	100	105	107	105	98	81
Malt	174	173	170	166	216	254	256	233
Preparations of cereals								
Biscuits	72	83	79	69	73	92	96	105
Breads and cakes	16	11	11	19	15	8	3	4
Pasta	17	25	23	31	34	33	40	35
Other	108	108	110	136	154	112	111	114
Total	213	228	223	255	275	244	249	258
Total grains								
Minimally transformed	5 428	4 630	4 877	5 004	6 014	6 606	4 272	5 203
Substantially transformed	867	1 033	1 050	1 027	1 080	1 037	895	821
Elaborately transformed	73	74	72	75	75	60	34	41
Total	6 368	5 738	5 999	6 107	7 170	7 702	5 201	6 066

a Includes ABARE estimates where ABS confidentiality restrictions apply.
Source: ABS, *International Trade,* electronic data service, cat. no. 5464.0, Canberra.

5.3 Australian meat and livestock exports, by level of transformation

	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04
	$m	$m	$m	$m	$m	$m	$m	$m
Live animals a								
Cattle	428	333	343	433	482	526	562	314
Sheep	190	193	182	180	258	392	408	266
Other	4	6	4	12	14	20	23	18
Total live animal exports	621	532	528	625	753	938	993	598
Meat and meat products								
Beef and veal b								
Fresh, chilled or frozen								
Carcasses	57	55	49	9	14	11	5	4
Hindquarters and forequarters								
Bone-in	37	44	56	58	47	20	21	10
Boneless	222	336	401	417	461	461	337	253
Cuts								
Bone-in	26	28	51	54	80	94	108	103
Boneless	1 771	2 236	2 379	2 651	3 525	3 746	3 436	3 557
Other products c	122	144	161	205	272	230	200	303
Beef and veal products, otherwise prepared or preserved d	32	39	41	44	55	55	57	83
Total beef and veal	2 267	2 883	3 137	3 437	4 453	4 617	4 163	4 313
Sheep meat								
Fresh, chilled or frozen								
Carcasses	67	78	80	74	97	106	102	81
Cuts								
Bone-in	296	355	378	437	593	727	625	682
Boneless	178	219	178	195	261	306	298	283
Other products c	37	40	44	39	51	46	43	48
Sheep meat products, otherwise prepared or preserved d	3	2	3	3	3	5	3	3
Total sheep meat	580	695	683	747	1 006	1 190	1 070	1 097
Pig meat								
Fresh, chilled or frozen								
Carcasses	3	3	11	91	93	123	115	84
Hams, shoulders and cuts	3	5	3	2	5	8	7	9
Other pig meat nec	27	44	57	66	88	134	135	88
Other products c	2	3	2	2	5	5	6	7
Pig meat products, otherwise prepared or preserved d	1	1	1	1	2	1	2	2
Total pig meat	36	55	74	162	192	271	264	190
Poultry meat e	14	18	23	21	26	26	22	20
Bacon, ham and smallgoods	69	64	61	86	65	80	82	84
Other meat f								
Fresh, chilled or frozen								
Goat meat	18	24	22	27	39	46	47	49
Horse, ass, mule and hinny meat	16	21	26	20	17	19	14	11
Kangaroo meat	5	8	11	10	17	30	27	26
Other meat and meat products c	10	17	19	27	33	26	26	23
Other meat products Otherwise prepared or preserved d	11	11	13	11	12	15	12	13
Total other meat	60	81	92	95	118	136	127	122
Total meat and meat product exports	3 027	3 795	4 070	4 548	5 862	6 320	5 729	5 826

a Excludes animals for breeding. **b** Includes buffalo meat. **c** Includes edible offal, tongues, livers or tripe. **d** Includes meat and animal products either salted, in brine, dried, smoked, canned or bottled. **e** Includes meat and other food products from fowls, turkeys, ducks, geese, guinea fowls and other poultry.
Source: ABS, *International Trade,* electronic data service, cat. no. 5464.0, Canberra.

5.4 Australian dairy exports, by level of transformation

	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04
	$m	$m	$m	$m	$m	$m	$m	$m
Butter and butterfat a	220	238	294	291	291	297	224	182
Cheese								
Unprocessed cheddar	164	225	239	286	328	301	249	253
Processed cheddar	130	177	206	227	227	167	143	124
Unprocessed other	133	134	175	180	236	258	185	165
Processed other	24	23	31	33	56	112	93	63
Fresh, unripened or uncured **b**	17	39	38	71	87	179	116	122
Grated or powdered cheese	7	8	7	9	17	16	13	11
Total cheese	476	607	695	807	950	1 033	800	738
Wholemilk powder	268	275	364	403	580	571	380	321
Skim milk powder	473	444	496	478	694	698	406	386
Casein	33	43	67	81	89	77	43	48
Other products								
Fresh milk	68	67	76	81	82	98	98	104
Icecream	44	47	41	36	34	32	29	35
Other fresh products	18	22	18	20	13	8	6	10
Condensed milk	49	58	82	88	111	124	133	121
Other powders	97	116	117	159	193	275	275	250
Lactose	3	2	2	3	9	6	6	7
Yoghurt	8	6	6	7	8	8	9	9
Other dairy products	38	26	33	14	15	49	88	75
Total	1 796	1 952	2 291	2 467	3 070	3 277	2 495	2 286

a Includes the butter equivalent of butter oil, butter concentrate, ghee and dry butterfat production. **b** Includes blue veined cheese.
Source: ABS, *International Trade,* electronic data service, cat. no. 5464.0, Canberra.

5.5 Australian seafood exports, by level of transformation

	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04
	$m	$m	$m	$m	$m	$m	$m	$m
Fish								
Minimally transformed								
Live	15	16	13	24	42	47	47	39
Fresh or chilled								
Tuna **a**	42	70	72	101	148	165	107	125
Salmon	19	12	8	6	12	14	7	2
Other fish	11	9	7	10	13	27	25	21
Total	72	92	87	116	174	206	138	148
Whole frozen								
Tuna **a**	2	10	31	105	117	154	213	146
Salmon	3	2	2	3	4	1	3	0
Whiting	3	4	3	3	3	2	3	2
Other fish	19	27	51	19	11	20	19	14
Total	28	42	87	130	135	178	238	163
Substantially transformed								
Fillets								
Fresh or chilled	5	5	5	5	7	7	4	1
Frozen	14	27	44	37	18	21	20	16
Total	19	32	49	42	25	27	24	17
Other frozen	23	25	20	57	75	13	6	9
Elaborately transformed								
Dried, salted or smoked								
Salmon	1	1	1	1	2	1	1	1
Other fish	8	9	6	13	14	15	17	19
Total	10	10	7	14	16	16	18	19
Roes, caviar and substitutes	7	7	5	5	6	7	6	6
Canned	3	2	3	5	4	5	5	6
Other processed	7	7	4	0	1	2	1	2
Total fish	182	234	275	393	478	502	485	409

Continued

5.5 Australian seafood exports, by level of transformation *continued*

	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04
	$m	$m	$m	$m	$m	$m	$m	$m
Shellfish								
Minimally transformed								
Live fresh or chilled								
Whole								
Rock lobster	267	254	269	296	318	307	228	228
Crabs	20	23	16	19	28	23	17	14
Other crustaceans	0	0	0	0	3	1	0	0
Abalone	39	37	42	51	61	75	75	77
Other molluscs	5	5	2	2	1	1	1	0
Other	3	1	0	1	10	30	28	8
Total	335	320	330	369	421	437	349	326
Substantially transformed								
Rock lobster								
Frozen green	20	17	17	35	42	29	25	21
Cooked	112	88	87	142	101	84	91	70
Tails	50	64	76	95	60	65	113	103
Other	5	1	3	10	12	7	6	6
Total	186	170	183	282	215	185	235	199
Prawns								
Headless	33	41	25	21	25	19	12	5
Whole frozen	147	189	196	209	258	239	193	151
Other	4	5	4	14	7	5	4	4
Total	185	234	224	244	291	263	208	161
Crabs	8	4	3	4	4	7	4	4
Other crustaceans	10	12	11	6	16	12	8	3
Abalone	36	42	44	50	73	106	74	57
Scallops	32	33	31	39	48	31	26	35
Other molluscs	2	2	3	3	6	4	2	1
Elaborately transformed								
Dried salted								
Molluscs	5	8	8	8	12	9	10	10
Canned								
Abalone	100	120	106	129	145	140	107	120
Other shellfish	8	8	11	12	26	7	0	0
Other preserved	1	1	1	1	1	15	0	0
Seafood extracts	3	3	2	0	1	1	0	0
Seafood meals and flours	4	5	5	7	8	7	9	8
Total	116	137	126	148	181	169	116	128
Total shellfish	914	963	963	1 154	1 267	1 223	1 032	923
Total seafood								
Minimally transformed	449	470	517	639	771	868	773	677
Substantially transformed	500	555	568	727	754	648	588	484
Elaborately transformed	147	170	152	181	220	209	156	172
Total	1 096	1 196	1 238	1 546	1 746	1 725	1 517	1 333

a Exports of tuna landed in Australia. Tuna shipped at sea or captured under joint venture or bilateral agreements are not included.
Source: ABS, *International Trade,* electronic data service, cat. no. 5464.0, Canberra.

5.6 Selected Australian fruit and nut exports, by level of transformation

	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04
	$m	$m	$m	$m	$m	$m	$m	$m
Minimally transformed								
Fruit								
Oranges	109	110	119	123	150	153	146	107
Grapes	67	53	67	74	72	136	96	85
Apples	28	38	30	36	46	34	41	20
Pears	30	24	19	20	24	20	23	12
Mandarins	19	21	22	26	37	40	49	43
Plums	12	13	18	16	25	22	26	13
Melons	12	14	12	16	18	20	17	15
Mangoes	10	13	10	11	11	14	12	11
Nectarines	2	5	13	16	16	27	23	12
Other fruit	43	39	38	39	49	58	63	41
Total fruit	331	329	349	376	447	522	496	358
Nuts, in shell								
Macadamias	9	6	8	12	20	25	24	35
Almonds	6	7	10	3	3	10	6	9
Other nuts	3	16	5	5	5	4	5	4
Total nuts	18	30	23	20	28	39	35	48
Substantially transformed								
Canned or bottled								
Pears	37	35	30	31	30	28	29	23
Fruit salads and mixtures	21	23	28	28	23	23	27	20
Peaches	12	14	23	19	20	19	31	18
Pineapples	4	4	4	4	3	4	3	3
Apricots	3	3	3	2	2	3	3	2
Apples	1	0	0	0	0	0	0	0
Other canned or bottled fruit	4	4	7	7	8	7	8	7
Total canned or bottled fruit	81	83	96	91	86	85	102	73
Dried								
Grapes	52	30	36	13	17	14	20	15
Other dried fruit	10	6	3	2	3	2	2	2
Total dried fruit	62	36	39	15	19	16	22	17
Juice								
Orange, frozen or otherwise	16	15	13	17	22	17	17	14
Grape	9	11	11	10	12	13	12	13
Apple	6	5	4	8	13	5	0	0
Pineapple	1	1	1	1	1	2	3	3
Other fruit juice	28	23	18	25	23	37	41	43
Total fruit juice	61	56	47	62	72	73	73	72
Shelled nuts								
Macadamias	48	44	47	66	57	86	64	71
Other shelled nuts	10	7	15	16	11	15	16	24
Total shelled nuts	59	51	61	82	68	101	79	95
Jams, spreads, pastes etc	13	14	11	11	10	10	10	14
Otherwise processed fruits								
Fruits preserved by sugar	4	4	4	4	4	4	3	2
Frozen fruits	1	1	1	1	1	1	1	1
Other processed fruits	1	2	2	1	2	2	2	1
Total otherwise processed fruits	7	7	6	6	7	6	7	4
Total fruit and nut products								
Minimally transformed	348	359	372	396	476	561	531	406
Substantially transformed	283	247	261	266	262	291	293	275
Total	631	606	633	662	738	852	824	681

Source: ABS, *International Trade,* electronic data service, cat. no. 5464.0, Canberra.

5.7 Selected Australian vegetable exports, by level of transformation

	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04
	$m	$m	$m	$m	$m	$m	$m	$m
Minimally transformed								
Vegetables								
Asparagus	30	32	46	46	43	40	34	22
Carrots	31	35	43	36	40	49	48	39
Cauliflowers	25	22	23	23	30	28	23	13
Onions	11	29	28	15	19	28	25	24
Headed broccoli	16	18	16	15	14	15	13	10
Potatoes (excluding seed)	7	8	9	9	6	8	13	14
Tomatoes	9	9	8	7	7	4	7	8
Lettuce	7	8	7	7	8	9	6	4
Chinese cabbage	5	6	6	4	6	5	4	2
Other vegetables	35	42	32	27	29	31	26	24
Total vegetables	177	209	218	191	201	217	199	161
Substantially transformed								
Canned or bottled								
Tomatoes and tomato products	5	12	16	14	14	26	29	17
Ginger in syrup	4	6	6	5	5	5	6	5
Other canned or bottled vegetables	2	2	3	4	5	3	4	3
Total canned or bottled vegetables	11	20	24	23	24	34	38	25
Dried								
Peas	96	66	62	81	92	133	37	52
Beans	34	33	47	76	91	88	66	56
Other dried vegetables	10	4	11	5	9	4	2	3
Total dried vegetables	141	103	120	162	192	224	105	111
Juice								
Vegetable juice mixtures	3	8	12	9	1	0	0	2
Single vegetable juices	2	1	4	9	22	28	23	21
Tomato juice	0	0	1	1	1	1	1	1
Total juice	5	10	17	19	25	29	25	24
Frozen								
Potatoes	11	10	7	11	8	11	18	23
Mixed vegetables	5	3	8	5	5	3	3	5
Corn	2	5	4	2	1	8	5	1
Peas	0	0	0	1	1	1	0	0
Other frozen vegetables	9	8	5	5	7	8	2	10
Total frozen vegetables	26	26	24	23	21	32	27	38
Saps and extracts								
Hop extracts	2	4	2	2	4	3	3	4
Miscellaneous vegetable extracts	3	5	6	4	7	16	14	10
Total vegetable extracts	6	9	8	6	11	19	17	14
Otherwise processed vegetables								
Hops	6	6	8	6	8	9	5	6
Ginger	4	4	5	5	6	6	7	7
Mixed vegetables	4	3	3	2	2	2	2	1
Potatoes	2	3	3	2	5	2	1	1
Other	4	5	7	7	10	8	7	7
Total otherwise processed vegetables	20	22	27	22	31	27	23	21
Total vegetable products								
Minimally transformed	177	209	218	191	201	217	199	161
Substantially transformed	208	189	220	255	304	365	235	233
Total	385	398	438	446	505	583	434	394

Source: ABS, *International Trade,* electronic data service, cat. no. 5464.0, Canberra.

5.8 Australian food exports, by level of transformation and state, 2003-04

	NSW $m	Vic $m	Qld $m	WA $m	SA $m	Tas $m	NT $m
Minimally transformed							
Live animals except fish	10	54	36	348	35	4	110
Fish or shellfish	23	31	92	126	313	90	1
Horticulture							
Vegetables	10	36	29	57	8	21	0
Fruit and nuts	48	159	65	32	55	10	1
Total	59	195	94	89	63	31	2
Grains	370	427	202	1 793	695	0	0
Oilseeds	36	80	71	247	108	8	0
Food nec	5	7	8	9	14	1	1
Substantially and elaborately transformed							
Meat							
Meat processing	1 116	1 104	2 740	358	298	98	1
Poultry processing	6	6	5	2	0	0	0
Bacon, ham and smallgoods	20	50	7	4	3	0	0
Total	1 142	1 160	2 752	364	301	98	1
Seafood	23	85	144	249	87	51	1
Dairy							
Milk and cream processing	23	958	34	31	2	24	0
Ice cream	10	3	6	16	0	0	0
Other dairy products	60	937	50	23	44	60	0
Total	94	1 899	90	70	46	84	0
Fruit and vegetables	81	215	97	13	90	11	0
Oil and fat	45	45	51	5	0	0	0
Flour mill and cereal food							
Flour mill products	157	13	6	21	5	0	0
Cereal food and baking mix	157	28	9	6	16	0	0
Total	314	42	15	27	21	0	0
Bakery products							
Bread, cake and pastry	2	1	1	0	0	0	0
Biscuit	28	26	27	1	22	0	0
Total	31	27	28	1	22	0	0
Other food							
Sugar **a**	36	1	1 169	0	0	0	0
Confectionery	29	215	3	2	0	18	0
Food nec	377	192	199	32	27	23	0
Total	441	408	1 370	34	27	41	0
Beverages and malt							
Soft drink, cordial and syrup	15	2	16	0	2	0	0
Beer and malt	5	119	0	55	54	0	0
Wine	605	436	3	49	1 398	3	0
Spirit	12	8	12	0	16	0	0
Total	637	565	31	105	1 470	3	0
Total food and beverage							
Minimally transformed	504	794	503	2 611	1 229	133	113
Substantially transformed	2 732	4 245	4 560	861	2 042	272	3
Elaborately transformed	77	200	18	7	22	18	0
Total **b**	3 312	5 239	5 081	3 479	3 293	423	116

a Includes ABARE estimates where ABS confidentiality restrictions apply. **b** Due to state level ABS confidentiality restrictions, these totals do not correspond with table 5.1.
Source: ABS, *International Trade,* electronic data service, cat. no. 5464.0, Canberra.

5.9 Australian air freight exports of food, by level of transformation a

	1999-00	2000-01	2001-02	2002-03	2003-04
	$m	$m	$m	$m	$m
Minimally transformed					
Live animals except fish	109	111	150	143	138
Fish or shellfish					
Fish	200	244	238	192	186
Shellfish	473	549	552	445	404
Total	673	793	790	637	590
Horticulture					
Vegetables	97	97	85	71	52
Fruit and nuts	76	92	100	93	64
Total	174	190	185	164	117
Grains	0	0	0	0	0
Oilseeds	3	2	3	3	3
Substantially transformed					
Meat					
Beef	58	72	81	73	76
Other meat and offal	236	268	289	254	187
Total	294	340	370	327	263
Seafood	38	38	45	34	38
Dairy					
Milk, cream and milk products **b**	10	12	11	12	11
Butter and other milk fat	1	1	1	1	0
Cheese and curd	6	7	6	8	8
Total	17	20	18	21	19
Fruit and vegetables	5	7	8	6	5
Oil and fat	2	3	3	2	3
Flour mill and cereal food	4	5	6	4	5
Other food					
Chocolate and chocolate confectionery	11	10	11	11	12
Sugar confectionary	3	3	5	3	3
Food nec	35	33	61	66	48
Total	49	45	77	81	64
Beverages and malt					
Nonalcoholic	0	0	0	1	0
Alcoholic	11	15	17	12	9
Total	11	15	18	13	10
Total food and beverage					
Minimally transformed	959	1 096	1 128	946	848
Substantially transformed	420	471	544	490	407
Total	1 378	1 567	1 672	1 436	1 255

a Based on state of departure. **b** Excluding butter and cheese.
Source: ABS, Air freight cargo statistics, unpublished.

5.10 Australian air freight exports of food, by level of transformation and state, 2003-04 a

	NSW	Vic	Qld	WA	SA	Tas b	NT
	$m	$m	$m	$m	$m	$m	$m
Minimally transformed							
Live animals except fish	78	52	4	3	1	0	0
Fish or shellfish							
Fish	59	23	65	9	29	0	0
Shellfish	38	169	40	128	29	0	0
Total	97	192	105	136	59	0	0
Horticulture							
Vegetables	18	23	10	3	0	0	0
Fruit and nuts	21	12	18	12	1	0	0
Total	38	34	28	15	1	0	0
Oilseeds	3	0	0	0	0	0	0
Substantially transformed							
Meat							
Beef	25	13	29	7	1	0	0
Other meat and offal	33	67	29	43	15	0	0
Total	58	80	58	50	16	0	0
Seafood	2	14	17	2	3	0	0
Dairy							
Milk, cream and milk products c	3	4	2	1	0	0	0
Butter and other milk fat	0	0	0	0	0	0	0
Cheese and curd	2	6	0	0	0	0	0
Total	5	11	2	2	0	0	0
Fruit and vegetables	2	1	1	0	0	0	0
Oil and fat	1	1	0	0	0	0	0
Flour mill and cereal food	2	1	1	0	0	0	0
Other food							
Chocolate and chocolate confectionery	2	10	0	0	0	0	0
Sugar confectionery	2	1	0	1	0	0	0
Food nec	27	10	7	1	3	0	0
Total	31	20	8	2	3	0	0
Beverages and malt							
Nonalcoholic	0	0	0	0	0	0	0
Alcoholic	3	3	0	0	2	0	0
Total	3	3	1	0	2	0	0
Total food and beverage							
Minimally transformed	216	278	138	154	61	0	1
Substantially transformed	105	130	89	56	26	0	0
Total	321	409	227	210	87	0	1

a Based on state of departure. **b** Virtually all air freight exports of Tasmanian origin are recorded as exports from mainland Australian airports. **c** Excluding butter and cheese.
Source: ABS, Air freight cargo statistics, unpublished.

5.11 Australian food exports to APEC member countries

	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04
	$m	$m	$m	$m	$m	$m	$m	$m
Minimally transformed								
Live animals except fish	394	221	201	284	305	364	452	289
Fish or shellfish	442	463	509	628	764	855	758	664
Horticulture								
Vegetables	161	174	188	171	177	180	163	119
Fruit and nuts	317	311	319	343	393	467	431	305
Total	478	485	507	514	570	647	594	424
Grains a	1 386	1 662	1 801	1 536	2 420	2 551	2 212	2 231
Oilseeds	150	254	445	705	423	489	325	311
Food nec	20	21	59	39	38	31	46	25
Substantially and elaborately transformed								
Meat								
Meat processing	2 468	3 000	3 335	3 903	5 042	5 381	4 916	5 078
Poultry processing	6	8	10	7	8	8	5	6
Bacon, ham and smallgoods	53	47	36	67	52	64	68	72
Total	2 528	3 055	3 382	3 977	5 101	5 454	4 989	5 155
Seafood	594	667	642	840	863	755	664	574
Dairy								
Milk and cream processing	734	695	796	840	1 128	1 170	864	798
Ice cream	42	46	39	35	33	31	26	33
Other dairy products	575	641	758	793	905	1 078	838	832
Total	1 351	1 382	1 594	1 668	2 065	2 280	1 729	1 663
Fruit and vegetables	282	253	280	278	300	344	323	308
Oil and fat	90	139	112	101	106	129	121	122
Flour mill and cereal food								
Flour mill products	120	124	164	171	174	202	197	181
Cereal food and baking mix	105	113	110	135	147	116	126	127
Total	225	237	274	306	321	318	323	309
Bakery products								
Bread, cake and pastry	14	10	9	17	12	6	2	3
Biscuit	60	68	66	55	56	70	67	72
Total	74	77	75	73	68	76	70	75
Other food								
Sugar **a**	1 449	1 534	1 206	1 002	1 125	1 378	1 155	1 113
Confectionery	154	148	161	207	239	261	260	234
Food nec	580	584	596	650	730	681	645	670
Total	2 183	2 266	1 963	1 858	2 095	2 320	2 060	2 017
Beverages and malt								
Soft drink, cordial and syrup	28	23	19	20	37	24	41	31
Beer and malt	158	154	146	155	180	216	196	173
Wine	246	358	418	547	764	971	1 220	1 307
Spirit	27	27	30	45	64	71	59	43
Total	459	561	613	767	1 046	1 283	1 515	1 554
Total food and beverage								
Minimally transformed	2 870	3 106	3 523	3 706	4 519	4 938	4 386	3 944
Substantially transformed	7 579	8 437	8 718	9 633	11 710	12 675	11 500	11 504
Elaborately transformed	207	201	215	234	255	284	295	273
Total	10 655	11 743	12 456	13 573	16 484	17 897	16 181	15 721

a Includes ABARE estimates where ABS confidentiality restrictions apply.
Source: ABS, *International Trade,* electronic data service, cat. no. 5464.0, Canberra.

5.12 Australian food exports to ASEAN member countries

	1996-97 $m	1997-98 $m	1998-99 $m	1999-00 $m	2000-01 $m	2001-02 $m	2002-03 $m	2003-04 $m
Minimally transformed								
Live animals except fish	378	204	190	270	284	333	407	256
Fish or shellfish	16	15	10	12	15	15	11	9
Horticulture								
Vegetables	81	86	87	78	87	96	86	56
Fruit and nuts	170	142	113	119	160	174	157	105
Total	251	228	200	197	247	270	243	161
Grains a	865	897	751	758	1 022	996	772	947
Oilseeds	2	2	4	21	11	14	2	4
Food nec	5	3	4	7	4	5	7	1
Substantially and elaborately transformed								
Meat								
Meat processing	221	203	184	305	348	398	375	299
Poultry processing	0	1	1	2	1	3	1	1
Bacon, ham and smallgoods	1	1	1	1	2	3	3	3
Total	223	204	186	308	351	404	379	303
Seafood	40	41	44	57	65	77	56	47
Dairy								
Milk and cream processing	521	471	563	546	761	777	557	514
Ice cream	7	8	7	3	2	2	3	6
Other dairy products	175	169	180	196	201	224	176	165
Total	703	647	750	746	965	1 003	736	684
Fruit and vegetables	45	40	37	39	46	57	47	47
Oil and fat	14	23	15	15	13	14	16	23
Flour mill and cereal food								
Flour mill products	21	24	43	49	55	66	62	66
Cereal food and baking mix	25	27	16	25	24	15	16	12
Total	47	51	59	74	79	81	78	78
Bakery products								
Bread, cake and pastry	3	1	1	3	2	1	0	0
Biscuit	7	4	3	2	3	8	10	6
Total	9	6	5	5	5	9	10	6
Other food								
Sugar **a**	339	367	297	263	315	420	317	329
Confectionery	38	26	29	30	40	50	58	48
Food nec	90	78	83	113	144	128	113	109
Total	467	471	409	406	498	597	488	487
Beverages and malt								
Soft drink, cordial and syrup	8	4	3	4	4	4	3	3
Beer and malt	63	63	64	65	79	97	94	79
Wine	19	17	24	31	39	47	51	61
Spirit	5	5	3	6	12	14	14	7
Total	95	88	93	107	134	162	161	149
Total food and beverage								
Minimally transformed	1 517	1 349	1 160	1 265	1 583	1 633	1 443	1 377
Substantially transformed	1 599	1 542	1 570	1 723	2 113	2 353	1 911	1 774
Elaborately transformed	43	28	29	33	42	52	61	50
Total	3 160	2 919	2 760	3 021	3 738	4 037	3 414	3 201

a Includes ABARE estimates where ABS confidentiality restrictions apply.
Source: ABS, *International Trade,* electronic data service, cat. no. 5464.0, Canberra.

5.13 Australian food exports to NAFTA member countries

	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04
	$m	$m	$m	$m	$m	$m	$m	$m
Minimally transformed								
Live animals except fish	3	1	1	2	5	9	14	3
Fish or shellfish	7	12	19	18	26	30	24	16
Horticulture								
Vegetables	0	0	0	0	0	0	0	0
Fruit and nuts	23	43	42	51	46	49	61	53
Total	23	43	42	51	46	49	61	54
Grains a	0	6	0	1	1	1	0	0
Oilseeds	4	34	86	86	76	82	35	8
Food nec	0	0	6	5	8	4	3	2
Substantially and elaborately transformed								
Meat								
Meat processing	666	903	1 118	1 379	2 094	2 575	2 045	1 856
Poultry processing	0	0	0	0	0	0	0	0
Bacon, ham and smallgoods	1	0	0	1	1	2	2	0
Total	666	903	1 118	1 380	2 095	2 577	2 047	1 856
Seafood	52	87	112	125	105	105	132	113
Dairy								
Milk and cream processing	8	18	18	12	57	28	20	34
Ice cream	0	0	0	0	0	0	0	0
Other dairy products	73	96	152	138	173	213	177	157
Total	81	114	170	150	230	242	197	191
Fruit and vegetables	70	68	82	74	69	65	52	52
Oil and fat	3	3	2	2	3	3	5	1
Flour mill and cereal food								
Flour mill products	39	36	59	64	61	61	52	45
Cereal food and baking mix	3	3	3	2	2	3	4	3
Total	42	39	61	66	62	64	56	48
Bakery products								
Bread, cake and pastry	0	0	0	0	0	0	0	0
Biscuit	4	3	2	3	2	5	5	6
Total	4	3	2	3	2	5	5	6
Other food								
Sugar **a**	374	370	245	159	233	246	159	170
Confectionery	2	2	3	12	12	12	8	9
Food nec	23	29	34	46	60	34	36	43
Total	399	401	282	217	306	293	203	222
Beverages and malt								
Soft drink, cordial and syrup	1	1	0	1	2	0	1	0
Beer and malt	1	1	1	1	1	1	0	0
Wine	150	238	289	403	594	780	1 010	1 071
Spirit	0	0	0	1	1	7	2	1
Total	152	241	290	406	598	788	1 013	1 073
Total food and beverage								
Minimally transformed	36	95	154	162	162	175	138	83
Substantially transformed	1 463	1 855	2 116	2 407	3 456	4 125	3 696	3 547
Elaborately transformed	6	5	5	15	15	18	14	15
Total	1 505	1 955	2 275	2 584	3 633	4 318	3 848	3 645

a Includes ABARE estimates where ABS confidentiality restrictions apply.
Source: ABS, *International Trade,* electronic data service, cat. no. 5464.0, Canberra.

5.14 Australian food exports to EU member countries

	1996-97 $m	1997-98 $m	1998-99 $m	1999-00 $m	2000-01 $m	2001-02 $m	2002-03 $m	2003-04 $m
Minimally transformed								
Live animals except fish	0	0	0	0	1	1	0	1
Fish or shellfish	5	4	6	8	6	7	11	9
Horticulture								
Vegetables	8	22	18	9	13	23	21	20
Fruit and nuts	9	20	18	20	28	23	22	21
Total	17	42	36	29	42	46	42	42
Grains a	80	104	49	121	159	178	67	124
Oilseeds	9	56	147	21	141	43	12	59
Food nec	6	8	9	7	6	7	8	5
Substantially and elaborately transformed								
Meat								
Meat processing	208	239	243	210	251	248	206	228
Poultry processing	0	0	1	1	1	1	0	0
Bacon, ham and smallgoods	10	9	18	14	5	3	1	0
Total	218	248	261	225	258	253	207	228
Seafood	15	21	40	37	44	31	46	62
Dairy								
Milk and cream processing	2	6	3	7	5	3	4	10
Ice cream	0	0	0	0	0	0	0	0
Other dairy products	64	80	103	136	185	89	110	98
Total	66	86	107	143	190	92	114	108
Fruit and vegetables	85	78	77	69	73	81	92	87
Oil and fat	1	2	3	4	4	4	2	3
Flour mill and cereal food								
Flour mill products	0	0	1	1	1	1	1	1
Cereal food and baking mix	3	5	4	4	7	5	5	4
Total	3	5	4	5	8	6	6	5
Bakery products								
Bread, cake and pastry	0	1	0	0	1	0	0	0
Biscuit	0	2	1	1	2	3	7	15
Total	1	3	1	1	2	4	7	15
Other food								
Sugar **a**	16	10	1	0	2	1	2	3
Confectionery	0	2	1	4	1	1	2	5
Food nec	32	36	31	30	51	40	42	33
Total	49	48	34	34	53	42	46	41
Beverages and malt								
Soft drink, cordial and syrup	1	1	1	1	1	0	1	2
Beer and malt	1	1	2	3	2	7	0	0
Wine	330	477	612	782	936	1 079	1 143	1 134
Spirit	1	0	2	4	4	4	3	3
Total	333	479	616	789	943	1 090	1 147	1 139
Total food and beverage								
Minimally transformed	116	215	248	186	354	281	141	239
Substantially transformed	769	965	1 142	1 303	1 571	1 597	1 658	1 668
Elaborately transformed	1	5	2	3	4	6	9	20
Total	886	1 184	1 392	1 492	1 929	1 883	1 808	1 928

a Includes ABARE estimates where ABS confidentiality restrictions apply.
Source: ABS, *International Trade,* electronic data service, cat. no. 5464.0, Canberra.

5.15 Australian total food exports, by selected destination

	1998-99 $m	1999-00 $m	2000-01 $m	2001-02 $m	2002-03 $m	2003-04 $m
Canada	447	400	550	644	595	411
China	656	672	688	1 051	754	709
Chinese Taipei	676	724	740	700	644	596
Egypt	231	259	300	243	155	75
Germany	181	142	239	123	116	152
Hong Kong, China	613	704	885	897	760	714
Indonesia	595	700	1 005	1 150	1 117	1 124
Japan	3 816	4 164	4 807	4 757	4 426	4 685
Korea, Rep. Of	830	852	1 012	1 143	1 193	1 172
Malaysia	764	780	967	1 083	816	850
New Zealand	655	701	830	928	1 009	928
Philippines	610	635	696	636	485	369
Saudi Arabia	411	275	547	796	570	790
Singapore	411	518	582	662	597	509
Thailand	272	277	337	349	289	270
United Arab Emirates	284	262	325	297	233	237
United Kingdom	724	796	971	1 113	1 103	1 099
United States	1 672	2 054	2 890	3 451	3 088	3 116

Source: ABS, *International Trade,* electronic data service, cat. no. 5464.0, Canberra.

5.16 Australian food exports to selected countries

	Japan		United States		United Kingdom	
	2002-03	2003-04	2002-03	2003-04	2002-03	2003-04
	$m	$m	$m	$m	$m	$m
Minimally transformed						
Live animals except fish	14	15	1	1	0	0
Fish or shellfish	399	330	24	16	1	1
Horticulture						
Vegetables	41	28	0	0	3	2
Fruit and nuts	31	26	51	45	14	12
Total	72	54	51	46	18	14
Grains a	549	535	0	0	1	1
Oilseeds	254	284	33	7	2	3
Food nec	31	16	3	1	1	1
Substantially and elaborately transformed						
Meat						
Meat processing	1 674	2 118	1 671	1 716	115	132
Poultry processing	0	0	0	0	0	0
Bacon, ham and smallgoods	27	24	2	0	0	0
Total	1 701	2 142	1 672	1 717	115	133
Seafood	229	158	129	110	1	2
Dairy						
Milk and cream processing	59	40	1	22	0	0
Ice cream	12	16	0	0	0	0
Other dairy products	308	337	134	122	16	20
Total	379	393	135	144	16	20
Fruit and vegetables	95	97	29	36	33	33
Oil and fat	18	12	4	1	0	1
Flour mill and cereal food						
Flour mill products	38	33	49	40	0	0
Cereal food and baking mix	25	25	3	3	4	3
Total	63	58	52	43	4	3
Bakery products						
Bread, cake and pastry	0	0	0	0	0	0
Biscuit	9	12	4	4	7	14
Total	9	12	4	5	7	14
Other food						
Sugar a	208	185	75	80	0	0
Confectionery	72	51	6	4	1	3
Food nec	223	233	29	30	26	18
Total	503	468	111	114	28	22
Beverage and malt						
Soft drink, cordial and syrup	1	0	1	0	0	1
Beer and malt	52	54	0	0	0	0
Wine	31	37	839	874	876	849
Spirit	25	18	1	0	1	1
Total	110	108	840	875	878	852
Total food and beverage						
Minimally transformed	1 320	1 235	112	71	22	20
Substantially transformed	3 065	3 420	2 965	3 035	1 073	1 062
Elaborately transformed	42	29	11	9	8	17
Total	4 426	4 685	3 088	3 116	1 103	1 099

Continued

5.16 Australian food exports to selected countries *continued*

	Hong Kong, China		New Zealand		Chinese Taipei	
	2002-03	2003-04	2002-03	2003-04	2002-03	2003-04
	$m	$m	$m	$m	$m	$m
Minimally transformed						
Live animals except fish	1	1	1	1	0	0
Fish or shellfish	268	262	1	1	37	35
Horticulture						
Vegetables	10	8	13	16	7	5
Fruit and nuts	127	82	16	16	31	18
Total	137	91	29	32	38	22
Grains a	9	1	104	79	61	54
Oilseeds	0	0	3	3	2	2
Food nec	0	0	1	1	1	1
Substantially and elaborately transformed						
Meat						
Meat processing	34	41	88	63	216	199
Poultry processing	3	4	0	0	0	0
Bacon, ham and smallgoods	2	1	4	3	0	0
Total	38	46	91	66	216	200
Seafood	123	155	5	5	54	39
Dairy						
Milk and cream processing	33	31	15	15	108	103
Ice cream	1	0	10	9	0	0
Other dairy products	29	27	16	14	28	29
Total	63	59	42	38	136	132
Fruit and vegetables	11	7	100	89	6	5
Oil and fat	29	25	38	34	1	1
Flour mill and cereal food						
Flour mill products	9	5	24	21	7	5
Cereal food and baking mix	6	5	62	74	6	2
Total	15	10	86	94	13	7
Bakery products						
Bread, cake and pastry	0	0	2	3	0	0
Biscuit	3	2	39	45	0	0
Total	3	2	41	47	0	0
Other food						
Sugar **a**	2	0	68	60	45	48
Confectionery	12	14	71	72	12	12
Food nec	31	23	177	168	16	28
Total	44	37	316	299	73	87
Beverage and malt						
Soft drink, cordial and syrup	1	1	34	25	1	0
Beer and malt	1	1	2	1	0	2
Wine	15	17	100	100	4	8
Spirit	1	1	14	14	1	2
Total	17	20	150	139	6	12
Total food and beverage						
Minimally transformed	416	355	141	116	139	114
Substantially transformed	320	342	750	689	493	470
Elaborately transformed	24	17	118	123	12	12
Total	760	714	1 009	928	644	596

Continued

5.16 Australian food exports to selected countries *continued*

	Philippines		China		Malaysia	
	2002-03	2003-04	2002-03	2003-04	2002-03	2003-04
	$m	$m	$m	$m	$m	$m
Minimally transformed						
Live animals except fish	57	30	11	11	50	34
Fish or shellfish	0	0	18	10	2	2
Horticulture						
Vegetables	3	2	0	0	42	23
Fruit and nuts	0	0	3	1	58	35
Total	3	2	3	1	100	58
Grains a	30	37	332	339	108	170
Oilseeds	1	0	21	2	0	2
Food nec	0	0	0	0	1	0
Substantially and elaborately transformed						
Meat						
Meat processing	43	28	65	75	66	62
Poultry processing	1	1	0	1	0	0
Bacon, ham and smallgoods	0	1	31	38	0	0
Total	44	30	97	115	66	62
Seafood	0	0	57	56	6	6
Dairy						
Milk and cream processing	184	142	52	41	132	157
Ice cream	0	3	1	1	0	0
Other dairy products	45	34	28	31	27	30
Total	229	179	81	74	160	187
Fruit and vegetables	10	8	4	4	10	15
Oil and fat	1	2	6	16	3	10
Flour mill and cereal food						
Flour mill products	9	9	2	3	8	8
Cereal food and baking mix	4	2	2	2	4	3
Total	13	11	5	5	11	11
Bakery products						
Bread, cake and pastry	0	0	0	0	0	0
Biscuit	4	1	1	1	0	1
Total	4	1	1	1	0	1
Other food						
Sugar a	8	1	99	44	236	237
Confectionery	25	20	7	10	8	7
Food nec	15	16	10	14	28	25
Total	48	36	116	69	271	269
Beverage and malt						
Soft drink, cordial and syrup	0	0	0	0	1	1
Beer and malt	34	26	1	0	9	6
Wine	3	3	4	7	14	15
Spirit	8	3	0	0	1	1
Total	45	33	4	7	25	22
Total food and beverage						
Minimally transformed	91	69	385	363	262	266
Substantially transformed	369	280	361	335	546	576
Elaborately transformed	25	20	8	10	8	7
Total	485	369	754	709	816	850

Continued

5.16 Australian food exports to selected countries *continued*

	Singapore		Republic of Korea		Saudi Arabia	
	2002-03	2003-04	2002-03	2003-04	2002-03	2003-04
	$m	$m	$m	$m	$m	$m
Minimally transformed						
Live animals except fish	3	3	3	2	195	13
Fish or shellfish	4	3	1	0	0	0
Horticulture						
Vegetables	32	24	4	5	1	1
Fruit and nuts	57	36	4	1	2	2
Total	88	60	8	6	3	2
Grains a	17	11	344	314	38	504
Oilseeds	0	0	7	7	0	0
Food nec	1	0	0	5	0	0
Substantially and elaborately transformed						
Meat						
Meat processing	173	139	399	399	101	85
Poultry processing	0	0	0	0	0	0
Bacon, ham and smallgoods	1	1	0	0	0	0
Total	174	140	399	400	101	86
Seafood	43	35	1	0	0	0
Dairy						
Milk and cream processing	91	85	10	14	32	17
Ice cream	2	1	0	1	0	0
Other dairy products	42	41	75	71	113	77
Total	135	127	85	85	144	93
Fruit and vegetables	12	9	4	4	13	9
Oil and fat	7	7	3	6	0	0
Flour mill and cereal food						
Flour mill products	3	1	2	3	0	0
Cereal food and baking mix	5	5	1	1	1	1
Total	8	5	3	4	1	1
Bakery products						
Bread, cake and pastry	0	0	0	0	0	0
Biscuit	3	2	0	0	0	0
Total	4	3	0	0	0	0
Other food						
Sugar a	20	26	242	255	61	63
Confectionery	13	11	19	18	6	7
Food nec	29	25	24	24	6	9
Total	62	62	286	296	73	80
Beverage and malt						
Soft drink, cordial and syrup	1	1	1	0	0	0
Beer and malt	11	8	44	34	0	0
Wine	25	33	4	6	0	0
Spirit	1	3	1	1	0	0
Total	39	45	49	41	0	0
Total food and beverage						
Minimally transformed	113	77	363	335	236	520
Substantially transformed	468	419	817	824	327	263
Elaborately transformed	15	13	13	13	7	7
Total	597	509	1 193	1 172	570	790

Continued

5.16 Australian food exports to selected countries *continued*

	Canada		Thailand		Egypt	
	2002-03	2003-04	2002-03	2003-04	2002-03	2003-04
	$m	$m	$m	$m	$m	$m
Minimally transformed						
Live animals except fish	1	1	0	1	73	2
Fish or shellfish	0	0	3	2	0	0
Horticulture						
Vegetables	0	0	4	2	0	0
Fruit and nuts	10	8	8	6	0	0
Total	10	8	12	8	0	0
Grains a	0	0	82	102	2	3
Oilseeds	2	1	1	1	0	0
Food nec	1	1	0	0	0	0
Substantially and elaborately transformed						
Meat						
Meat processing	281	70	8	11	3	3
Poultry processing	0	0	0	0	0	0
Bacon, ham and smallgoods	0	0	0	0	0	1
Total	281	70	8	11	3	3
Seafood	3	3	5	4	1	0
Dairy						
Milk and cream processing	0	0	75	49	8	9
Ice cream	0	0	0	0	0	0
Other dairy products	8	3	24	24	27	12
Total	8	3	99	73	35	21
Fruit and vegetables	23	17	4	4	35	31
Oil and fat	1	0	1	1	0	0
Flour mill and cereal food						
Flour mill products	0	0	6	4	0	0
Cereal food and baking mix	1	1	2	1	1	0
Total	1	1	8	5	1	0
Bakery products						
Bread, cake and pastry	0	0	0	0	0	0
Biscuit	1	1	2	1	0	0
Total	1	1	2	1	0	0
Other food						
Sugar **a**	84	89	2	3	0	0
Confectionery	2	5	5	5	1	0
Food nec	6	13	17	14	4	13
Total	92	108	24	22	5	14
Beverage and malt						
Soft drink, cordial and syrup	0	0	0	0	0	0
Beer and malt	0	0	31	30	0	0
Wine	169	196	4	6	0	0
Spirit	2	1	3	0	0	0
Total	171	197	38	36	0	0
Total food and beverage						
Minimally transformed	15	11	100	114	75	5
Substantially transformed	577	393	184	151	79	69
Elaborately transformed	3	6	5	5	1	0
Total	595	411	289	270	155	75

Continued

5.16 Australian food exports to selected countries *continued*

	Indonesia		Germany		United Arab Emirates	
	2002-03	2003-04	2002-03	2003-04	2002-03	2003-04
	$m	$m	$m	$m	$m	$m
Minimally transformed						
Live animals except fish	279	178	0	0	21	17
Fish or shellfish	1	1	0	1	0	0
Horticulture						
Vegetables	4	2	2	6	7	9
Fruit and nuts	32	27	1	1	11	11
Total	36	30	3	8	18	20
Grains a	451	566	0	0	61	78
Oilseeds	0	0	2	19	0	0
Food nec	5	0	5	4	1	1
Substantially and elaborately transformed						
Meat						
Meat processing	84	56	15	18	66	57
Poultry processing	0	0	0	0	0	0
Bacon, ham and smallgoods	2	2	0	0	0	1
Total	86	58	15	18	67	58
Seafood	1	2	1	4	0	0
Dairy						
Milk and cream processing	74	80	1	2	9	15
Ice cream	0	0	0	0	0	0
Other dairy products	37	36	5	7	29	25
Total	111	116	6	9	38	40
Fruit and vegetables	10	10	22	14	6	5
Oil and fat	3	3	0	0	1	1
Flour mill and cereal food						
Flour mill products	36	45	0	0	0	0
Cereal food and baking mix	1	1	0	0	1	1
Total	38	46	0	0	1	1
Bakery products						
Bread, cake and pastry	0	0	0	0	0	0
Biscuit	0	0	0	0	0	0
Total	0	0	0	0	0	0
Other food						
Sugar **a**	52	66	0	0	0	0
Confectionery	6	4	0	0	8	6
Food nec	24	29	2	3	6	5
Total	82	99	2	3	14	11
Beverage and malt						
Soft drink, cordial and syrup	0	0	0	0	0	0
Beer and malt	8	9	0	0	0	0
Wine	4	4	58	71	4	5
Spirit	0	0	0	0	0	0
Total	13	13	59	71	4	5
Total food and beverage						
Minimally transformed	772	775	10	32	101	116
Substantially transformed	339	345	106	120	123	115
Elaborately transformed	6	3	0	0	8	6
Total	1 117	1 124	116	152	233	237

a Includes ABARE estimate where ABS confidentiality restrictions apply.
Source: ABS, *International Trade,* electronic data service, cat. no. 5464.0, Canberra.

6.1 Australian food imports, by level of transformation

	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04
	$m	$m	$m	$m	$m	$m	$m	$m
Minimally transformed								
Live animals except fish	12	13	1	1	0	1	0	0
Fish or shellfish	25	30	31	35	37	37	41	46
Horticulture								
Vegetables	16	19	24	27	26	24	27	34
Fruit and nuts	77	90	94	99	110	117	115	140
Total	93	109	118	126	136	141	142	173
Grains	1	3	1	1	0	0	65	1
Oilseeds	38	40	29	23	24	21	61	50
Food nec	141	186	172	155	114	59	72	45
Substantially and elaborately transformed								
Meat								
Meat processing	50	42	51	133	105	206	172	224
Poultry processing	0	0	0	0	0	0	0	0
Bacon, ham and smallgoods	29	33	28	29	31	36	39	40
Total	79	75	79	161	136	242	211	264
Seafood	584	666	720	751	843	865	923	868
Dairy								
Milk and cream processing	19	25	33	29	37	29	34	35
Ice cream	13	15	33	17	21	15	22	22
Other dairy products	172	188	207	230	261	277	275	272
Total	204	228	273	276	319	321	331	330
Fruit and vegetables	590	620	715	719	753	812	899	910
Oil and fat	258	253	288	271	275	280	357	345
Flour mill and cereal food								
Flour mill products	71	55	48	79	77	22	41	59
Cereal food and baking mix	111	141	149	139	196	226	236	260
Total	182	196	197	219	273	248	277	319
Bakery products								
Bread, cake and pastry	49	63	76	81	92	57	29	39
Biscuit	55	58	62	80	82	106	152	160
Total	103	120	138	161	174	163	180	199
Other food								
Sugar	7	7	9	11	12	16	20	15
Confectionery	183	215	208	213	224	222	245	261
Food nec	498	618	729	757	858	923	1 033	961
Total	688	841	945	981	1 094	1 160	1 298	1 237
Beverage and malt								
Soft drink, cordial and syrup	252	286	276	330	405	421	461	502
Beer and malt	26	32	44	42	52	66	78	91
Wine	67	94	103	114	92	116	139	158
Spirit	191	216	232	252	330	351	327	345
Total	536	627	654	737	880	954	1 005	1 096
Total food and beverage								
Minimally transformed	310	380	352	342	312	260	382	315
Substantially transformed	3 132	3 507	3 893	4 140	4 604	4 874	5 278	5 351
Elaborately transformed	91	117	117	136	143	172	204	217
Total	3 533	4 005	4 361	4 618	5 059	5 306	5 863	5 883

Source: ABS, *International Trade,* electronic data service, cat. no. 5464.0, Canberra.

6.2 Australian food imports from APEC member countries

	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04
	$m	$m	$m	$m	$m	$m	$m	$m
Minimally transformed								
Live animals except fish	4	0	0	1	0	0	0	0
Fish or shellfish	24	29	30	34	36	37	41	42
Horticulture								
Vegetables	13	15	19	23	23	22	25	31
Fruit and nuts	62	74	73	78	81	97	93	113
Total	75	89	93	102	104	119	118	145
Grains	1	3	1	1	0	0	11	0
Oilseeds	36	34	22	22	19	17	36	32
Food nec	78	96	88	70	52	33	33	32
Substantially and elaborately transformed								
Meat								
Meat processing	50	41	49	72	64	118	107	109
Poultry processing	0	0	0	0	0	0	0	0
Bacon, ham and smallgoods	23	26	22	22	25	29	30	31
Total	73	68	71	94	88	148	138	140
Seafood	428	502	524	542	592	588	616	579
Dairy								
Milk and cream processing	19	25	32	27	36	28	33	34
Ice cream	6	11	18	12	16	12	20	19
Other dairy products	102	116	134	155	183	190	186	179
Total	127	151	184	195	235	230	239	232
Fruit and vegetables	335	333	357	361	396	408	458	452
Oil and fat	118	138	153	135	116	128	152	153
Flour mill and cereal food								
Flour mill products	67	50	43	66	70	16	30	50
Cereal food and baking mix	80	103	105	95	118	142	149	170
Total	147	153	148	161	188	158	179	220
Bakery products								
Bread, cake and pastry	27	40	54	51	63	40	22	31
Biscuit	29	29	34	49	50	66	89	85
Total	56	69	89	100	113	106	111	117
Other food								
Sugar	6	6	6	8	8	10	13	10
Confectionery	61	88	87	92	108	102	112	113
Food nec	210	267	311	318	379	581	627	587
Total	277	361	404	418	496	694	751	711
Beverage and malt								
Soft drink, cordial and syrup	20	23	28	54	75	74	90	83
Beer and malt	8	9	10	11	14	19	22	30
Wine	10	17	18	25	22	37	54	59
Spirit	64	79	92	105	144	148	130	145
Total	102	127	148	195	256	278	296	317
Total food and beverage								
Minimally transformed	218	251	234	229	212	206	239	252
Substantially transformed	1 612	1 838	2 010	2 114	2 393	2 640	2 818	2 809
Elaborately transformed	50	64	67	85	87	98	120	111
Total	1 880	2 153	2 311	2 428	2 692	2 944	3 178	3 172

Source: ABS, *International Trade,* electronic data service, cat. no. 5464.0, Canberra.

6.3 Australian food imports from ASEAN member countries

	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04
	$m	$m	$m	$m	$m	$m	$m	$m
Minimally transformed								
Live animals except fish	0	0	0	0	0	0	0	0
Fish or shellfish	0	1	1	1	1	1	1	1
Horticulture								
Vegetables	2	2	3	2	3	3	3	3
Fruit and nuts	2	2	2	2	2	3	2	3
Total	4	4	5	4	5	6	6	6
Grains	0	0	0	0	0	0	0	0
Oilseeds	0	0	0	1	1	1	0	0
Food nec	22	23	29	13	14	8	7	7
Substantially and elaborately transformed								
Meat								
Meat processing	0	0	0	0	0	0	0	0
Poultry processing	0	0	0	0	0	0	0	0
Bacon, ham and smallgoods	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
Seafood	228	276	285	293	317	310	309	281
Dairy								
Milk and cream processing	0	0	0	0	0	0	0	2
Ice cream	0	0	0	2	4	1	0	2
Other dairy products	0	0	0	0	0	0	0	0
Total	0	0	0	3	4	1	0	4
Fruit and vegetables	79	77	85	84	82	79	92	75
Oil and fat	103	121	134	115	100	110	123	123
Flour mill and cereal food								
Flour mill products	2	1	2	2	2	2	7	7
Cereal food and baking mix	45	54	52	48	61	53	62	82
Total	47	55	54	50	63	55	69	89
Bakery products								
Bread, cake and pastry	6	5	6	7	9	6	5	4
Biscuit	5	8	14	25	25	24	28	24
Total	10	13	20	32	33	30	33	28
Other food								
Sugar	2	2	2	3	2	3	5	3
Confectionery	4	11	13	15	14	15	20	19
Food nec	110	149	174	157	147	202	240	216
Total	116	162	188	174	163	220	265	238
Beverage and malt								
Soft drink, cordial and syrup	3	3	3	3	4	8	6	7
Beer and malt	0	0	1	1	1	1	2	3
Wine	0	0	0	0	0	0	0	1
Spirit	0	0	0	0	0	0	0	0
Total	4	3	3	4	5	9	8	11
Total food and beverage								
Minimally transformed	26	28	35	18	20	16	14	14
Substantially transformed	583	699	755	729	742	790	869	825
Elaborately transformed	5	8	14	26	25	24	29	25
Total	614	736	803	773	787	829	912	863

Source: ABS, *International Trade,* electronic data service, cat. no. 5464.0, Canberra.

6.4 Australian food imports from NAFTA member countries

	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04
	$m	$m	$m	$m	$m	$m	$m	$m
Minimally transformed								
Live animals except fish	4	0	0	1	0	0	0	0
Fish or shellfish	0	0	0	0	0	0	0	0
Horticulture								
Vegetables	4	5	6	8	4	4	5	6
Fruit and nuts	26	29	26	25	31	34	35	46
Total	30	34	31	33	35	38	40	52
Grains	0	2	0	0	0	0	11	0
Oilseeds	26	28	13	10	5	5	21	19
Food nec	2	2	1	2	2	2	3	1
Substantially and elaborately transformed								
Meat								
Meat processing	37	31	41	61	57	112	99	95
Poultry processing	0	0	0	0	0	0	0	0
Bacon, ham and smallgoods	7	11	12	12	12	14	13	12
Total	44	43	53	73	69	126	112	107
Seafood	57	63	66	62	69	51	62	47
Dairy								
Milk and cream processing	0	0	0	0	0	0	0	0
Ice cream	1	0	1	1	1	1	1	2
Other dairy products	4	5	4	3	6	6	6	4
Total	5	5	5	4	7	7	8	7
Fruit and vegetables	108	115	126	127	130	114	118	118
Oil and fat	6	5	6	7	4	4	5	16
Flour mill and cereal food								
Flour mill products	60	42	34	58	59	5	6	26
Cereal food and baking mix	9	13	12	10	13	27	18	25
Total	69	55	46	68	72	32	23	51
Bakery products								
Bread, cake and pastry	7	15	26	23	26	8	2	2
Biscuit	3	3	4	4	6	10	8	11
Total	10	18	30	26	32	18	10	12
Other food								
Sugar	2	2	2	2	3	4	2	2
Confectionery	34	51	47	47	42	21	16	14
Food nec	29	33	39	40	45	91	98	111
Total	65	86	88	88	89	116	115	126
Beverage and malt								
Soft drink, cordial and syrup	219	77	13	13	13	19	39	13
Beer and malt	6	7	8	8	10	13	16	22
Wine	1	1	1	1	1	1	1	4
Spirit	62	69	68	71	95	107	115	123
Total	287	154	89	93	118	140	171	162
Total food and beverage								
Minimally transformed	61	66	46	47	42	45	74	73
Substantially transformed	629	510	479	523	569	593	612	632
Elaborately transformed	22	34	28	26	23	15	13	14
Total	712	610	554	595	633	653	699	719

Source: ABS, *International Trade,* electronic data service, cat. no. 5464.0, Canberra.

6.5 Australian food imports from EU member countries

	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04
	$m	$m	$m	$m	$m	$m	$m	$m
Minimally transformed								
Live animals except fish	0	0	0	0	0	0	0	0
Fish or shellfish	0	0	0	0	0	0	0	0
Horticulture								
Vegetables	0	1	1	1	1	1	1	1
Fruit and nuts	6	7	9	13	9	8	10	9
Total	6	8	10	14	10	9	11	10
Grains	0	0	0	0	0	0	53	0
Oilseeds	0	0	1	0	0	0	0	0
Food nec	4	2	2	2	3	3	3	3
Substantially and elaborately transformed								
Meat								
Meat processing	0	0	2	60	41	88	65	115
Poultry processing	0	0	0	0	0	0	0	0
Bacon, ham and smallgoods	5	6	5	6	5	5	7	6
Total	5	6	7	66	46	93	72	121
Seafood	32	33	35	36	39	38	43	40
Dairy								
Milk and cream processing	0	1	1	1	2	2	1	1
Ice cream	7	4	15	4	5	3	2	3
Other dairy products	58	60	59	62	65	69	69	75
Total	66	65	75	68	71	74	72	79
Fruit and vegetables	108	124	154	153	150	178	183	195
Oil and fat	93	79	95	110	132	115	157	134
Flour mill and cereal food								
Flour mill products	3	4	4	12	6	3	7	6
Cereal food and baking mix	25	30	32	30	63	68	67	61
Total	28	34	36	42	69	71	75	67
Bakery products								
Bread, cake and pastry	21	20	19	26	26	15	6	7
Biscuit	22	24	23	25	25	33	52	60
Total	42	44	43	52	51	48	58	67
Other food								
Sugar	1	1	2	2	2	2	3	2
Confectionery	105	108	97	95	90	90	100	117
Food nec	125	143	163	188	214	223	222	202
Total	231	252	262	285	305	316	325	320
Beverage and malt								
Soft drink, cordial and syrup	21	197	246	157	48	265	317	376
Beer and malt	19	23	33	31	38	46	56	60
Wine	54	73	81	86	68	76	83	98
Spirit	112	119	131	129	170	188	185	183
Total	206	413	491	403	323	575	641	717
Total food and beverage								
Minimally transformed	11	10	13	16	13	12	67	14
Substantially transformed	780	1 006	1 160	1 177	1 149	1 454	1 560	1 657
Elaborately transformed	33	43	37	38	39	53	65	84
Total	823	1 059	1 211	1 231	1 201	1 520	1 693	1 754

Source: ABS, *International Trade,* electronic data service, cat. no. 5464.0, Canberra.

6.6 Australian total food imports, by selected destination

	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04
	$m	$m	$m	$m	$m	$m
Brazil	82	194	345	130	79	63
Canada	95	112	109	158	148	157
China	114	132	162	229	272	296
France	104	117	103	115	121	149
India	77	64	80	96	110	108
Indonesia	110	89	110	108	130	106
Ireland	254	147	54	274	330	395
Italy	222	215	231	240	287	289
Malaysia	183	160	159	182	204	196
Netherlands	70	101	98	118	112	91
New Zealand	618	704	870	977	1 053	1 089
Papua New Guinea	64	56	39	29	28	30
Singapore	123	127	105	129	135	157
Spain	99	108	107	101	137	127
Thailand	358	368	386	378	406	374
United Kingdom	216	225	268	294	347	255
United States	432	455	488	455	497	511
Viet Nam	92	109	108	105	153	168

Source: ABS, *International Trade,* electronic data service, cat. no. 5464.0, Canberra.

6.7 Australian food imports from selected countries

	New Zealand		United States		Thailand	
	2002-03	2003-04	2002-03	2003-04	2002-03	2003-04
	$m	$m	$m	$m	$m	$m
Minimally transformed						
Live animals except fish	0	0	0	0	0	0
Fish or shellfish	38	40	0	0	0	0
Horticulture						
Vegetables	10	14	5	5	3	3
Fruit and nuts	42	51	35	46	2	2
Total	52	65	40	51	4	5
Grains	0	0	10	0	0	0
Oilseeds	1	1	17	16	0	0
Food nec	0	0	1	1	0	0
Substantially and elaborately transformed						
Meat						
Meat processing	7	12	0	0	0	0
Poultry processing	0	0	0	0	0	0
Bacon, ham and smallgoods	16	16	12	12	0	0
Total	24	29	13	12	0	0
Seafood	140	129	38	27	241	221
Dairy						
Milk and cream processing	31	30	0	0	0	0
Ice cream	14	11	1	1	0	2
Other dairy products	177	172	6	4	0	0
Total	222	213	6	5	0	2
Fruit and vegetables	148	167	104	105	45	34
Oil and fat	16	7	5	4	1	1
Flour mill and cereal food						
Flour mill products	7	7	6	25	6	6
Cereal food and baking mix	35	30	17	24	45	48
Total	42	37	22	49	52	54
Bakery products						
Bread, Cake and pastry	13	20	1	2	0	0
Biscuit	30	30	8	10	14	11
Total	43	50	9	12	14	11
Other food						
Sugar	3	1	2	2	2	0
Confectionery	53	55	14	12	0	0
Food nec	155	157	91	99	46	43
Total	211	213	107	112	48	44
Beverage and malt						
Soft drink, cordial and syrup	46	55	27	10	1	0
Beer and malt	3	4	2	2	1	1
Wine	48	51	1	4	0	0
Spirit	20	28	95	102	0	0
Total	116	138	125	118	1	2
Total food and beverage						
Minimally transformed	91	106	69	68	5	6
Substantially transformed	906	932	418	431	388	357
Elaborately transformed	56	50	11	13	14	11
Total	1 053	1 089	497	511	406	374

Continued

6.7 Australian food imports from selected countries *continued*

	Ireland		Italy		United Kingdom	
	2002-03	2003-04	2002-03	2003-04	2002-03	2003-04
	$m	$m	$m	$m	$m	$m
Minimally transformed						
Live animals except fish	0	0	0	0	0	0
Fish or shellfish	0	0	0	0	0	0
Horticulture						
Vegetables	0	0	0	0	0	0
Fruit and nuts	0	0	6	5	0	0
Total	0	0	6	5	0	0
Grains	0	0	0	0	51	0
Oilseeds	0	0	0	0	0	0
Food nec	0	0	1	1	1	1
Substantially and elaborately transformed						
Meat						
Meat processing	0	0	0	0	0	0
Poultry processing	0	0	0	0	0	0
Bacon, ham and smallgoods	0	0	0	0	0	0
Total	0	0	0	0	0	0
Seafood	0	0	6	7	8	5
Dairy						
Milk and cream processing	0	0	0	0	0	0
Ice cream	0	0	0	0	0	0
Other dairy products	0	0	18	23	2	2
Total	0	0	18	23	2	2
Fruit and vegetables	0	0	64	67	7	6
Oil and fat	0	0	51	50	1	1
Flour mill and cereal food						
Flour mill products	0	0	0	0	0	0
Cereal food and baking mix	30	21	27	24	4	6
Total	30	21	27	24	4	6
Bakery products						
Bread, cake and pastry	0	0	4	5	0	0
Biscuit	0	0	3	3	18	19
Total	0	0	7	7	19	19
Other food						
Sugar	0	0	0	0	1	1
Confectionery	0	0	15	18	20	19
Food nec	3	1	46	46	71	63
Total	3	2	61	64	91	84
Beverage and malt						
Soft drink, cordial and syrup	282	332	13	14	1	2
Beer and malt	0	0	2	2	18	12
Wine	0	0	25	22	1	0
Spirit	14	39	7	3	142	116
Total	296	371	46	41	162	131
Total food and beverage						
Minimally transformed	0	0	7	6	53	1
Substantially transformed	329	394	276	278	269	229
Elaborately transformed	0	0	4	6	24	25
Total	330	395	287	289	347	255

Continued

6.7 Australian food imports from selected countries *continued*

	Malaysia		Singapore		China	
	2002-03	2003-04	2002-03	2003-04	2002-03	2003-04
	$m	$m	$m	$m	$m	$m
Minimally transformed						
Live animals except fish	0	0	0	0	0	0
Fish or shellfish	0	0	0	0	1	0
Horticulture						
Vegetables	0	0	0	0	6	8
Fruit and nuts	0	0	0	0	12	12
Total	0	0	0	0	18	20
Grains	0	0	0	0	0	0
Oilseeds	0	0	0	0	14	12
Food nec	1	1	0	0	4	4
Substantially and elaborately transformed						
Meat						
Meat processing	0	0	0	0	0	0
Poultry processing	0	0	0	0	0	0
Bacon, ham and smallgoods	0	0	0	0	1	1
Total	0	0	0	0	1	1
Seafood	29	26	7	7	44	69
Dairy						
Milk and cream processing	0	0	0	2	0	0
Ice cream	0	0	0	0	3	4
Other dairy products	0	0	0	0	0	0
Total	0	0	0	2	4	4
Fruit and vegetables	3	2	8	9	81	77
Oil and fat	101	103	20	18	4	3
Flour mill and cereal food						
Flour mill products	1	2	0	0	7	7
Cereal food and baking mix	3	3	9	26	14	17
Total	4	5	9	26	22	23
Bakery products						
Bread, cake and pastry	1	1	3	3	0	3
Biscuit	4	5	1	1	16	15
Total	5	7	5	4	16	18
Other food						
Sugar	1	2	0	0	2	3
Confectionery	2	1	6	10	20	21
Food nec	55	45	78	77	37	35
Total	58	48	85	87	60	60
Beverage and malt						
Soft drink, cordial and syrup	3	4	1	1	4	3
Beer and malt	0	0	0	1	0	0
Wine	0	0	0	1	0	0
Spirit	0	0	0	0	0	1
Total	3	4	1	3	4	5
Total food and beverage						
Minimally transformed	1	1	1	0	38	36
Substantially transformed	199	189	133	155	219	245
Elaborately transformed	5	5	1	1	16	15
Total	204	196	135	157	272	296

Continued

6.7 Australian food imports from selected countries *continued*

	Indonesia		France		Spain	
	2002-03	2003-04	2002-03	2003-04	2002-03	2003-04
	$m	$m	$m	$m	$m	$m
Minimally transformed						
Live animals except fish	0	0	0	0	0	0
Fish or shellfish	1	0	0	0	0	0
Horticulture						
Vegetables	0	0	0	0	0	0
Fruit and nuts	0	0	1	2	1	1
Total	0	0	1	2	1	1
Grains	0	0	0	0	0	0
Oilseeds	0	0	0	0	0	0
Food nec	5	4	0	0	0	0
Substantially and elaborately transformed						
Meat						
Meat processing	0	0	0	0	0	0
Poultry processing	0	0	0	0	0	0
Bacon, ham and smallgoods	0	0	0	0	0	0
Total	0	0	0	0	0	0
Seafood	31	25	0	0	4	3
Dairy						
Milk and cream processing	0	0	0	0	0	0
Ice cream	0	0	1	1	1	1
Other dairy products	0	0	8	8	0	0
Total	0	0	9	10	1	1
Fruit and vegetables	12	8	17	18	27	28
Oil and fat	0	0	1	0	75	67
Flour mill and cereal food						
Flour mill products	0	0	1	1	0	0
Cereal food and baking mix	4	5	0	4	0	0
Total	4	5	2	5	0	0
Bakery products						
Bread, cake and pastry	0	0	0	0	0	0
Biscuit	8	5	2	3	0	0
Total	8	5	2	3	0	0
Other food						
Sugar	1	0	1	0	0	0
Confectionery	12	8	5	10	17	15
Food nec	56	48	14	14	8	8
Total	69	57	20	24	25	23
Beverage and malt						
Soft drink, cordial and syrup	1	1	7	5	0	0
Beer and malt	0	0	0	0	0	0
Wine	0	0	49	67	3	3
Spirit	0	0	13	14	0	0
Total	1	1	69	86	3	3
Total food and beverage						
Minimally transformed	5	5	2	2	1	1
Substantially transformed	117	95	117	139	135	125
Elaborately transformed	8	6	2	7	0	0
Total	130	106	121	149	137	127

Continued

6.7 Australian food imports from selected countries *continued*

	Canada		Viet Nam		Brazil	
	2002-03	2003-04	2002-03	2003-04	2002-03	2003-04
	$m	$m	$m	$m	$m	$m
Minimally transformed						
Live animals except fish	0	0	0	0	0	0
Fish or shellfish	0	0	0	0	0	0
Horticulture						
Vegetables	0	0	0	0	0	0
Fruit and nuts	0	0	0	0	0	0
Total	0	0	0	0	0	0
Grains	0	0	0	0	0	0
Oilseeds	1	2	0	0	0	0
Food nec	1	0	20	18	11	11
Substantially and elaborately transformed						
Meat						
Meat processing	99	95	0	0	0	0
Poultry processing	0	0	0	0	0	0
Bacon, ham and smallgoods	0	0	0	0	0	1
Total	99	95	0	0	0	1
Seafood	24	20	76	85	0	0
Dairy						
Milk and cream processing	0	0	0	0	0	0
Ice cream	1	1	0	0	0	0
Other dairy products	0	0	0	0	0	0
Total	1	2	0	0	0	0
Fruit and vegetables	5	5	50	58	53	36
Oil and fat	1	12	0	0	1	5
Flour mill and cereal food						
Flour mill products	0	1	0	0	0	0
Cereal food and baking mix	1	1	1	1	1	1
Total	1	2	1	1	1	1
Bakery products						
Bread, cake and pastry	0	0	0	0	0	0
Biscuit	0	0	1	1	1	1
Total	1	0	1	1	1	1
Other food						
Sugar	0	0	0	0	0	0
Confectionery	2	1	0	0	2	3
Food nec	6	11	4	3	10	6
Total	7	12	4	4	12	9
Beverage and malt						
Soft drink, cordial and syrup	3	3	0	0	0	0
Beer and malt	0	0	0	0	0	0
Wine	0	0	0	0	0	0
Spirit	3	2	0	0	0	0
Total	5	5	0	0	0	0
Total food and beverage						
Minimally transformed	3	2	20	18	11	11
Substantially transformed	144	154	131	148	67	51
Elaborately transformed	1	1	1	1	1	1
Total	148	157	153	168	79	63

Continued

6.7 Australian food imports from selected countries *continued*

	Netherlands		India		Papua New Guinea	
	2002-03	2003-04	2002-03	2003-04	2002-03	2003-04
	$m	$m	$m	$m	$m	$m
Minimally transformed						
Live animals except fish	0	0	0	0	0	0
Fish or shellfish	0	0	0	0	1	0
Horticulture						
Vegetables	0	0	0	0	0	0
Fruit and nuts	0	0	0	0	0	0
Total	0	0	0	0	0	0
Grains	0	0	0	0	0	0
Oilseeds	0	0	1	6	0	0
Food nec	0	0	6	6	16	16
Substantially and elaborately transformed						
Meat						
Meat processing	0	0	0	0	0	0
Poultry processing	0	0	0	0	0	0
Bacon, ham and smallgoods	6	5	0	0	0	0
Total	6	5	0	0	0	0
Seafood	1	1	42	38	6	4
Dairy						
Milk and cream processing	1	0	0	0	0	0
Ice cream	0	0	0	0	0	0
Other dairy products	8	8	0	0	0	0
Total	9	9	0	0	0	0
Fruit and vegetables	14	15	22	16	0	0
Oil and fat	3	2	2	2	0	0
Flour mill and cereal food						
Flour mill products	2	2	2	2	0	1
Cereal food and baking mix	0	0	5	5	0	0
Total	2	2	7	6	0	1
Bakery products						
Bread, cake and pastry	0	0	0	0	0	0
Biscuit	5	4	2	2	0	0
Total	5	4	2	2	0	0
Other food						
Sugar	0	0	0	0	0	0
Confectionery	6	9	1	0	0	0
Food nec	44	18	26	31	5	8
Total	50	27	27	32	5	8
Beverage and malt						
Soft drink, cordial and syrup	2	1	0	0	0	0
Beer and malt	17	22	0	0	0	0
Wine	0	0	0	0	0	0
Spirit	3	2	0	0	0	0
Total	22	25	0	0	0	0
Total food and beverage						
Minimally transformed	1	1	7	12	17	17
Substantially transformed	106	85	101	94	11	13
Elaborately transformed	5	4	2	2	0	0
Total	112	91	110	108	28	30

Source: ABS, *International Trade,* electronic data service, cat. no. 5464.0, Canberra.

7.1 Value of world trade in processed food, major exporting countries a

	1998	1999	2000	2001	2002 p	Share b
	US$m	US$m	US$m	US$m	US$m	%
Meat						
Australia	2 457	2 685	2 913	3 281	3 240	6.6
Denmark	3 575	3 345	3 335	3 741	3 568	8.0
France	3 871	3 664	3 421	2 926	3 026	7.7
Netherlands	4 290	4 519	4 294	3 933	4 116	9.6
United States	6 411	6 340	7 305	7 239	6 354	15.3
Other	22 010	21 972	22 215	24 544	25 838	52.9
Total	42 614	42 526	43 483	45 665	46 143	100.0
Dairy						
Australia	1 339	1 420	1 573	1 568	1 569	5.4
France	4 089	4 011	3 803	3 709	3 878	14.1
Germany	4 879	4 519	4 093	4 507	3 886	15.9
Netherlands	3 742	3 411	3 118	3 356	3 311	12.3
New Zealand	2 134	2 009	2 125	2 679	2 418	8.3
Other	12 189	11 683	11 734	12 583	12 404	44.0
Total	28 374	27 052	26 445	28 402	27 466	100.0
Seafood						
Australia	71	80	94	63	45	0.8
China	923	1 022	1 391	1 428	1 628	14.2
Denmark	463	436	397	445	452	4.9
Korea, Rep. of	287	311	312	262	232	3.1
Thailand	1 876	2 016	2 058	2 012	2 012	22.1
Other	5 160	4 948	4 787	4 860	5 089	55.0
Total	8 780	8 813	9 039	9 070	9 459	100.0
Horticulture						
Australia	139	148	138	124	140	0.6
China	1 390	1 501	1 685	1 869	2 155	7.7
Italy	1 745	1 775	1 552	1 615	1 863	7.7
Netherlands	1 913	2 193	1 885	1 859	2 053	8.9
United States	2 393	2 448	2 378	2 272	2 258	10.5
Other	14 567	14 964	13 908	13 693	14 885	64.6
Total	22 146	23 029	21 547	21 433	23 355	100.0
Beverages c						
Australia	658	848	991	1 089	1 370	2.8
France	8 834	9 014	8 104	7 600	8 562	24.1
Germany	1 704	1 829	1 512	1 853	2 229	5.2
Italy	3 022	3 249	3 037	3 148	3 669	9.2
United Kingdom	4 786	4 712	4 618	4 661	4 974	13.6
Other	13 956	14 927	15 299	16 453	17 685	44.9
Total	32 960	34 578	33 561	34 803	38 490	100.0
Sugar and confectionery						
Australia	978	963	874	910	882	4.0
Belgium–Luxembourg	1 747	1 665	1 737	1 711	1 829	7.5
Brazil	2 082	2 062	1 359	2 485	2 302	8.9
France	2 455	2 225	2 066	1 905	2 140	9.3
Germany	2 463	2 176	1 874	2 214	2 298	9.5
Other	14 331	12 977	13 494	14 851	14 610	60.7
Total	24 055	22 068	21 404	24 075	24 062	100.0

Continued

7.1 Value of world trade in processed food, major exporting countries a *continued*

	1998 US$m	1999 US$m	2000 US$m	2001 US$m	2002 p US$m	Share b %
Animal and vegetable oil						
Argentina	2 751	2 347	1 691	1 642	2 093	8.8
Australia	293	254	220	203	215	1.0
Malaysia	5 574	4 911	3 515	3 355	4 837	18.5
Netherlands	1 915	1 719	1 224	1 270	1 632	6.5
United States	2 815	2 012	1 503	1 455	1 978	8.2
Other	15 569	13 895	12 076	11 668	15 070	57.0
Total	28 915	25 138	20 229	19 594	25 825	100.0
Animal feed d						
Argentina	2 006	2 049	2 433	2 627	2 783	11.5
Australia	331	403	565	483	522	2.2
Brazil	1 800	1 587	1 716	2 167	2 300	9.3
Netherlands	1 803	1 670	1 670	1 617	1 886	8.4
United States	4 206	3 526	3 975	4 414	4 068	19.6
Other	10 228	9 469	9 641	10 342	10 850	49.0
Total	20 374	18 704	20 000	21 650	22 409	100.0
Cereal products						
Australia	279	280	275	289	319	1.7
Belgium–Luxembourg	1 396	1 447	1 308	1 499	1 620	8.8
France	1 817	1 672	1 540	1 534	1 736	10.0
Germany	1 630	1 570	1 503	1 668	1 914	10.0
Italy	1 987	1 852	1 721	1 854	2 034	11.4
Other	9 372	9 254	9 198	9 734	10 636	58.1
Total	16 480	16 075	15 544	16 578	18 259	100.0
Other processed food						
Australia	164	202	232	211	228	0.6
Brazil	2 854	2 778	2 258	1 826	1 681	6.8
France	2 192	1 544	1 419	1 450	1 591	4.9
Netherlands	1 577	1 618	1 638	1 703	1 969	5.1
United States	2 798	3 044	3 204	3 398	3 323	9.5
Other	26 756	24 892	23 921	22 246	23 827	73.0
Total	36 341	34 078	32 672	30 834	32 619	100.0
All processed food						
Australia	6 709	7 281	7 874	8 223	8 530	3.0
France	26 567	25 242	23 269	21 840	23 962	9.5
Germany	20 908	19 612	17 390	20 113	21 132	7.8
Netherlands	18 551	18 858	17 365	17 673	19 504	7.2
United States	23 175	22 028	23 184	24 027	23 123	9.0
Other	165 128	159 041	154 841	160 228	171 835	63.5
Total	261 038	252 062	243 924	252 104	268 086	100.0

a Based on over 100 reporting countries representing more than 90 per cent of world trade. **b** Average, 1998–2002. **c** Alcoholic and nonalcoholic. **d** Excludes unmilled cereal. **p** Preliminary.
Source: International Trade Centre UNCTAD/WTO; ABARE.

7.2 Value of food exports, European Union

	1998 US$m	1999 US$m	2000 US$m	2001 US$m	2002 p US$m	Share a %
Minimally transformed						
Live animals except fish	4 801	4 891	4 705	4 073	4 745	2.6
Fish or shellfish						
Fish, live or fresh	5 364	5 583	5 222	5 611	5 784	3.0
Fish, dried, salted or smoked	747	725	710	768	722	0.4
Shellfish	2 121	2 274	2 227	2 315	2 477	1.3
Horticulture						
Vegetables	10 376	10 451	9 346	10 225	11 452	5.7
Fruit and nuts	11 644	11 129	9 948	10 558	11 726	6.0
Cocoa	1 803	1 623	1 362	1 450	1 894	0.9
Eggs, albumin	1 002	964	958	929	1 029	0.5
Grains and oilseeds						
Barley	1 195	1 505	1 859	1 253	1 142	0.8
Maize	1 922	1 823	1 611	1 520	1 783	1.0
Oilseeds, not soft oil	209	194	184	170	202	0.1
Oilseeds, soft oil	1 955	1 699	1 350	1 462	1 638	0.9
Rice	916	910	733	677	781	0.4
Wheat or meslin	4 334	4 148	3 839	3 682	3 619	2.2
Other cereal grains, nec	352	381	354	363	390	0.2
Substantially transformed						
Meat						
Beef, fresh, chilled or frozen	6 001	6 208	5 042	3 844	5 044	2.9
Meat, fresh, chilled or frozen	12 675	12 254	12 342	13 579	13 058	7.0
Meat or offal, preserved	1 413	1 418	1 432	1 654	1 655	0.8
Meat or offal, preserved, nec	3 878	3 278	3 129	3 368	3 699	1.9
Dairy						
Milk products, excluding butter and cheese	10 499	10 110	9 850	9 913	9 232	5.5
Butter and cheese	2 566	2 137	1 835	1 902	1 845	1.1
Cheese and curd	9 040	8 525	8 014	8 882	9 063	4.8
Fish or shellfish	2 503	2 389	2 222	2 357	2 546	1.3
Cereal products						
Flour or meal from wheat or meslin	1 190	991	895	860	891	0.5
Cereal flour or meal, nec	145	134	127	155	162	0.1
Cereal etc, flour or starch	9 744	9 530	8 871	9 544	10 733	5.3
Horticulture						
Vegetables, prepared or preserved	5 697	5 961	5 226	5 551	6 333	3.2
Fruit, prepared or preserved	2 960	2 682	2 435	2 523	2 802	1.5
Fruit or vegetable juices	2 885	2 958	2 831	2 728	2 967	1.6
Sugar and confectionery						
Sugar, molasses and honey	4 519	3 602	3 525	3 738	3 775	2.1
Sugar confectionery	2 340	2 192	2 078	2 060	2 304	1.2
Chocolate and cocoa preparations	5 560	5 211	4 888	5 115	5 658	2.9

Continued

7.2 Value of food exports, European Union *continued*

	1998 US$m	1999 US$m	2000 US$m	2001 US$m	2002 p US$m	Share a %
Animal and vegetable oil						
Margarine and shortening	1 155	876	685	717	887	0.5
Animal oil or fat	705	569	536	555	662	0.3
Vegetable oil or fat, fixed, soft	5 632	5 002	3 990	4 138	5 177	2.6
Vegetable oils, fixed, not soft	859	852	619	638	749	0.4
Animal or vegetable oils, processed	1 556	1 404	1 255	1 259	1 548	0.8
Other food						
Coffee and coffee substitutes	2 995	2 589	2 487	2 340	2 418	1.4
Tea and mate	604	500	444	489	537	0.3
Spices	446	443	423	445	496	0.2
Edible products, nec	9 777	9 321	9 010	9 756	10 974	5.4
Beverage						
Beverages, nonalcoholic, nec	2 749	3 326	3 340	3 820	4 336	1.9
Alcoholic beverages	22 430	23 101	21 240	21 549	24 191	12.4
Animal feed b	8 077	7 394	6 986	7 417	8 068	4.2
Total	189 342	183 258	170 162	175 951	191 192	100.0

a Average, 1998–2002. **b** Excludes unmilled cereal. **p** Preliminary.
Source: International Trade Centre, UNCTAD/WTO; ABARE.

7.3 Value of food exports, NAFTA

	1998 US$m	1999 US$m	2000 US$m	2001 US$m	2002 p US$m	Share a %
Minimally transformed						
Live animals except fish	2 235	2 004	2 452	2 851	2 537	3.3
Fish or shellfish						
Fish, live or fresh	2 274	2 659	2 713	3 063	3 073	3.8
Fish, dried, salted or smoked	260	278	287	284	235	0.4
Shellfish	1 968	2 335	2 578	2 377	2 579	3.3
Horticulture						
Vegetables	4 537	4 575	4 933	5 164	5 021	6.7
Fruit and nuts	4 132	3 957	4 266	4 325	4 491	5.8
Cocoa	106	127	97	124	135	0.2
Eggs, albumin	243	199	201	204	209	0.3
Grains and oilseeds						
Barley	276	258	364	369	195	0.4
Maize	4 696	5 224	4 746	4 779	5 159	6.8
Oilseeds, not soft oil	333	239	199	259	332	0.4
Oilseeds, soft oil	6 814	6 108	6 764	6 864	6 908	9.2
Rice	1 212	948	836	718	771	1.2
Wheat or meslin	6 528	5 906	5 936	6 006	5 623	8.3
Other cereal grains, nec	776	767	842	895	852	1.1
Substantially transformed						
Meat						
Beef, fresh, chilled or frozen	3 049	3 628	4 210	3 884	3 806	5.1
Meat, fresh, chilled or frozen	4 442	4 251	5 042	5 676	4 784	6.7
Meat or offal, preserved	155	153	206	202	221	0.3
Meat or offal, preserved, nec	672	610	701	766	745	1.0
Dairy						
Milk products, excluding butter and cheese	610	614	649	748	605	0.9
Butter and cheese	41	26	19	38	30	0.0
Cheese and curd	221	220	209	235	226	0.3
Fish or shellfish	620	732	760	775	765	1.0
Cereal products						
Flour or meal from wheat or meslin	189	222	196	189	240	0.3
Cereal flour or meal, nec	137	145	137	141	180	0.2
Cereal etc, flour or starch	2 004	2 116	2 272	2 512	2 761	3.2
Horticulture						
Vegetables, prepared or preserved	1 796	1 941	1 915	1 885	1 876	2.6
Fruit, prepared or preserved	712	713	744	760	788	1.0
Fruit or vegetable juices	857	906	877	778	802	1.2
Sugar and confectionery						
Sugar, molasses and honey	891	694	634	703	795	1.0
Sugar confectionery	660	653	757	774	755	1.0
Chocolate and cocoa preparations	692	727	901	1 096	1 058	1.2

Continued

7.3 Value of food exports, NAFTA *continued*

	1998 US$m	1999 US$m	2000 US$m	2001 US$m	2002 p US$m	Share a %
Animal and vegetable oil						
Margarine and shortening	95	104	97	111	114	0.1
Animal oil or fat	801	617	472	458	615	0.8
Vegetable oil or fat, fixed, soft	2 323	1 510	1 020	961	1 212	1.9
Vegetable oils, fixed, not soft	93	118	113	121	141	0.2
Animal or vegetable oils, processed	326	322	302	283	386	0.4
Other food						
Coffee and coffee substitutes	1 181	1 098	1 144	704	636	1.3
Tea and mate	64	86	111	117	114	0.1
Spices	92	104	115	103	100	0.1
Edible products, nec	3 119	3 442	3 606	4 013	4 022	5.0
Beverage						
Beverages, nonalcoholic, nec	672	737	696	698	847	1.0
Alcoholic beverages	2 619	2 846	3 244	3 447	3 508	4.3
Animal feed b	4 925	4 147	4 622	5 096	4 747	6.5
Total	70 445	69 065	72 986	75 556	75 001	100.0

a Average, 1998–2002. **b** Excludes unmilled cereal. **p** Preliminary.
Source: International Trade Centre, UNCTAD/WTO.

7.4 Value of food exports, APEC a

	1998 US$m	1999 US$m	2000 US$m	2001 US$m	2002 p US$m	Share b %
Minimally transformed						
Live animals except fish	3 377	3 149	3 578	4 010	3 798	2.5
Fish or shellfish						
Fish, live or fresh	7 216	8 096	8 418	9 053	9 083	5.9
Fish, dried, salted or smoked	541	557	655	616	621	0.4
Shellfish	7 347	7 538	8 440	7 743	8 023	5.5
Horticulture						
Vegetables	7 032	7 257	7 504	8 117	8 116	5.3
Fruit and nuts	7 208	7 389	7 804	7 731	8 380	5.4
Cocoa	1 053	891	714	763	1 188	0.6
Eggs, albumin	343	298	306	324	316	0.2
Grains and oilseeds						
Barley	700	689	798	773	955	0.5
Maize	5 413	5 777	5 895	5 553	6 470	4.1
Oilseeds, not soft oil	410	304	267	336	407	0.2
Oilseeds, soft oil	7 640	7 076	7 797	7 722	7 789	5.3
Rice	4 615	3 886	3 275	3 749	2 827	2.6
Wheat or meslin	8 866	8 093	8 183	8 436	8 724	5.9
Other cereal grains, nec	879	844	911	968	935	0.6
Substantially transformed						
Meat						
Beef, fresh, chilled or frozen	5 540	6 246	7 006	6 974	6 870	4.6
Meat, fresh, chilled or frozen	7 626	7 432	8 178	9 313	8 395	5.7
Meat or offal, preserved	180	175	230	222	246	0.1
Meat or offal, preserved, nec	1 298	1 357	1 667	1 913	1 979	1.1
Dairy						
Milk products, excluding butter and cheese	2 697	2 682	3 105	3 855	3 523	2.2
Butter and cheese	805	741	714	637	675	0.5
Cheese and curd	1 180	1 204	1 247	1 369	1 279	0.9
Fish or shellfish	4 678	5 016	5 515	5 430	5 536	3.7
Cereal products						
Flour or meal from wheat or meslin	449	469	449	462	500	0.3
Cereal flour or meal, nec	208	217	214	215	249	0.2
Cereal etc, flour or starch	2 972	3 184	3 411	3 706	4 060	2.4
Horticulture						
Vegetables, prepared or preserved	3 332	3 567	3 566	3 612	3 839	2.5
Fruit, prepared or preserved	1 894	2 229	2 163	2 263	2 375	1.5
Fruit or vegetable juices	1 227	1 412	1 393	1 374	1 389	1.0
Sugar and confectionery						
Sugar, molasses and honey	3 088	2 595	2 555	2 742	2 864	1.9
Sugar confectionery	1 089	1 151	1 331	1 354	1 372	0.9
Chocolate and cocoa preparations	1 001	1 113	1 314	1 532	1 535	0.9

Continued

7.4 Value of food exports, APEC a *continued*

	1998 US$m	1999 US$m	2000 US$m	2001 US$m	2002 p US$m	Share b %
Animal and vegetable oil						
Margarine and shortening	397	439	410	408	441	0.3
Animal oil or fat	1 083	920	763	740	897	0.6
Vegetable oil or fat, fixed, soft	2 853	1 888	1 376	1 279	1 529	1.2
Vegetable oils, fixed, not soft	7 013	6 157	5 119	4 569	6 905	4.2
Animal or vegetable oils, processed	1 822	1 617	1 395	1 250	1 688	1.1
Other food						
Coffee and coffee substitutes	2 739	2 086	2 127	1 399	1 411	1.4
Tea and mate	628	589	641	629	632	0.4
Spices	980	1 014	1 052	782	784	0.6
Edible products, nec	5 349	5 862	6 347	7 008	7 265	4.5
Beverage						
Beverages, nonalcoholic, nec	1 213	1 343	1 325	1 384	1 549	1.0
Alcoholic beverages	4 714	5 184	5 854	6 199	6 656	4.0
Animal feed c	6 996	6 355	7 428	7 891	7 743	5.1
Total	137 692	136 087	142 435	146 407	151 821	100.0

a No data available for Viet Nam. Not including Chinese Taipei. **b** Average, 1998–2002. **c** Excludes unmilled cereal. **p** Preliminary.
Source: International Trade Centre, UNCTAD/WTO; ABARE.

7.5 Value of food exports, ASEAN a

	1998 US$m	1999 US$m	2000 US$m	2001 US$m	2002 p US$m	Share b %
Minimally transformed						
Live animals except fish	225	196	172	176	166	0.7
Fish or shellfish						
Fish, live or fresh	1 162	1 205	1 159	1 098	1 069	4.5
Fish, dried, salted or smoked	109	109	125	119	143	0.5
Shellfish	3 268	3 060	3 483	3 129	3 054	12.5
Horticulture						
Vegetables	539	615	458	547	557	2.1
Fruit and nuts	747	910	977	879	961	3.5
Cocoa	860	710	568	609	1 009	2.9
Eggs, albumin	46	58	58	67	51	0.2
Grains and oilseeds						
Barley	0	0	0	0	0	0.0
Maize	92	29	18	70	64	0.2
Oilseeds, not soft oil	32	30	28	20	29	0.1
Oilseeds, soft oil	36	43	25	20	23	0.1
Rice	2 106	1 950	1 630	1 580	1 582	6.9
Wheat or meslin	1	1	1	2	6	0.0
Other cereal grains, nec	7	5	7	8	8	0.0
Substantially transformed						
Meat						
Beef, fresh, chilled or frozen	4	3	4	3	4	0.0
Meat, fresh, chilled or frozen	470	471	456	630	638	2.1
Meat or offal, preserved	2	3	3	1	1	0.0
Meat or offal, preserved, nec	234	288	363	412	418	1.3
Dairy						
Milk products, excluding butter and cheese	164	177	259	368	412	1.1
Butter and cheese	11	12	12	9	9	0.0
Cheese and curd	4	5	4	3	3	0.0
Fish or shellfish	2 240	2 304	2 347	2 311	2 338	9.0
Cereal products						
Flour or meal from wheat or meslin	38	38	39	41	43	0.2
Cereal flour or meal, nec	51	50	56	52	48	0.2
Cereal etc, flour or starch	299	401	421	424	450	1.6
Horticulture						
Vegetables, prepared or preserved	259	273	274	256	258	1.0
Fruit, prepared or preserved	532	773	621	643	665	2.5
Fruit or vegetable juices	162	223	209	231	225	0.8
Sugar and confectionery						
Sugar, molasses and honey	874	737	840	922	962	3.4
Sugar confectionery	137	183	192	191	192	0.7
Chocolate and cocoa preparations	86	127	135	140	151	0.5

Continued

7.5 Value of food exports, ASEAN a *continued*

	1998 US$m	1999 US$m	2000 US$m	2001 US$m	2002 p US$m	Share b %
Animal and vegetable oil						
Margarine and shortening	209	257	233	222	242	0.9
Animal oil or fat	8	8	12	11	12	0.0
Vegetable oil or fat, fixed, soft	217	212	163	154	164	0.7
Vegetable oils, fixed, not soft	6 466	5 976	4 811	4 408	6 719	22.2
Animal or vegetable oils, processed	1 366	1 163	963	846	1 189	4.3
Other food						
Coffee and coffee substitutes	830	643	527	401	455	2.2
Tea and mate	143	122	139	129	139	0.5
Spices	706	731	735	424	416	2.4
Edible products, nec	679	757	852	928	963	3.3
Beverage						
Beverages, nonalcoholic, nec	128	159	166	183	180	0.6
Alcoholic beverages	417	461	475	443	474	1.8
Animal feed c	551	523	560	547	614	2.2
Total	26 518	25 999	24 577	23 659	27 104	100.0

a No data available for Laos, Myanmar and Viet Nam. **b** Average, 1998–2002. **c** Excludes unmilled cereal. **p** Preliminary.
Source: International Trade Centre, UNCTAD/WTO; ABARE.

7.6 Value of food exports, United States a

	1998 US$m	1999 US$m	2000 US$m	2001 US$m	2002 p US$m	Share b %
Minimally transformed						
Live animals except fish	678	652	859	890	634	1.6
Fish or shellfish						
Fish, live or fresh	1 314	1 659	1 727	2 040	1 971	3.7
Fish, dried, salted or smoked	60	77	76	94	57	0.2
Shellfish	534	693	722	612	626	1.3
Horticulture						
Vegetables	1 644	1 579	1 691	1 655	1 700	3.5
Fruit and nuts	3 283	3 116	3 428	3 495	3 653	7.2
Cocoa	67	93	72	97	101	0.2
Eggs, albumin	207	155	159	162	155	0.4
Grains and oilseeds						
Barley	77	85	122	115	72	0.2
Maize	4 617	5 121	4 704	4 750	5 093	10.3
Oilseeds, not soft oil	110	99	92	110	143	0.2
Oilseeds, soft oil	5 315	4 929	5 671	5 802	6 027	11.7
Rice	1 208	944	835	716	768	1.9
Wheat or meslin	3 712	3 574	3 379	3 378	3 618	7.5
Other cereal grains, nec	594	599	644	672	635	1.3
Substantially transformed						
Meat						
Beef, fresh, chilled or frozen	2 251	2 597	3 036	2 550	2 488	5.5
Meat, fresh, chilled or frozen	3 530	3 217	3 674	4 030	3 205	7.5
Meat or offal, preserved	101	83	105	112	134	0.2
Meat or offal, preserved, nec	529	443	490	548	527	1.1
Dairy						
Milk products, excluding butter and cheese	441	432	490	518	420	1.0
Butter and cheese	14	5	7	5	6	0.0
Cheese and curd	117	130	138	162	160	0.3
Fish or shellfish	262	313	286	337	337	0.6
Cereal products						
Flour or meal from wheat or meslin	129	166	136	121	150	0.3
Cereal flour or meal, nec	114	118	115	108	132	0.2
Cereal etc, flour or starch	1 029	1 026	1 058	1 184	1 302	2.4
Horticulture						
Vegetables, prepared or preserved	1 260	1 279	1 211	1 143	1 112	2.5
Fruit, prepared or preserved	479	438	469	481	488	1.0
Fruit or vegetable juices	654	731	698	649	658	1.4
Sugar and confectionery						
Sugar, molasses and honey	380	356	348	389	365	0.8
Sugar confectionery	271	267	319	314	254	0.6
Chocolate and cocoa preparations	323	344	463	589	467	0.9

Continued

7.6 Value of food exports, United States a *continued*

	1998 US$m	1999 US$m	2000 US$m	2001 US$m	2002 p US$m	Share b %
Animal and vegetable oil						
Margarine and shortening	86	91	82	91	85	0.2
Animal oil or fat	685	515	383	363	518	1.0
Vegetable oil or fat, fixed, soft	1 747	1 080	721	692	942	2.2
Vegetable oils, fixed, not soft	78	93	92	100	124	0.2
Animal or vegetable oils, processed	219	233	224	209	309	0.5
Other food						
Coffee and coffee substitutes	234	246	253	265	252	0.5
Tea and mate	29	38	45	49	46	0.1
Spices	55	55	61	56	46	0.1
Edible products, nec	2 480	2 705	2 845	3 028	2 979	5.9
Beverage						
Beverages, nonalcoholic, nec	302	328	312	312	334	0.7
Alcoholic beverages	1 171	1 173	1 147	1 208	1 216	2.5
Animal feed c	4 206	3 526	3 975	4 414	4 068	8.5
Total	46 596	45 403	47 364	48 615	48 376	100.0

a Includes Puerto Rico and the US Virgin Islands. **b** Average, 1998–2002. **c** Excludes unmilled cereal. **p** Preliminary.
Source: International Trade Centre, UNCTAD/WTO.

7.7 Value of food exports, France

	1998 US$m	1999 US$m	2000 US$m	2001 US$m	2002 p US$m	Share a %
Minimally transformed						
Live animals except fish	1 741	1 622	1 453	1 099	1 538	4.4
Fish or shellfish						
Fish, live or fresh	608	543	512	536	591	1.6
Fish, dried, salted or smoked	41	44	53	53	48	0.1
Shellfish	254	254	247	254	252	0.7
Horticulture						
Vegetables	1 287	1 302	1 073	1 110	1 312	3.6
Fruit and nuts	1 391	1 274	1 211	1 256	1 479	3.9
Cocoa	288	283	245	237	321	0.8
Eggs, albumin	141	153	149	137	161	0.4
Grains and oilseeds						
Barley	585	698	587	489	521	1.7
Maize	1 408	1 395	1 225	1 047	1 261	3.7
Oilseeds, not soft oil	18	14	13	9	13	0.0
Oilseeds, soft oil	947	642	558	433	523	1.8
Rice	47	57	44	55	56	0.2
Wheat or meslin	1 975	2 256	2 102	1 791	1 646	5.7
Other cereal grains, nec	65	57	46	43	47	0.2
Substantially transformed						
Meat						
Beef, fresh, chilled or frozen	1 040	1 042	772	388	623	2.3
Meat, fresh, chilled or frozen	2 217	1 988	2 053	1 964	1 826	5.9
Meat or offal, preserved	101	98	95	127	113	0.3
Meat or offal, preserved, nec	514	536	501	448	465	1.4
Dairy						
Milk products, excluding butter and cheese	1 869	1 868	1 800	1 759	1 831	5.4
Butter and cheese	205	190	180	177	179	0.5
Cheese and curd	2 015	1 952	1 823	1 774	1 867	5.5
Fish or shellfish	169	210	263	134	160	0.6
Cereal products						
Flour or meal from wheat or meslin	304	230	221	168	208	0.7
Cereal flour or meal, nec	49	44	41	47	55	0.1
Cereal etc, flour or starch	1 465	1 397	1 278	1 319	1 473	4.1
Horticulture						
Vegetables, prepared or preserved	668	630	582	629	658	1.9
Fruit, prepared or preserved	268	267	249	225	238	0.7
Fruit or vegetable juices	133	164	157	108	127	0.4
Sugar and confectionery						
Sugar, molasses and honey	1 470	1 303	1 272	1 120	1 247	3.8
Sugar confectionery	203	186	162	162	187	0.5
Chocolate and cocoa preparations	782	736	632	622	707	2.0

Continued

7.7 Value of food exports, France *continued*

	1998 US$m	1999 US$m	2000 US$m	2001 US$m	2002 p US$m	Share a %
Animal and vegetable oil						
Margarine and shortening	42	36	30	29	30	0.1
Animal oil or fat	113	86	84	72	99	0.3
Vegetable oil or fat, fixed, soft	473	339	287	277	361	1.0
Vegetable oils, fixed, not soft	28	27	23	31	32	0.1
Animal or vegetable oils, processed	60	52	52	41	51	0.2
Other food						
Coffee and coffee substitutes	298	240	197	191	192	0.7
Tea and mate	36	33	31	35	37	0.1
Spices	41	42	43	55	80	0.2
Edible products, nec	1 817	1 229	1 148	1 168	1 282	3.9
Beverage						
Beverages, nonalcoholic, nec	822	844	858	835	969	2.5
Alcoholic beverages	8 011	8 169	7 246	6 764	7 594	22.2
Animal feed b	1 354	1 301	1 189	1 170	1 273	3.7
Total	37 365	35 836	32 786	30 388	33 730	100.0

a Average, 1998–2002. **b** Excludes unmilled cereal. **p** Preliminary.
Source: International Trade Centre, UNCTAD/WTO.

7.8 Value of food exports, Netherlands

	1998 US$m	1999 US$m	2000 US$m	2001 US$m	2002 p US$m	Share a %
Minimally transformed						
Live animals except fish	359	502	529	611	632	2.0
Fish or shellfish						
Fish, live or fresh	687	805	714	777	834	3.0
Fish, dried, salted or smoked	59	72	68	63	38	0.2
Shellfish	161	221	273	286	264	0.9
Horticulture						
Vegetables	2 825	2 872	2 709	2 726	3 127	11.1
Fruit and nuts	1 117	1 198	1 049	1 073	1 132	4.3
Cocoa	971	939	757	833	983	3.5
Eggs, albumin	403	412	422	374	406	1.6
Grains and oilseeds						
Barley	22	23	26	42	26	0.1
Maize	28	34	32	39	32	0.1
Oilseeds, not soft oil	31	23	23	30	40	0.1
Oilseeds, soft oil	422	296	282	346	351	1.3
Rice	105	87	60	54	76	0.3
Wheat or meslin	47	37	26	28	35	0.1
Other cereal grains, nec	16	17	13	14	14	0.1
Substantially transformed						
Meat						
Beef, fresh, chilled or frozen	1 346	1 399	1 179	792	1 127	4.5
Meat, fresh, chilled or frozen	2 312	2 397	2 404	2 409	2 231	9.1
Meat or offal, preserved	288	359	372	348	366	1.3
Meat or offal, preserved, nec	344	364	338	384	392	1.4
Dairy						
Milk products, excluding butter and cheese	1 310	1 280	1 275	1 242	1 216	4.9
Butter and cheese	540	468	333	414	392	1.7
Cheese and curd	1 893	1 662	1 510	1 700	1 704	6.6
Fish or shellfish	315	329	288	282	313	1.2
Cereal products						
Flour or meal from wheat or meslin	96	82	91	87	79	0.3
Cereal flour or meal, nec	12	6	3	7	9	0.0
Cereal etc, flour or starch	606	720	629	616	721	2.6
Horticulture						
Vegetables, prepared or preserved	1 243	1 409	1 170	1 174	1 326	4.9
Fruit, prepared or preserved	242	227	198	216	222	0.9
Fruit or vegetable juices	428	558	518	469	505	1.9
Sugar and confectionery						
Sugar, molasses and honey	365	109	129	351	348	1.0
Sugar confectionery	195	157	136	151	218	0.7
Chocolate and cocoa preparations	511	596	591	607	658	2.3

Continued

7.8 Value of food exports, Netherlands *continued*

	1998 US$m	1999 US$m	2000 US$m	2001 US$m	2002 p US$m	Share a %
Animal and vegetable oil						
Margarine and shortening	218	206	148	151	188	0.7
Animal oil or fat	82	57	59	53	75	0.3
Vegetable oil or fat, fixed, soft	755	643	418	479	634	2.3
Vegetable oils, fixed, not soft	439	428	282	271	345	1.4
Animal or vegetable oils, processed	421	386	318	317	390	1.4
Other food						
Coffee and coffee substitutes	120	122	120	101	123	0.5
Tea and mate	26	18	22	33	41	0.1
Spices	114	129	116	99	89	0.4
Edible products, nec	1 318	1 349	1 380	1 470	1 716	5.6
Beverage						
Beverages, nonalcoholic, nec	289	348	351	429	440	1.4
Alcoholic beverages	922	1 381	1 318	1 405	1 750	5.3
Animal feed b	1 803	1 670	1 670	1 617	1 886	6.7
Total	25 803	26 398	24 350	24 967	27 493	100.0

a Average, 1998–2002. **b** Excludes unmilled cereal. **p** Preliminary.
Source: International Trade Centre, UNCTAD/WTO.

7.9 Value of food exports, Germany

	1998 US$m	1999 US$m	2000 US$m	2001 US$m	2002 p US$m	Share a %
Minimally transformed						
Live animals except fish	736	618	516	522	619	2.5
Fish or shellfish						
Fish, live or fresh	484	453	428	413	382	1.8
Fish, dried, salted or smoked	120	67	77	65	56	0.3
Shellfish	69	74	72	65	71	0.3
Horticulture						
Vegetables	405	459	365	489	536	1.9
Fruit and nuts	464	428	312	430	500	1.8
Cocoa	147	97	62	63	65	0.4
Eggs, albumin	110	103	99	114	131	0.5
Grains and oilseeds						
Barley	141	292	697	363	263	1.5
Maize	95	93	87	110	114	0.4
Oilseeds, not soft oil	21	27	14	12	14	0.1
Oilseeds, soft oil	184	258	145	236	245	0.9
Rice	36	46	43	39	41	0.2
Wheat or meslin	975	760	616	864	834	3.4
Other cereal grains, nec	106	142	153	135	122	0.6
Substantially transformed						
Meat						
Beef, fresh, chilled or frozen	1 033	1 098	847	997	1 117	4.3
Meat, fresh, chilled or frozen	800	965	840	1 227	1 412	4.4
Meat or offal, preserved	58	51	55	158	115	0.4
Meat or offal, preserved, nec	380	373	359	489	572	1.8
Dairy						
Milk products, excluding butter and cheese	3 070	2 863	2 563	2 691	2 191	11.3
Butter and cheese	141	151	134	143	141	0.6
Cheese and curd	1 668	1 505	1 395	1 673	1 554	6.6
Fish or shellfish	364	363	295	364	386	1.5
Cereal products						
Flour or meal from wheat or meslin	160	153	135	146	138	0.6
Cereal flour or meal, nec	17	16	14	16	17	0.1
Cereal etc, flour or starch	1 452	1 402	1 354	1 505	1 759	6.3
Horticulture						
Vegetables, prepared or preserved	414	390	372	422	474	1.7
Fruit, prepared or preserved	463	389	328	416	451	1.7
Fruit or vegetable juices	503	550	524	541	543	2.2
Sugar and confectionery						
Sugar, molasses and honey	788	738	624	725	626	2.9
Sugar confectionery	385	359	317	359	405	1.5
Chocolate and cocoa preparations	1 290	1 079	933	1 130	1 267	4.8

Continued

7.9 Value of food exports, Germany *continued*

	1998 US$m	1999 US$m	2000 US$m	2001 US$m	2002 p US$m	Share a %
Animal and vegetable oil						
Margarine and shortening	292	119	72	99	95	0.6
Animal oil or fat	139	115	93	109	113	0.5
Vegetable oil or fat, fixed, soft	903	754	501	602	716	2.9
Vegetable oils, fixed, not soft	109	108	84	96	122	0.4
Animal or vegetable oils, processed	425	399	329	336	443	1.6
Other food						
Coffee and coffee substitutes	1 068	844	876	795	841	3.7
Tea and mate	91	82	80	90	101	0.4
Spices	86	81	71	80	89	0.3
Edible products, nec	1 508	1 544	1 473	1 607	1 724	6.6
Beverage						
Beverages, nonalcoholic, nec	283	346	292	398	568	1.6
Alcoholic beverages	1 421	1 483	1 220	1 455	1 661	6.1
Animal feed b	1 598	1 294	1 210	1 444	1 491	5.9
Total	25 002	23 529	21 075	24 032	25 125	100.0

a Average, 1998–2002. **b** Excludes unmilled cereal. **p** Preliminary.
Source: International Trade Centre, UNCTAD/WTO.

7.10 Value of food exports, Belgium–Luxembourg

	1998 US$m	1999 US$m	2000 US$m	2001 US$m	2002 p US$m	Share a %
Minimally transformed						
Live animals except fish	387	448	412	296	323	2.1
Fish or shellfish						
Fish, live or fresh	201	187	192	282	246	1.3
Fish, dried, salted or smoked	9	13	14	13	12	0.1
Shellfish	160	179	167	173	199	1.0
Horticulture						
Vegetables	1 261	1 252	1 094	1 206	1 313	7.0
Fruit and nuts	1 773	1 751	1 483	1 516	1 655	9.3
Cocoa	116	58	80	80	131	0.5
Eggs, albumin	139	107	111	112	98	0.6
Grains and oilseeds						
Barley	27	40	40	11	23	0.2
Maize	25	20	14	17	22	0.1
Oilseeds, not soft oil	63	40	57	43	55	0.3
Oilseeds, soft oil	59	50	45	54	48	0.3
Rice	128	123	103	101	112	0.6
Wheat or meslin	137	196	142	63	69	0.7
Other cereal grains, nec	13	13	10	12	13	0.1
Substantially transformed						
Meat						
Beef, fresh, chilled or frozen	395	346	322	291	374	2.0
Meat, fresh, chilled or frozen	1 613	1 308	1 483	1 781	1 651	9.0
Meat or offal, preserved	106	92	92	106	103	0.6
Meat or offal, preserved, nec	620	448	425	460	499	2.8
Dairy						
Milk products, excluding butter and cheese	1 287	1 247	1 232	1 257	1 219	7.1
Butter and cheese	412	335	320	307	309	1.9
Cheese and curd	419	428	394	485	507	2.6
Fish or shellfish	103	118	99	104	119	0.6
Cereal products						
Flour or meal from wheat or meslin	186	206	170	168	188	1.0
Cereal flour or meal, nec	8	9	9	10	3	0.0
Cereal etc, flour or starch	1 202	1 233	1 129	1 321	1 429	7.2
Horticulture						
Vegetables, prepared or preserved	543	665	564	625	716	3.6
Fruit, prepared or preserved	220	230	214	235	265	1.3
Fruit or vegetable juices	528	588	491	487	551	3.0
Sugar and confectionery						
Sugar, molasses and honey	551	386	494	455	427	2.6
Sugar confectionery	237	248	236	254	284	1.4
Chocolate and cocoa preparations	959	1 031	1 008	1 002	1 118	5.8

Continued

7.10 Value of food exports, Belgium–Luxembourg *continued*

	1998 US$m	1999 US$m	2000 US$m	2001 US$m	2002 p US$m	Share a %
Animal and vegetable oil						
Margarine and shortening	226	190	156	159	228	1.1
Animal oil or fat	64	38	37	46	55	0.3
Vegetable oil or fat, fixed, soft	480	481	355	377	408	2.4
Vegetable oils, fixed, not soft	97	117	81	82	68	0.5
Animal or vegetable oils, processed	136	128	187	210	222	1.0
Other food						
Coffee and coffee substitutes	470	382	343	281	264	2.0
Tea and mate	47	45	46	50	51	0.3
Spices	21	22	19	18	19	0.1
Edible products, nec	691	698	690	762	794	4.2
Beverage						
Beverages, nonalcoholic, nec	300	432	425	479	513	2.5
Alcoholic beverages	532	648	635	597	611	3.5
Animal feed b	932	946	866	977	923	5.3
Total	17 886	17 523	16 483	17 367	18 242	100.0

a Average, 1998–2002. **b** Excludes unmilled cereal. **p** Preliminary.
Source: International Trade Centre, UNCTAD/WTO.

8.1 Value of food trade in processed food, by major importing countries [a]

	1998 US$m	1999 US$m	2000 US$m	2001 US$m	2002 [p] US$m	Share [b] %
Meat						
Australia	37	64	99	90	117	0.2
Germany	4 778	4 253	3 589	4 059	3 918	9.3
Italy	3 512	3 208	3 083	3 001	3 077	7.2
Japan	6 759	7 813	8 551	8 409	7 776	17.8
United Kingdom	3 354	3 474	3 590	3 987	4 268	8.4
Other	23 578	24 340	25 429	26 132	27 036	57.1
Total	42 017	43 152	44 339	45 677	46 193	100.0
Dairy						
Australia	148	171	166	165	157	0.6
Belgium–Luxembourg	2 129	2 064	1 972	2 048	2 096	7.9
Germany	3 328	3 351	2 551	2 958	3 214	11.8
Italy	2 759	2 657	2 409	2 455	2 396	9.7
Netherlands	1 943	1 982	1 846	1 694	1 811	7.1
Other	16 395	16 510	16 590	17 010	15 872	63.0
Total	26 702	26 734	25 533	26 330	25 546	100.0
Seafood						
Australia	165	173	172	171	179	1.8
France	793	614	609	613	716	6.9
Japan	1 904	2 105	2 499	2 239	2 284	22.9
United Kingdom	898	804	714	780	792	8.3
United States	1 431	1 690	1 821	1 951	2 157	18.8
Other	4 045	3 998	3 818	3 915	4 160	41.4
Total	9 237	9 384	9 632	9 668	10 287	100.0
Horticulture						
Australia	215	250	249	217	241	1.0
France	1 980	2 039	1 904	1 721	1 972	8.4
Germany	3 177	3 198	2 704	2 915	3 100	13.1
Japan	2 214	2 571	2 558	2 499	2 355	10.6
United States	2 769	3 201	3 201	3 145	3 374	13.7
Other	12 286	12 820	11 907	11 572	12 475	53.2
Total	22 641	24 078	22 523	22 068	23 517	100.0
Beverages [c]						
Australia	272	319	377	371	368	1.0
Germany	3 307	3 589	2 955	3 333	3 557	9.6
Japan	2 420	2 069	1 995	1 935	1 893	5.9
United Kingdom	4 324	4 478	4 076	4 211	4 603	12.4
United States	6 896	7 816	8 567	8 964	9 959	24.2
Other	15 641	16 210	15 709	16 606	17 761	46.9
Total	32 860	34 481	33 678	35 421	38 142	100.0
Sugar and confectionery						
Australia	157	154	157	139	154	0.7
France	1 524	1 484	1 377	1 302	1 513	6.3
Germany	1 836	1 723	1 429	1 671	1 760	7.4
United Kingdom	1 823	1 795	1 651	1 698	1 823	7.7
United States	2 385	2 332	2 378	2 534	2 894	10.9
Other	16 206	15 512	14 076	16 033	15 019	67.1
Total	23 930	23 000	21 068	23 377	23 164	100.0

Continued

8.1 Value of food trade in processed food, by major importing countries a *continued*

	1998 US$m	1999 US$m	2000 US$m	2001 US$m	2002 p US$m	Share b %
Animal and vegetable oil						
Australia	173	189	181	152	193	0.8
Germany	1 460	1 281	1 122	1 121	1 316	5.4
Italy	1 492	1 524	1 254	1 339	1 665	6.2
United Kingdom	1 042	998	889	866	922	4.0
United States	1 603	1 500	1 508	1 297	1 458	6.3
Other	21 979	19 297	15 513	15 147	18 078	77.2
Total	27 749	24 789	20 467	19 923	23 633	100.0
Animal feed d						
Australia	98	93	97	122	165	0.5
China	1 405	619	908	639	772	4.0
France	1 524	1 266	1 462	1 484	1 521	6.6
Germany	1 831	1 422	1 479	1 679	1 705	7.4
Japan	2 046	1 944	2 036	2 114	2 155	9.4
Other	15 424	14 581	15 415	16 656	17 165	72.2
Total	22 328	19 924	21 396	22 693	23 483	100.0
Cereal products						
Australia	121	138	163	130	137	0.9
France	1 371	1 373	1 277	1 266	1 432	8.6
Germany	1 436	1 359	1 060	1 310	1 468	8.5
United Kingdom	1 055	1 057	1 007	1 092	1 229	7.0
United States	1 541	1 710	1 855	2 004	2 286	12.1
Other	9 530	9 608	9 410	9 974	10 452	62.9
Total	15 055	15 246	14 773	15 775	17 005	100.0
Other processed food						
Australia	671	670	713	647	713	1.9
France	2 247	1 997	1 798	1 628	1 784	5.3
Germany	4 458	3 806	3 117	2 901	2 796	9.5
Japan	2 549	2 450	2 451	2 308	2 234	6.7
United States	5 271	4 964	4 871	4 059	4 401	13.2
Other	23 859	23 224	22 553	22 080	21 896	63.4
Total	39 055	37 112	35 502	33 623	33 824	100.0
All processed food						
Australia	2 057	2 221	2 374	2 203	2 426	0.9
Germany	26 185	24 531	20 489	22 479	23 399	9.1
Japan	20 942	21 772	22 884	22 353	21 567	8.5
United Kingdom	19 908	19 645	18 287	18 889	20 037	7.5
United States	26 544	28 322	29 911	30 125	32 784	11.5
Other	165 939	161 411	154 967	158 505	164 579	62.5
Total	261 575	257 901	248 912	254 555	264 793	100.0

a Based on over 100 reporting countries representing more than 90 per cent of world trade. **b** Average, 1998–2002. **c** Alcoholic and nonalcoholic. **d** Excludes unmilled cereal. **p** Preliminary.
Source: International Trade Centre, UNCTAD/WTO.

8.2 Value of food trade in food, by level of transformation

	1998 US$m	1999 US$m	2000 US$m	2001 US$m	2002 p US$m	Share b %
Minimally transformed						
Live animals except fish	8 847	9 159	9 204	8 608	8 863	2.1
Fish or shellfish						
Fish, live or fresh	23 168	24 822	24 883	25 459	26 228	5.9
Fish, dried, salted or smoked	2 636	2 735	2 747	2 780	2 556	0.6
Shellfish	16 567	17 343	19 017	18 035	17 965	4.2
Horticulture						
Vegetables	22 100	21 810	20 854	22 644	23 140	5.2
Fruit and nuts	31 978	32 571	30 699	31 295	32 912	7.5
Cocoa	6 450	6 009	4 630	4 870	6 676	1.4
Eggs, albumin	1 501	1 373	1 354	1 407	1 446	0.3
Grains and oilseeds						
Barley	2 202	2 443	2 877	2 607	2 489	0.6
Maize	9 466	9 101	9 368	8 983	9 610	2.2
Oilseeds, not soft oil	961	823	764	781	751	0.2
Oilseeds, soft oil	14 612	13 523	14 796	15 806	15 687	3.5
Rice	8 020	7 686	5 829	4 972	4 869	1.5
Wheat or meslin	15 187	14 653	14 289	13 639	13 853	3.4
Other cereal grains, nec	1 518	1 508	1 612	1 555	1 590	0.4
Substantially transformed						
Meat						
Beef, fresh, chilled or frozen	13 295	14 087	14 105	12 434	13 473	3.2
Meat, fresh, chilled or frozen	21 868	22 185	23 182	25 286	24 647	5.5
Meat or offal, preserved	1 573	1 583	1 738	2 243	2 160	0.4
Meat or offal, preserved, nec	5 282	5 298	5 314	5 714	5 912	1.3
Dairy						
Milk products, excluding butter and cheese	13 263	13 468	13 398	13 361	12 339	3.1
Butter and cheese	3 249	2 916	2 711	2 742	2 601	0.7
Cheese and curd	10 190	10 350	9 424	10 227	10 606	2.4
Fish or shellfish	9 237	9 384	9 632	9 668	10 287	2.3
Cereal products						
Flour or meal from wheat or meslin	1 237	1 134	1 180	1 086	954	0.3
Cereal flour or meal, nec	422	424	388	440	412	0.1
Cereal etc, flour or starch	13 396	13 688	13 205	14 250	15 639	3.3
Horticulture						
Vegetables, prepared or preserved	9 926	10 558	9 693	9 853	10 447	2.4
Fruit, prepared or preserved	6 409	6 586	6 233	6 181	6 584	1.5
Fruit or vegetable juices	6 306	6 934	6 597	6 034	6 485	1.5
Sugar and confectionery						
Sugar, molasses and honey	13 424	12 296	10 523	12 288	11 422	2.8
Sugar confectionery	3 695	3 904	3 956	4 001	4 189	0.9
Chocolate and cocoa preparations	6 812	6 801	6 589	7 088	7 553	1.6

Continued

8.2 Value of food trade in food, by level of transformation *continued*

	1998 US$m	1999 US$m	2000 US$m	2001 US$m	2002 p US$m	Share b %
Animal and vegetable oil						
Margarine and shortening	1 310	1 298	1 270	1 191	1 289	0.3
Animal oil or fat	2 057	1 820	1 605	1 542	1 662	0.4
Vegetable oil or fat, fixed, soft	12 545	10 570	8 103	8 335	9 614	2.3
Vegetable oils, fixed, not soft	8 757	7 990	6 594	6 070	7 996	1.8
Animal or vegetable oils, processed	3 080	3 110	2 894	2 785	3 070	0.7
Other food						
Coffee and coffee substitutes	16 470	13 432	12 249	9 233	8 688	2.8
Tea and mate	2 975	2 948	2 941	2 865	2 708	0.7
Spices	2 428	2 699	2 763	2 641	2 434	0.6
Edible products, nec	17 182	18 034	17 549	18 884	19 993	4.3
Beverage						
Beverages, nonalcoholic, nec	4 212	4 776	4 858	5 419	6 014	1.2
Alcoholic beverages	28 648	29 706	28 820	30 002	32 128	7.1
Animal feed c	22 328	19 924	21 396	22 693	23 483	5.2
Total	426 787	423 459	411 834	417 997	433 428	100.0

a Based on over 100 reporting countries representing more than 90 per cent of world trade. **b** Average, 1998–2002. **c** Excludes unmilled cereal. **p** Preliminary.
Source: International Trade Centre, UNCTAD/WTO; ABARE.

8.3 Value of food imports, European Union

	1998 US$m	1999 US$m	2000 US$m	2001 US$m	2002 p US$m	Share a %
Minimally transformed						
Live animals except fish	4 284	4 381	4 221	3 685	4 113	2.2
Fish or shellfish						
Fish, live or fresh	9 547	9 258	8 845	9 738	9 876	4.9
Fish, dried, salted or smoked	1 450	1 514	1 353	1 520	1 320	0.7
Shellfish	5 260	5 129	5 130	5 420	5 543	2.8
Horticulture						
Vegetables	11 948	11 683	10 554	11 417	12 402	6.0
Fruit and nuts	18 430	17 966	15 696	16 601	17 791	9.0
Cocoa	3 832	3 627	2 596	2 794	3 907	1.7
Eggs, albumin	859	773	765	800	861	0.4
Grains and oilseeds						
Barley	749	722	715	821	919	0.4
Maize	2 148	2 070	1 839	1 812	2 085	1.0
Oilseeds, not soft oil	521	395	346	398	432	0.2
Oilseeds, soft oil	6 671	5 579	5 122	6 053	6 084	3.1
Rice	1 278	1 225	1 062	1 058	1 075	0.6
Wheat or meslin	3 829	3 463	3 147	3 455	3 837	1.8
Other cereal grains, nec	299	269	265	280	319	0.1
Substantially transformed						
Meat						
Beef, fresh, chilled or frozen	5 691	5 924	5 105	3 678	4 994	2.6
Meat, fresh, chilled or frozen	11 344	10 323	10 147	11 536	11 061	5.7
Meat or offal, preserved	1 224	1 257	1 391	1 880	1 818	0.8
Meat or offal, preserved, nec	2 907	2 878	2 777	3 076	3 297	1.6
Dairy						
Milk products, excluding butter and cheese	7 619	7 635	7 294	7 268	7 476	3.9
Butter and cheese	2 379	2 134	1 884	1 911	1 819	1.1
Cheese and curd	7 373	7 454	6 462	7 104	7 509	3.7
Fish or shellfish	4 276	3 957	3 620	3 757	4 131	2.1
Cereal products						
Flour or meal from wheat or meslin	349	349	316	310	359	0.2
Cereal flour or meal, nec	123	120	98	99	112	0.1
Cereal etc, flour or starch	7 225	7 419	6 689	7 268	8 235	3.8
Horticulture						
Vegetables, prepared or preserved	5 224	5 485	4 617	4 776	5 355	2.7
Fruit, prepared or preserved	3 725	3 558	3 212	3 171	3 420	1.8
Fruit or vegetable juices	3 838	4 250	3 856	3 442	3 764	2.0
Sugar and confectionery						
Sugar, molasses and honey	4 536	4 304	3 563	4 269	4 732	2.2
Sugar confectionery	1 693	1 787	1 669	1 672	1 854	0.9
Chocolate and cocoa preparations	4 324	4 315	3 902	4 080	4 552	2.2

Continued

8.3 Value of food imports, European Union *continued*

	1998 US$m	1999 US$m	2000 US$m	2001 US$m	2002 p US$m	Share a %
Animal and vegetable oil						
Margarine and shortening	664	657	565	555	665	0.3
Animal oil or fat	746	590	512	542	573	0.3
Vegetable oil or fat, fixed, soft	4 094	3 909	2 922	3 292	4 141	1.9
Vegetable oils, fixed, not soft	2 972	2 589	2 134	2 019	2 439	1.3
Animal or vegetable oils, processed	1 683	1 550	1 368	1 388	1 579	0.8
Other food						
Coffee and coffee substitutes	8 906	6 997	6 085	4 787	4 445	3.3
Tea and mate	1 007	905	845	847	884	0.5
Spices	873	883	855	781	798	0.4
Edible products, nec	8 094	8 225	7 201	7 641	8 540	4.1
Beverage						
Beverages, nonalcoholic, nec	2 071	2 513	2 379	2 735	3 228	1.3
Alcoholic beverages	14 480	15 117	13 371	14 012	15 300	7.5
Animal feed b	11 812	10 581	10 758	11 689	12 143	5.9
Total	202 356	195 721	177 253	185 441	199 788	100.0

a Average, 1998–2002. **b** Excludes unmilled cereal. **p** Preliminary.
Source: International Trade Centre, UNCTAD/WTO. ABARE.

8.4 Value of food imports, NAFTA

	1998 US$m	1999 US$m	2000 US$m	2001 US$m	2002 p US$m	Share a %
Minimally transformed						
Live animals except fish	2 113	2 064	2 466	2 737	2 518	3.4
Fish or shellfish						
Fish, live or fresh	3 377	3 747	3 939	3 821	4 088	5.4
Fish, dried, salted or smoked	200	205	214	217	225	0.3
Shellfish	4 468	4 833	5 605	5 451	5 251	7.3
Horticulture						
Vegetables	3 985	3 883	4 112	4 487	4 820	6.1
Fruit and nuts	5 502	6 304	6 400	6 437	6 896	9.0
Cocoa	1 391	1 188	1 003	1 022	1 214	1.7
Eggs, albumin	115	88	82	90	101	0.1
Grains and oilseeds						
Barley	147	127	122	112	99	0.2
Maize	949	893	894	1 110	1 220	1.4
Oilseeds, not soft oil	118	114	100	92	96	0.1
Oilseeds, soft oil	1 666	1 561	1 643	1 705	1 746	2.4
Rice	434	454	424	405	376	0.6
Wheat or meslin	648	630	582	736	768	1.0
Other cereal grains, nec	596	642	681	798	807	1.0
Substantially transformed						
Meat						
Beef, fresh, chilled or frozen	2 622	3 039	3 568	4 014	4 131	5.0
Meat, fresh, chilled or frozen	1 521	1 607	2 132	2 465	2 366	2.9
Meat or offal, preserved	104	127	184	210	213	0.2
Meat or offal, preserved, nec	748	756	792	838	873	1.1
Dairy						
Milk products, excluding butter and cheese	597	627	746	871	713	1.0
Butter and cheese	145	131	117	211	162	0.2
Cheese and curd	875	977	991	1 096	1 151	1.5
Fish or shellfish	1 694	1 969	2 094	2 240	2 463	3.0
Cereal products						
Flour or meal from wheat or meslin	58	62	66	71	93	0.1
Cereal flour or meal, nec	74	72	65	75	92	0.1
Cereal etc, flour or starch	2 286	2 486	2 713	3 008	3 478	4.0
Horticulture						
Vegetables, prepared or preserved	1 585	1 759	1 781	1 885	2 016	2.6
Fruit, prepared or preserved	1 052	1 278	1 300	1 331	1 490	1.8
Fruit or vegetable juices	1 201	1 319	1 323	1 167	1 230	1.8
Sugar and confectionery						
Sugar, molasses and honey	1 608	1 348	1 301	1 411	1 456	2.0
Sugar confectionery	857	977	1 066	1 087	1 233	1.5
Chocolate and cocoa preparations	943	982	1 075	1 248	1 358	1.6

Continued

8.4 Value of food imports, NAFTA *continued*

	1998 US$m	1999 US$m	2000 US$m	2001 US$m	2002 p US$m	Share a %
Animal and vegetable oil						
Margarine and shortening	52	59	63	80	87	0.1
Animal oil or fat	284	248	216	218	240	0.3
Vegetable oil or fat, fixed, soft	1 172	1 052	1 073	953	1 161	1.5
Vegetable oils, fixed, not soft	758	703	651	491	562	0.9
Animal or vegetable oils, processed	282	270	290	269	305	0.4
Other food						
Coffee and coffee substitutes	4 186	3 543	3 302	2 217	2 208	4.4
Tea and mate	314	312	324	347	354	0.5
Spices	595	638	668	640	663	0.9
Edible products, nec	2 163	2 524	2 715	3 039	3 509	4.0
Beverage						
Beverages, nonalcoholic, nec	836	913	989	1 072	1 171	1.4
Alcoholic beverages	7 211	8 203	8 955	9 417	10 390	12.6
Animal feed b	1 588	1 514	1 636	1 756	1 878	2.4
Total	63 120	66 230	70 461	72 945	77 269	100.0

a Average, 1998–2002. **b** Excludes unmilled cereal. **p** Preliminary.
Source: International Trade Centre, UNCTAD/WTO.

8.5 Value of food imports, APEC [a]

	1998 US$m	1999 US$m	2000 US$m	2001 US$m	2002 p US$m	Share b %
Minimally transformed						
Live animals except fish	3 335	3 284	3 639	3 764	3 567	2.1
Fish or shellfish						
Fish, live or fresh	11 450	13 694	14 143	14 038	14 589	8.1
Fish, dried, salted or smoked	827	889	1 107	954	984	0.6
Shellfish	11 027	11 897	13 532	12 273	12 157	7.3
Horticulture						
Vegetables	7 217	7 221	7 377	7 754	7 842	4.5
Fruit and nuts	10 104	10 900	11 438	11 264	12 187	6.7
Cocoa	2 091	1 809	1 580	1 648	2 143	1.1
Eggs, albumin	383	361	341	346	368	0.2
Grains and oilseeds						
Barley	656	709	770	787	648	0.4
Maize	4 691	4 442	4 598	4 650	4 964	2.8
Oilseeds, not soft oil	275	258	244	206	208	0.1
Oilseeds, soft oil	6 358	6 556	7 945	8 125	7 832	4.4
Rice	3 247	3 261	1 978	1 540	1 813	1.4
Wheat or meslin	4 361	4 114	3 999	4 072	4 327	2.5
Other cereal grains, nec	1 066	1 076	1 097	1 140	1 151	0.7
Substantially transformed						
Meat						
Beef, fresh, chilled or frozen	6 360	7 054	7 903	7 911	7 698	4.4
Meat, fresh, chilled or frozen	8 397	9 402	10 772	11 475	11 934	6.2
Meat or offal, preserved	247	199	250	275	281	0.1
Meat or offal, preserved, nec	1 885	1 869	2 049	2 211	2 328	1.2
Dairy						
Milk products, excluding butter and cheese	2 742	2 718	3 082	3 501	2 965	1.8
Butter and cheese	446	356	362	482	447	0.3
Cheese and curd	1 795	1 847	1 919	2 165	2 312	1.2
Fish or shellfish	4 185	4 701	5 276	5 192	5 554	3.0
Cereal products						
Flour or meal from wheat or meslin	267	305	314	266	296	0.2
Cereal flour or meal, nec	146	153	129	145	153	0.1
Cereal etc, flour or starch	4 055	4 070	4 408	4 756	5 401	2.7
Horticulture						
Vegetables, prepared or preserved	3 600	3 937	3 986	4 067	4 191	2.4
Fruit, prepared or preserved	2 141	2 499	2 506	2 518	2 727	1.5
Fruit or vegetable juices	1 929	2 121	2 135	1 993	2 139	1.2
Sugar and confectionery						
Sugar, molasses and honey	5 357	4 837	4 072	5 046	4 409	2.8
Sugar confectionery	1 374	1 496	1 664	1 670	1 826	1.0
Chocolate and cocoa preparations	1 720	1 724	1 929	2 157	2 328	1.2

Continued

8.5 Value of food imports, APEC a *continued*

	1998	1999	2000	2001	2002 p	Share b
	US$m	US$m	US$m	US$m	US$m	%
Animal and vegetable oil						
Margarine and shortening	329	321	401	389	416	0.2
Animal oil or fat	617	663	625	628	675	0.4
Vegetable oil or fat, fixed, soft	3 985	2 887	2 331	2 114	2 845	1.7
Vegetable oils, fixed, not soft	2 535	2 450	2 101	1 901	2 757	1.4
Animal or vegetable oils, processed	689	781	782	705	811	0.5
Other food						
Coffee and coffee substitutes	6 141	5 139	4 861	3 557	3 534	2.8
Tea and mate	1 020	985	973	970	966	0.6
Spices	1 106	1 287	1 336	1 267	1 176	0.7
Edible products, nec	5 797	6 271	6 714	7 429	8 195	4.1
Beverage						
Beverages, nonalcoholic, nec	1 628	1 699	1 849	1 997	2 129	1.1
Alcoholic beverages	11 771	12 137	13 020	13 494	14 577	7.8
Animal feed c	7 440	6 410	7 353	7 741	8 134	4.4
Total	156 792	160 788	168 890	170 582	177 986	100.0

a No data available for Viet Nam and Chinese Taipei. **b** Average, 1998–2002. **c** Excludes unmilled cereal. **p** Preliminary.
Source: International Trade Centre, UNCTAD/WTO; ABARE.

8.6 Value of food imports, ASEAN a

	1998 US$m	1999 US$m	2000 US$m	2001 US$m	2002 p US$m	Share b %
Minimally transformed						
Live animals except fish	394	352	338	296	309	2.2
Fish or shellfish						
Fish, live or fresh	1 008	1 009	939	1 124	1 128	6.7
Fish, dried, salted or smoked	39	46	57	47	55	0.3
Shellfish	399	424	501	497	503	3.0
Horticulture						
Vegetables	545	563	547	591	616	3.7
Fruit and nuts	517	559	638	615	702	3.9
Cocoa	193	154	176	212	305	1.3
Eggs, albumin	58	70	65	54	61	0.4
Grains and oilseeds						
Barley	2	3	3	5	4	0.0
Maize	398	398	520	380	459	2.8
Oilseeds, not soft oil	37	44	37	19	29	0.2
Oilseeds, soft oil	573	905	889	872	960	5.4
Rice	1 886	1 905	768	547	822	7.6
Wheat or meslin	1 247	1 163	1 207	1 253	1 461	8.1
Other cereal grains, nec	6	7	10	8	8	0.1
Substantially transformed						
Meat						
Beef, fresh, chilled or frozen	208	233	306	273	261	1.6
Meat, fresh, chilled or frozen	218	333	387	369	400	2.2
Meat or offal, preserved	7	9	10	16	14	0.1
Meat or offal, preserved, nec	68	99	81	78	93	0.5
Dairy						
Milk products, excluding butter and cheese	1 026	1 040	1 277	1 536	1 287	7.9
Butter and cheese	102	105	107	95	96	0.6
Cheese and curd	78	77	81	94	91	0.5
Fish or shellfish	102	143	170	151	188	1.0
Cereal products						
Flour or meal from wheat or meslin	47	126	137	95	116	0.7
Cereal flour or meal, nec	23	25	28	27	27	0.2
Cereal etc, flour or starch	342	357	368	370	383	2.3
Horticulture						
Vegetables, prepared or preserved	168	192	203	197	197	1.2
Fruit, prepared or preserved	83	104	104	104	121	0.7
Fruit or vegetable juices	53	59	61	73	81	0.4
Sugar and confectionery						
Sugar, molasses and honey	898	1 058	758	784	692	5.4
Sugar confectionery	64	78	91	98	122	0.6
Chocolate and cocoa preparations	97	111	125	137	152	0.8

Continued

8.6 Value of food imports, ASEAN a *continued*

	1998 US$m	1999 US$m	2000 US$m	2001 US$m	2002 p US$m	Share b %
Animal and vegetable oil						
Margarine and shortening	25	34	35	20	25	0.2
Animal oil or fat	26	37	35	35	32	0.2
Vegetable oil or fat, fixed, soft	245	239	138	147	158	1.2
Vegetable oils, fixed, not soft	331	367	274	253	414	2.1
Animal or vegetable oils, processed	142	144	119	117	141	0.9
Other food						
Coffee and coffee substitutes	127	111	122	125	145	0.8
Tea and mate	37	35	41	45	47	0.3
Spices	208	327	327	303	228	1.8
Edible products, nec	761	808	925	1 064	1 102	6.0
Beverage						
Beverages, nonalcoholic, nec	101	85	104	112	122	0.7
Alcoholic beverages	494	581	613	576	630	3.7
Animal feed c	1 248	1 201	1 559	1 797	1 764	9.7
Total	14 630	15 720	15 282	15 609	16 551	100.0

a No data available for Laos, Myanmar and Viet Nam. **b** Average, 1998–2002. **c** Excludes unmilled cereal. **p** Preliminary.
Source: International Trade Centre, UNCTAD/WTO; ABARE.

8.7 Value of food imports, United States a

	1998 US$m	1999 US$m	2000 US$m	2001 US$m	2002 p US$m	Share b %
Minimally transformed						
Live animals except fish	1 765	1 685	1 976	2 283	2 160	4.0
Fish or shellfish						
Fish, live or fresh	2 949	3 268	3 461	3 335	3 563	6.7
Fish, dried, salted or smoked	140	148	151	154	162	0.3
Shellfish	4 003	4 267	4 981	4 840	4 689	9.2
Horticulture						
Vegetables	2 832	2 768	2 891	3 213	3 393	6.1
Fruit and nuts	3 971	4 605	4 570	4 526	4 871	9.1
Cocoa	1 162	998	822	832	963	1.9
Eggs, albumin	15	21	19	21	29	0.0
Grains and oilseeds						
Barley	101	84	83	90	70	0.2
Maize	168	175	174	146	147	0.3
Oilseeds, not soft oil	81	82	64	43	51	0.1
Oilseeds, soft oil	316	267	314	268	223	0.6
Rice	203	217	210	199	190	0.4
Wheat or meslin	298	290	245	300	283	0.6
Other cereal grains, nec	216	189	185	246	245	0.4
Substantially transformed						
Meat						
Beef, fresh, chilled or frozen	1 728	2 025	2 340	2 627	2 620	4.6
Meat, fresh, chilled or frozen	753	847	1 098	1 215	1 200	2.1
Meat or offal, preserved	63	81	111	106	119	0.2
Meat or offal, preserved, nec	472	474	465	471	500	1.0
Dairy						
Milk products, excluding butter and cheese	175	237	246	199	209	0.4
Butter and cheese	86	55	37	103	64	0.1
Cheese and curd	675	755	730	785	835	1.5
Fish or shellfish	1 431	1 690	1 821	1 951	2 157	3.7
Cereal products						
Flour or meal from wheat or meslin	45	44	50	57	74	0.1
Cereal flour or meal, nec	24	24	23	35	51	0.1
Cereal etc, flour or starch	1 473	1 641	1 782	1 913	2 162	3.6
Horticulture						
Vegetables, prepared or preserved	1 160	1 324	1 338	1 408	1 472	2.7
Fruit, prepared or preserved	796	974	956	970	1 091	1.9
Fruit or vegetable juices	814	903	906	768	811	1.7
Sugar and confectionery						
Sugar, molasses and honey	1 137	960	877	921	1 058	2.0
Sugar confectionery	655	760	826	817	958	1.6
Chocolate and cocoa preparations	593	613	676	795	878	1.4

Continued

8.7 Value of food imports, United States a *continued*

	1998 US$m	1999 US$m	2000 US$m	2001 US$m	2002 p US$m	Share b %
Animal and vegetable oil						
Margarine and shortening	10	15	16	20	29	0.0
Animal oil or fat	49	50	54	57	63	0.1
Vegetable oil or fat, fixed, soft	767	718	740	685	772	1.5
Vegetable oils, fixed, not soft	632	568	529	385	432	1.0
Animal or vegetable oils, processed	145	149	170	150	163	0.3
Other food						
Coffee and coffee substitutes	3 534	3 001	2 814	1 789	1 799	5.2
Tea and mate	233	225	232	252	261	0.5
Spices	478	523	548	515	541	1.1
Edible products, nec	1 026	1 215	1 276	1 503	1 800	2.8
Beverage						
Beverages, nonalcoholic, nec	622	671	747	817	902	1.5
Alcoholic beverages	6 274	7 145	7 820	8 147	9 057	15.6
Animal feed c	696	635	682	664	706	1.4
Total	44 764	47 385	50 056	50 620	53 823	100.0

a Includes Puerto Rico and the US Virgin Islands. **b** Average, 1998–2002. **c** Excludes unmilled cereal. **p** Preliminary.
Source: International Trade Centre, UNCTAD/WTO.

8.8 Value of food imports, Japan

	1998 US$m	1999 US$m	2000 US$m	2001 US$m	2002 p US$m	Share a %
Minimally transformed						
Live animals except fish	179	192	232	206	197	0.5
Fish or shellfish						
Fish, live or fresh	5 447	6 833	6 839	6 277	6 209	14.5
Fish, dried, salted or smoked	227	257	267	250	257	0.6
Shellfish	4 998	5 284	5 698	4 628	4 506	11.6
Horticulture						
Vegetables	1 780	1 840	1 820	1 779	1 508	4.0
Fruit and nuts	1 681	1 918	1 969	1 754	1 841	4.2
Cocoa	170	162	135	133	176	0.4
Eggs, albumin	96	108	105	104	103	0.2
Grains and oilseeds						
Barley	217	219	244	215	201	0.5
Maize	2 119	1 887	1 886	1 952	1 995	4.5
Oilseeds, not soft oil	42	36	29	24	16	0.1
Oilseeds, soft oil	2 343	2 035	1 963	1 888	1 972	4.7
Rice	273	315	264	196	222	0.6
Wheat or meslin	1 096	1 075	1 030	1 038	1 124	2.5
Other cereal grains, nec	416	335	315	299	288	0.8
Substantially transformed						
Meat						
Beef, fresh, chilled or frozen	2 341	2 449	2 590	2 298	1 516	5.2
Meat, fresh, chilled or frozen	3 769	4 610	5 062	5 099	5 174	10.9
Meat or offal, preserved	18	19	24	24	27	0.1
Meat or offal, preserved, nec	631	736	875	988	1 058	2.0
Dairy						
Milk products, excluding butter and cheese	236	227	217	241	199	0.5
Butter and cheese	2	2	1	1	6	0.0
Cheese and curd	559	543	548	555	575	1.3
Fish or shellfish	1 904	2 105	2 499	2 239	2 284	5.1
Cereal products						
Flour or meal from wheat or meslin	1	1	1	1	1	0.0
Cereal flour or meal, nec	2	3	4	5	5	0.0
Cereal etc, flour or starch	603	551	556	580	639	1.3
Horticulture						
Vegetables, prepared or preserved	1 187	1 344	1 330	1 306	1 236	2.9
Fruit, prepared or preserved	639	759	749	734	694	1.6
Fruit or vegetable juices	388	468	480	459	425	1.0
Sugar and confectionery						
Sugar, molasses and honey	579	450	463	522	437	1.1
Sugar confectionery	53	60	78	73	83	0.2
Chocolate and cocoa preparations	287	299	317	303	299	0.7

Continued

8.8 Value of food imports, Japan *continued*

	1998 US$m	1999 US$m	2000 US$m	2001 US$m	2002 p US$m	Share a %
Animal and vegetable oil						
Margarine and shortening	13	13	13	15	15	0.0
Animal oil or fat	83	75	84	116	92	0.2
Vegetable oil or fat, fixed, soft	213	171	157	149	171	0.4
Vegetable oils, fixed, not soft	350	309	250	204	263	0.6
Animal or vegetable oils, processed	71	117	105	84	85	0.2
Other food						
Coffee and coffee substitutes	1 176	974	917	688	668	2.0
Tea and mate	198	199	227	229	197	0.5
Spices	186	198	200	198	164	0.4
Edible products, nec	990	1 079	1 107	1 193	1 205	2.6
Beverage						
Beverages, nonalcoholic, nec	154	198	241	249	257	0.5
Alcoholic beverages	2 266	1 871	1 754	1 686	1 636	4.2
Animal feed b	2 046	1 944	2 036	2 114	2 155	4.7
Total	42 026	44 267	45 679	43 097	42 183	100.0

a Average, 1998–2002. **b** Excludes unmilled cereal. **p** Preliminary.
Source: International Trade Centre, UNCTAD/WTO.

8.9 Value of food imports, Germany

	1998 US$m	1999 US$m	2000 US$m	2001 US$m	2002 p US$m	Share a %
Minimally transformed						
Live animals except fish	405	404	351	488	446	1.2
Fish or shellfish						
Fish, live or fresh	1 529	1 349	1 214	1 421	1 371	3.8
Fish, dried, salted or smoked	211	189	167	192	134	0.5
Shellfish	238	208	206	239	185	0.6
Horticulture						
Vegetables	3 427	3 253	2 704	3 105	3 169	8.7
Fruit and nuts	4 727	4 524	3 659	4 007	4 021	11.6
Cocoa	854	728	506	478	654	1.8
Eggs, albumin	369	315	265	323	320	0.9
Grains and oilseeds						
Barley	78	84	90	109	115	0.3
Maize	267	245	177	182	212	0.6
Oilseeds, not soft oil	143	115	105	91	86	0.3
Oilseeds, soft oil	1 625	1 459	1 266	1 409	1 366	3.9
Rice	166	158	144	142	142	0.4
Wheat or meslin	179	204	167	181	215	0.5
Other cereal grains, nec	31	31	33	37	31	0.1
Substantially transformed						
Meat						
Beef, fresh, chilled or frozen	746	764	577	302	475	1.6
Meat, fresh, chilled or frozen	3 135	2 657	2 242	2 735	2 560	7.4
Meat or offal, preserved	178	190	216	410	317	0.7
Meat or offal, preserved, nec	719	643	553	612	566	1.7
Dairy						
Milk products, excluding butter and cheese	711	702	647	785	896	2.1
Butter and cheese	552	494	375	378	466	1.3
Cheese and curd	2 065	2 155	1 529	1 795	1 852	5.2
Fish or shellfish	574	548	485	532	565	1.5
Cereal products						
Flour or meal from wheat or meslin	29	23	14	18	24	0.1
Cereal flour or meal, nec	14	9	9	10	14	0.0
Cereal etc, flour or starch	1 393	1 327	1 037	1 282	1 430	3.6
Horticulture						
Vegetables, prepared or preserved	1 274	1 328	1 036	1 219	1 287	3.4
Fruit, prepared or preserved	1 090	1 023	898	920	1 000	2.7
Fruit or vegetable juices	813	847	770	776	813	2.2
Sugar and confectionery						
Sugar, molasses and honey	587	544	479	561	654	1.6
Sugar confectionery	319	347	304	309	301	0.9
Chocolate and cocoa preparations	930	832	646	801	805	2.2

Continued

8.9 Value of food imports, Germany *continued*

	1998 US$m	1999 US$m	2000 US$m	2001 US$m	2002 p US$m	Share a %
Animal and vegetable oil						
Margarine and shortening	56	54	42	46	51	0.1
Animal oil or fat	83	65	61	57	62	0.2
Vegetable oil or fat, fixed, soft	314	287	247	309	376	0.8
Vegetable oils, fixed, not soft	681	580	519	452	549	1.5
Animal or vegetable oils, processed	326	295	253	257	278	0.8
Other food						
Coffee and coffee substitutes	2 469	1 893	1 637	1 249	1 115	4.6
Tea and mate	147	139	106	109	113	0.3
Spices	191	203	180	162	164	0.5
Edible products, nec	1 651	1 572	1 194	1 381	1 404	4.0
Beverage						
Beverages, nonalcoholic, nec	335	463	434	563	747	1.4
Alcoholic beverages	2 972	3 126	2 521	2 769	2 810	7.9
Animal feed b	1 831	1 422	1 479	1 679	1 705	4.5
Total	40 433	37 798	31 542	34 884	35 865	100.0

a Average, 1998–2002. **b** Excludes unmilled cereal. **p** Preliminary.
Source: International Trade Centre, UNCTAD/WTO.

8.10 Value of food imports, United Kingdom

	1998 US$m	1999 US$m	2000 US$m	2001 US$m	2002 p US$m	Share a %
Minimally transformed						
Live animals except fish	378	370	517	475	524	1.7
Fish or shellfish						
Fish, live or fresh	927	957	951	958	1 005	3.5
Fish, dried, salted or smoked	13	13	12	15	14	0.0
Shellfish	311	303	342	331	341	1.2
Horticulture						
Vegetables	2 020	1 978	1 881	2 091	2 281	7.5
Fruit and nuts	2 911	2 707	2 463	2 495	2 778	9.7
Cocoa	488	476	232	291	412	1.4
Eggs, albumin	48	51	65	73	94	0.2
Grains and oilseeds						
Barley	34	24	11	16	15	0.1
Maize	229	219	214	219	207	0.8
Oilseeds, not soft oil	43	13	11	27	39	0.1
Oilseeds, soft oil	492	313	329	415	392	1.4
Rice	284	289	228	247	227	0.9
Wheat or meslin	236	208	195	210	209	0.8
Other cereal grains, nec	11	11	11	11	12	0.0
Substantially transformed						
Meat						
Beef, fresh, chilled or frozen	427	490	489	559	675	1.9
Meat, fresh, chilled or frozen	1 522	1 540	1 569	1 632	1 684	5.8
Meat or offal, preserved	625	648	705	889	930	2.8
Meat or offal, preserved, nec	780	796	827	907	979	3.1
Dairy						
Milk products, excluding butter and cheese	489	463	463	476	516	1.8
Butter and cheese	351	367	355	354	198	1.2
Cheese and curd	978	987	905	936	959	3.5
Fish or shellfish	898	804	714	780	792	2.9
Cereal products						
Flour or meal from wheat or meslin	24	28	30	21	29	0.1
Cereal flour or meal, nec	13	19	16	13	13	0.1
Cereal etc, flour or starch	1 018	1 010	962	1 058	1 187	3.8
Horticulture						
Vegetables, prepared or preserved	963	969	819	752	831	3.2
Fruit, prepared or preserved	501	454	414	383	397	1.6
Fruit or vegetable juices	441	436	377	367	425	1.5
Sugar and confectionery						
Sugar, molasses and honey	1 071	970	836	883	902	3.4
Sugar confectionery	211	220	231	248	277	0.9
Chocolate and cocoa preparations	542	606	584	567	644	2.1

Continued

8.10 Value of food imports, United Kingdom *continued*

	1998 US$m	1999 US$m	2000 US$m	2001 US$m	2002 p US$m	Share a %
Animal and vegetable oil						
Margarine and shortening	67	92	85	59	44	0.3
Animal oil or fat	116	98	90	104	88	0.4
Vegetable oil or fat, fixed, soft	369	340	272	280	302	1.1
Vegetable oils, fixed, not soft	347	333	300	251	319	1.1
Animal or vegetable oils, processed	144	135	142	172	168	0.6
Other food						
Coffee and coffee substitutes	637	473	423	325	310	1.6
Tea and mate	374	330	320	297	290	1.2
Spices	96	88	96	95	91	0.3
Edible products, nec	1 418	1 423	1 142	1 142	1 268	4.7
Beverage						
Beverages, nonalcoholic, nec	307	428	432	483	461	1.5
Alcoholic beverages	4 017	4 050	3 644	3 728	4 142	14.3
Animal feed b	1 164	1 049	1 047	1 128	1 114	4.0
Total	28 333	27 577	25 750	26 762	28 587	100.0

a Average, 1998–2002. **b** Excludes unmilled cereal. **p** Preliminary.
Source: International Trade Centre, UNCTAD/WTO.

8.11 Value of food imports, France

	1998 US$m	1999 US$m	2000 US$m	2001 US$m	2002 p US$m	Share a %
Minimally transformed						
Live animals except fish	307	373	364	245	236	1.3
Fish or shellfish						
Fish, live or fresh	1 484	1 489	1 339	1 330	1 373	5.8
Fish, dried, salted or smoked	125	111	106	115	102	0.5
Shellfish	1 014	985	926	934	952	4.0
Horticulture						
Vegetables	1 451	1 432	1 368	1 403	1 596	6.0
Fruit and nuts	2 393	2 220	2 040	2 096	2 247	9.1
Cocoa	542	554	398	410	642	2.1
Eggs, albumin	83	75	85	85	97	0.4
Grains and oilseeds						
Barley	3	4	12	7	3	0.0
Maize	104	83	82	96	128	0.4
Oilseeds, not soft oil	21	21	24	23	25	0.1
Oilseeds, soft oil	342	282	180	283	292	1.1
Rice	240	231	220	208	213	0.9
Wheat or meslin	81	54	72	81	73	0.3
Other cereal grains, nec	15	13	13	17	13	0.1
Substantially transformed						
Meat						
Beef, fresh, chilled or frozen	920	947	833	562	692	3.3
Meat, fresh, chilled or frozen	1 760	1 637	1 641	1 632	1 550	6.8
Meat or offal, preserved	202	180	184	206	211	0.8
Meat or offal, preserved, nec	264	233	237	251	263	1.0
Dairy						
Milk products, excluding butter and cheese	1 015	1 005	977	962	899	4.0
Butter and cheese	482	395	399	362	342	1.6
Cheese and curd	683	681	654	654	678	2.8
Fish or shellfish	793	614	609	613	716	2.8
Cereal products						
Flour or meal from wheat or meslin	72	60	59	62	63	0.3
Cereal flour or meal, nec	21	16	14	12	12	0.1
Cereal etc, flour or starch	1 278	1 297	1 204	1 192	1 357	5.3
Horticulture						
Vegetables, prepared or preserved	775	815	720	714	824	3.2
Fruit, prepared or preserved	661	621	582	542	599	2.5
Fruit or vegetable juices	544	603	602	465	548	2.3
Sugar and confectionery						
Sugar, molasses and honey	396	434	395	382	468	1.7
Sugar confectionery	202	185	174	156	183	0.7
Chocolate and cocoa preparations	926	866	808	764	862	3.5

Continued

8.11 Value of food imports, France *continued*

	1998 US$m	1999 US$m	2000 US$m	2001 US$m	2002 p US$m	Share a %
Animal and vegetable oil						
Margarine and shortening	128	117	99	107	162	0.5
Animal oil or fat	82	54	47	53	51	0.2
Vegetable oil or fat, fixed, soft	540	485	414	416	512	2.0
Vegetable oils, fixed, not soft	253	228	210	229	253	1.0
Animal or vegetable oils, processed	218	169	163	166	180	0.7
Other food						
Coffee and coffee substitutes	1 149	888	764	593	587	3.3
Tea and mate	85	88	84	83	97	0.4
Spices	98	99	103	100	121	0.4
Edible products, nec	915	923	847	852	979	3.8
Beverage						
Beverages, nonalcoholic, nec	307	308	302	335	396	1.4
Alcoholic beverages	1 421	1 384	1 206	1 193	1 330	5.4
Animal feed b	1 524	1 266	1 462	1 484	1 521	6.0
Total	25 918	24 523	23 020	22 475	24 449	100.0

a Average, 1998–2002. **b** Excludes unmilled cereal. **p** Preliminary.
Source: International Trade Centre, UNCTAD/WTO.

9.1 Supply and consumption of alcoholic beverages, by selected country a

	Domestic supply				Food consumption	
	Production	Imports	Exports	Total b	Volume	Per person
	kt	kt	kt	kt	kt	kg
Africa	27 357	510	620	27 318	25 790	32
Egypt	140	0	8	135	84	1
Nigeria	9 482	51	1	9 532	8 669	74
South Africa	4 002	33	456	3 578	3 520	79
Asia c	54 903	1 626	1 049	55 790	51 794	14
China	34 213	424	357	34 280	33 494	26
India	4 233	13	57	4 189	1 644	2
Indonesia	256	4	32	228	169	1
Japan	6 653	587	62	7 179	7 039	55
Korea, Rep. of	3 251	228	148	3 331	3 145	67
Malaysia	146	20	46	120	114	5
Pakistan	54	0	32	27	24	0
Philippines	1 240	43	21	1 263	1 176	15
Thailand	1 632	58	140	1 852	1 846	30
Viet Nam	656	6	7	656	656	8
Europe	74 413	9 976	12 833	71 634	65 951	91
Austria	1 243	150	104	1 287	1 216	150
Belgium	1 564	521	693	1 347	1 323	129
Czech Republic	1 926	126	215	1 837	1 749	171
Denmark	793	240	305	766	713	134
France	8 651	1 195	2 448	7 306	5 626	94
Germany	12 061	1 864	1 332	12 822	12 486	152
Greece	876	109	85	894	766	70
Italy	6 669	657	2 021	5 839	4 675	81
Malta	16	5	1	21	19	48
Netherlands	2 572	495	1 261	1 806	1 755	110
Norway	244	90	5	328	301	67
Poland	3 292	116	32	3 376	3 165	82
Portugal	1 533	256	282	1 318	1 198	119
Russian Federation	7 914	407	97	8 225	8 176	57
Slovenia	242	33	82	194	180	91
Spain	6 495	508	1 095	5 459	4 368	107
Sweden	576	241	87	730	683	77
Turkey	895	5	39	860	811	12
United Kingdom	6 598	1 756	1 417	6 986	6 886	117
Middle East						
Iran	0	0	1	– 1	0	0
Kuwait	0	0	0	0	0	0
Saudi Arabia	0	3	0	3	0	0
United Arab Emirates	0	54	1	52	0	0

continued

9.1 Supply and consumption of alcoholic beverages, by selected country a *continued*

	Domestic supply				Food consumption	
	Production	Imports	Exports	Total b	Volume	Per person
	kt	kt	kt	kt	kt	kg
Central America	7 066	380	1 448	5 999	5 651	41
North America	35 039	4 647	1 629	38 058	32 320	101
Canada	3 205	547	544	3 207	3 155	102
Mexico	6 429	269	1 316	5 383	4 992	50
United States	31 834	4 101	1 085	34 850	29 165	101
South America	27 083	385	1 126	26 470	15 267	43
Argentina	2 630	22	181	2 482	2 424	65
Brazil	19 125	96	411	18 809	7 725	44
Chile	945	35	421	665	661	43
Uruguay	175	16	5	185	182	54
Oceania	3 348	212	555	2 924	2 679	87
Australia	2 821	127	503	2 367	2 190	113
New Zealand	398	64	47	412	364	95
World	230 226	17 875	19 430	229 177	200 380	33

a Annual average, 2000–2002. Wine, beer from barley, and other fermented and alcoholic beverages. Includes nonfood alcohol. **b** Takes account of stock changes. **c** Not including Middle East countries.
Source: Food and Agriculture Organisation, FAOSTAT nutrition data.

9.2 Supply and consumption of cereals, by selected country [a]

	Domestic supply				Food consumption	
	Production	Imports	Exports	Total [b]	Volume	Per person
	kt	kt	kt	kt	kt	kg
Africa	109 181	48 207	2 871	157 073	115 885	143
Egypt	17 659	9 812	507	26 887	16 203	234
Nigeria	20 165	3 657	66	23 856	17 237	146
South Africa	12 674	2 028	1 168	13 475	8 275	186
Asia [c]	816 807	116 280	43 378	890 839	622 093	167
China	341 364	10 722	13 189	352 374	225 846	175
India	188 695	66	5 882	183 939	159 763	155
Indonesia	43 743	6 663	133	50 838	43 440	203
Japan	8 605	27 674	613	35 257	14 657	115
Korea, Rep. of	5 118	13 116	200	17 588	7 381	157
Malaysia	1 474	4 972	296	6 221	3 596	153
Pakistan	26 036	506	2 770	25 402	22 319	153
Philippines	13 037	4 461	22	16 421	10 541	137
Thailand	21 935	1 262	7 598	14 387	7 555	123
Viet Nam	24 256	1 125	3 551	19 357	14 758	186
Europe	416 941	66 721	91 732	384 721	96 655	133
Austria	4 687	864	1 167	4 479	924	114
Belgium	2 504	6 721	3 885	4 516	1 097	107
Czech Republic	6 860	278	882	6 400	1 134	111
Denmark	9 222	1 203	2 347	7 987	663	124
France	65 160	2 873	32 245	35 191	6 939	117
Germany	46 116	4 989	14 081	38 143	8 724	106
Greece	4 699	1 818	603	5 543	1 654	151
Italy	20 302	9 584	4 764	24 523	9 276	161
Malta	12	194	2	207	72	184
Netherlands	1 654	7 030	2 011	6 642	1 236	77
Norway	1 244	526	12	1 765	578	129
Poland	25 393	1 564	303	26 956	5 958	154
Portugal	1 425	3 240	225	4 449	1 335	133
Russian Federation	77 297	3 695	6 159	72 658	22 002	152
Slovenia	532	468	47	1 015	269	135
Spain	21 137	9 237	2 158	26 272	4 013	98
Sweden	5 508	466	1 575	4 584	909	103
Turkey	30 762	2 191	1 825	31 049	15 226	220
United Kingdom	22 032	4 169	4 831	21 120	6 124	104
Middle East						
Iran	15 140	8 689	72	23 746	13 910	207
Kuwait	4	667	17	647	332	141
Saudi Arabia	2 464	6 290	32	8 306	3 409	149
United Arab Emirates	0	2 076	592	1 284	397	138

Continued

9.2 Supply and consumption of cereals, by selected country a *continued*

	Domestic supply				Food consumption	
	Production	Imports	Exports	Total b	Volume	Per person
	kt	kt	kt	kt	kt	kg
Central America	32 846	20 205	1 176	50 625	22 253	162
North America	362 803	11 416	108 047	283 316	36 826	115
Canada	43 551	4 234	21 283	30 428	3 667	118
Mexico	29 184	16 344	869	43 675	17 634	176
United States	319 252	7 182	86 763	252 888	33 159	115
South America	100 465	22 030	25 306	96 803	39 085	111
Argentina	35 306	69	22 682	13 573	4 955	132
Brazil	47 776	9 870	429	56 653	18 291	105
Chile	2 982	1 785	228	4 463	2 183	142
Uruguay	1 404	306	972	870	481	143
Oceania	30 512	1 313	20 882	11 382	2 628	85
Australia	29 586	188	20 825	9 424	1 604	83
New Zealand	897	430	38	1 227	376	99
World	1 871 113	291 064	293 479	1 880 891	938 901	153

a Annual average, 2000–2002. Includes wheat, rice (milled equivalent), barley (excluding beer), maize, rye, oats, millet, sorghum and other cereals. **b** Takes account of stock changes. **c** Not including Middle East countries.
Source: Food and Agriculture Organisation, FAOSTAT nutrition data.

9.3 Supply and consumption of starchy roots, by selected country [a]

	Domestic supply				Food consumption	
	Production	Imports	Exports	Total [b]	Volume	Per person
	kt	kt	kt	kt	kt	kg
Africa	172 932	774	396	173 598	106 256	131
Egypt	2 199	55	214	2 064	1 592	23
Nigeria	66 497	1	4	66 495	26 394	224
South Africa	1 683	127	49	1 760	1 289	29
Asia [c]	298 994	12 873	16 240	293 230	170 007	46
China	187 562	7 375	758	194 289	98 420	76
India	31 541	7	43	31 506	25 081	24
Indonesia	19 697	575	672	19 600	14 531	68
Japan	4 514	1 345	6	5 853	4 342	34
Korea, Rep. of	970	1 398	0	2 367	799	17
Malaysia	462	604	30	1 036	522	22
Pakistan	2 215	18	65	2 168	1 880	13
Philippines	2 488	239	5	2 721	2 397	31
Thailand	18 321	191	13 510	2 562	1 097	18
Viet Nam	5 304	12	575	4 740	1 037	13
Europe	140 104	21 642	13 244	148 012	68 093	94
Austria	691	115	43	764	505	62
Belgium	2 798	3 481	2 319	2 287	940	92
Czech Republic	1 237	98	55	1 307	818	80
Denmark	1 564	179	125	1 719	425	80
France	6 463	1 199	1 433	6 137	3 979	67
Germany	12 368	1 327	3 398	9 429	6 152	75
Greece	903	205	24	1 084	753	69
Italy	2 064	1 124	314	2 854	2 303	40
Malta	30	15	3	42	34	88
Netherlands	7 502	5 110	4 121	8 491	1 498	94
Norway	339	56	0	423	321	72
Poland	19 712	106	541	20 031	5 093	132
Portugal	1 257	966	30	2 193	1 301	130
Russian Federation	33 938	423	20	34 341	17 516	121
Slovenia	167	34	3	198	137	69
Spain	3 087	4 067	260	7 025	3 304	81
Sweden	940	298	35	1 148	473	53
Turkey	5 190	219	93	5 316	4 187	60
United Kingdom	6 503	1 606	282	8 150	6 813	115
Middle East						
Iran	3 633	25	78	3 580	3 035	45
Kuwait	27	28	0	55	54	23
Saudi Arabia	349	173	44	478	407	18
United Arab Emirates	12	60	5	67	48	17

Continued

9.3 Supply and consumption of starchy roots, by selected country [a] *continued*

	Domestic supply				Food consumption	
	Production	Imports	Exports	Total [b]	Volume	Per person
	kt	kt	kt	kt	kt	kg
Central America	2 491	468	323	2 646	2 138	16
North America	26 461	3 128	3 521	26 020	21 280	67
Canada	4 495	434	1 640	3 308	2 568	83
Mexico	1 738	324	28	2 034	1 659	17
United States	21 966	2 695	1 882	22 712	18 712	65
South America	47 108	669	350	47 447	23 620	67
Argentina	2 832	58	157	2 733	2 255	60
Brazil	26 559	193	88	26 663	10 661	61
Chile	1 175	32	7	1 200	831	54
Uruguay	188	46	0	248	181	54
Oceania	3 489	187	151	3 542	2 944	96
Australia	1 243	91	52	1 281	1 053	54
New Zealand	517	55	82	504	306	80
World	694 246	39 886	34 274	697 257	396 301	65

a Annual average, 2000–2002. Includes cassava, potatoes, yams and other roots. **b** Takes account of stock changes. **c** Not including Middle East countries.
Source: Food and Agriculture Organisation, FAOSTAT nutrition data.

9.4 Supply and consumption of sweeteners, by selected country [a]

	Domestic supply				Food consumption	
	Production	Imports	Exports	Total [b]	Volume	Per person
	kt	kt	kt	kt	kt	kg
Africa	9 718	6 191	3 327	13 081	12 489	15
Egypt	1 556	535	24	2 322	2 104	30
Nigeria	53	1 134	8	1 179	1 179	10
South Africa	2 626	36	1 438	1 458	1 457	33
Asia [c]	62 058	16 713	8 396	68 309	64 179	17
China	10 300	1 799	697	10 789	8 864	7
India	28 397	49	1 253	25 732	25 330	25
Indonesia	2 351	1 390	48	3 990	3 777	18
Japan	2 099	1 743	16	3 803	3 677	29
Korea, Rep. of	847	1 576	437	1 894	1 708	36
Malaysia	132	1 309	442	1 037	1 028	44
Pakistan	3 553	694	28	4 167	4 169	29
Philippines	1 961	281	108	2 190	2 190	28
Thailand	5 782	21	4 001	1 910	1 903	31
Viet Nam	1 126	50	80	1 097	1 033	13
Europe	30 313	17 374	13 958	35 043	29 333	40
Austria	772	376	283	893	369	46
Belgium	1 094	1 420	1 791	839	559	54
Czech Republic	590	141	213	518	452	44
Denmark	680	271	444	493	286	54
France	5 666	891	4 240	2 719	2 394	40
Germany	4 736	1 256	2 097	3 791	3 656	44
Greece	409	79	25	453	372	34
Italy	1 883	669	610	2 038	1 810	32
Malta	0	28	0	28	21	52
Netherlands	2 176	450	569	2 028	755	47
Norway	6	219	19	210	203	45
Poland	2 135	117	369	1 901	1 749	45
Portugal	79	380	107	371	348	35
Russian Federation	1 819	5 178	208	7 084	6 094	42
Slovenia	63	60	29	96	30	15
Spain	1 285	554	406	1 609	1 396	34
Sweden	456	102	137	425	412	47
Turkey	2 366	23	635	1 950	1 914	28
United Kingdom	2 005	1 971	1 082	3 021	2 424	41
Middle East						
Iran	944	955	28	1 785	1 784	27
Kuwait	0	83	3	81	81	35
Saudi Arabia	0	556	15	626	626	27
United Arab Emirates	0	1 165	495	597	111	39

Continued

9.4 Supply and consumption of sweeteners, by selected country a *continued*

	Domestic supply				Food consumption	
	Production	Imports	Exports	Total b	Volume	Per person
	kt	kt	kt	kt	kt	kg
Central America	8 853	472	2 649	6 763	6 452	47
North America	20 202	3 727	1 416	23 075	22 362	70
Canada	474	1 616	448	1 708	1 742	56
Mexico	5 156	387	538	5 146	4 926	49
United States	19 728	2 111	968	21 367	20 621	72
South America	30 150	1 048	12 853	18 329	17 638	50
Argentina	2 122	21	430	1 715	1 775	47
Brazil	20 795	30	10 822	9 926	9 928	57
Chile	531	261	22	748	715	46
Uruguay	16	106	15	107	107	32
Oceania	5 413	400	4 141	1 364	1 234	40
Australia	4 980	82	3 778	996	903	47
New Zealand	60	273	63	247	225	59
World	171 328	46 425	50 419	167 504	155 209	25

a Annual average, 2000–2002. Includes sugar (in raw equivalent terms from both sugar cane and sugar beet), honey and other sweeteners.
b Takes account of stock changes. **c** Not including Middle East countries.
Source: Food and Agriculture Organisation, FAOSTAT nutrition data.

9.5 Supply and consumption of pulses, by selected country [a]

	Domestic supply				Food consumption	
	Production	Imports	Exports	Total [b]	Volume	Per person
	kt	kt	kt	kt	kt	kg
Africa	9 048	936	180	10 035	7 417	9
Egypt	487	349	41	839	625	9
Nigeria	2 215	1	0	2 216	1 153	10
South Africa	113	59	8	167	138	3
Asia [c]	25 327	3 661	2 495	26 449	19 688	5
China	5 113	263	738	4 644	1 837	1
India	12 654	1 613	186	14 081	11 805	11
Indonesia	295	37	8	324	276	1
Japan	100	164	0	277	255	2
Korea, Rep. of	29	56	0	85	81	2
Malaysia	0	63	2	61	61	3
Pakistan	823	401	32	1 192	944	7
Philippines	56	80	0	136	132	2
Thailand	298	7	43	262	232	4
Viet Nam	246	5	3	249	221	3
Europe	7 623	2 569	1 659	8 575	1 991	3
Austria	95	9	7	98	7	1
Belgium	6	427	98	334	24	2
Czech Republic	81	12	30	68	14	1
Denmark	134	22	56	130	6	1
France	1 994	143	814	1 322	121	2
Germany	530	109	61	579	108	1
Greece	42	35	1	73	51	5
Italy	125	430	14	542	316	6
Malta	1	1	0	2	1	4
Netherlands	15	253	64	204	29	2
Norway	0	5	0	5	4	1
Poland	203	16	13	207	81	2
Portugal	22	56	10	68	40	4
Russian Federation	1 429	42	64	1 407	171	1
Slovenia	1	4	1	4	2	1
Spain	391	683	23	1 055	231	6
Sweden	77	6	1	82	14	2
Turkey	1 473	136	256	1 352	871	13
United Kingdom	887	170	241	815	340	6
Middle East						
Iran	579	9	107	481	361	5
Kuwait	0	14	0	14	14	6
Saudi Arabia	8	79	2	85	83	4
United Arab Emirates	0	45	20	32	25	9

Continued

9.5 Supply and consumption of pulses, by selected country a *continued*

	Domestic supply				Food consumption	
	Production	Imports	Exports	Total b	Volume	Per person
	kt	kt	kt	kt	kt	kg
Central America	2 020	230	232	2 006	1 750	13
North America	4 845	309	2 897	2 417	1 434	5
Canada	3 359	80	2 328	1 190	266	9
Mexico	1 539	154	187	1 489	1 282	13
United States	1 486	229	569	1 227	1 169	4
South America	3 793	530	350	4 167	3 793	11
Argentina	332	6	271	79	48	1
Brazil	2 869	136	8	3 163	2 904	17
Chile	92	23	24	92	62	4
Uruguay	7	4	0	11	10	3
Oceania	1 993	28	2 496	645	47	2
Australia	1 942	11	2 473	599	15	1
New Zealand	44	9	22	31	19	5
World	54 885	8 455	10 316	54 727	36 519	6

a Annual average, 2000–2002. Includes beans, peas and other pulses. **b** Takes account of stock changes. **c** Not including Middle East countries.
Source: Food and Agriculture Organisation, FAOSTAT nutrition data.

9.6 Supply and consumption of vegetables, by selected country [a]

	Domestic supply				Food consumption	
	Production	Imports	Exports	Total [b]	Volume	Per person
	kt	kt	kt	kt	kt	kg
Africa	47 103	1 229	1 176	47 164	42 556	53
Egypt	14 397	10	323	14 091	12 658	183
Nigeria	8 010	97	0	8 107	7 196	61
South Africa	2 196	47	56	2 187	1 903	43
Asia [c]	556 392	7 854	10 339	553 828	486 924	131
China	356 182	1 131	5 162	352 095	309 441	239
India	76 681	53	753	75 982	70 800	69
Indonesia	6 518	329	107	6 740	6 199	29
Japan	12 466	2 836	11	15 291	13 943	110
Korea, Rep. of	11 912	384	74	12 222	10 552	224
Malaysia	472	710	326	855	845	36
Pakistan	4 966	119	93	4 992	4 791	33
Philippines	4 931	123	27	5 027	4 787	62
Thailand	3 143	61	386	2 819	2 554	42
Viet Nam	6 978	46	66	6 931	6 247	79
Europe	94 665	22 564	20 857	96 681	82 788	114
Austria	537	455	168	824	723	89
Belgium	2 265	1 613	2 050	1 828	1 224	119
Czech Republic	388	427	29	786	743	72
Denmark	290	349	59	580	548	103
France	8 756	2 799	1 730	9 826	8 284	139
Germany	3 699	5 263	713	8 249	7 491	91
Greece	4 021	172	599	3 594	2 901	265
Italy	15 309	1 316	4 745	11 879	9 841	171
Malta	58	8	0	66	56	143
Netherlands	3 560	1 422	3 337	1 611	1 452	91
Norway	131	167	3	295	275	61
Poland	5 415	391	648	5 157	4 408	114
Portugal	2 284	274	503	2 055	1 807	180
Russian Federation	13 394	1 668	41	15 195	13 205	91
Slovenia	57	99	10	146	133	67
Spain	12 072	534	4 671	7 935	6 182	151
Sweden	265	506	54	717	660	75
Turkey	24 492	15	1 209	23 299	15 721	227
United Kingdom	2 822	3 163	255	5 730	5 200	88
Middle East						
Iran	12 137	0	446	11 710	10 399	155
Kuwait	178	226	4	401	381	163
Saudi Arabia	1 703	555	65	2 194	1 996	87
United Arab Emirates	1 232	535	91	1 676	662	230

Continued

9.6 Supply and consumption of vegetables, by selected country a *continued*

	Domestic supply				Food consumption	
	Production	Imports	Exports	Total b	Volume	Per person
	kt	kt	kt	kt	kt	kg
Central America	11 335	718	4 234	7 820	7 159	52
North America	39 922	7 374	4 569	42 727	40 071	126
Canada	2 339	2 304	632	4 012	3 798	122
Mexico	9 339	373	3 463	6 250	5 713	57
United States	37 583	5 070	3 938	38 715	36 273	126
South America	19 450	905	1 301	19 054	16 319	46
Argentina	3 058	210	223	3 045	2 721	73
Brazil	7 483	278	197	7 564	6 767	39
Chile	2 656	13	639	2 030	1 548	100
Uruguay	159	47	1	205	180	53
Oceania	3 435	359	689	3 105	2 921	95
Australia	1 897	251	230	1 918	1 864	96
New Zealand	997	73	456	613	536	141
World	776 005	41 182	43 236	774 192	682 112	111

a Annual average, 2000–2002. Does not include starchy roots. **b** Takes account of stock changes. **c** Not including Middle East countries.
Source: Food and Agriculture Organisation, FAOSTAT nutrition data.

9.7 Supply and consumption of fruit, by selected country a

	Domestic supply				Food consumption	
	Production	Imports	Exports	Total b	Volume	Per person
	kt	kt	kt	kt	kt	kg
Africa	60 757	920	4 122	57 602	43 186	53
Egypt	7 243	104	251	7 106	6 379	92
Nigeria	9 023	40	0	9 062	8 128	69
South Africa	4 906	25	2 093	2 860	1 626	37
Asia c	201 341	12 706	13 703	200 231	173 304	47
China	68 479	2 817	2 480	68 816	58 664	45
India	45 103	286	341	45 048	38 830	38
Indonesia	8 684	300	307	8 677	7 896	37
Japan	3 905	3 922	32	7 795	6 827	54
Korea, Rep. of	2 686	860	45	3 501	3 235	69
Malaysia	1 172	545	318	1 399	1 223	52
Pakistan	5 405	171	288	5 288	5 070	35
Philippines	11 098	188	2 569	8 716	7 690	100
Thailand	7 660	96	1 740	6 016	5 541	90
Viet Nam	4 491	85	165	4 413	4 039	51
Europe	75 714	46 257	28 230	93 943	59 978	83
Austria	1 060	1 186	644	1 605	1 050	130
Belgium	610	4 104	3 853	889	741	72
Czech Republic	489	584	213	860	723	71
Denmark	36	861	192	622	596	112
France	10 990	5 816	2 405	14 402	5 826	98
Germany	5 235	9 150	2 827	11 543	9 760	119
Greece	4 065	336	1 531	2 903	1 758	161
Italy	17 425	2 301	4 171	15 605	8 029	140
Malta	7	29	2	34	31	78
Netherlands	606	4 254	2 684	2 128	2 073	130
Norway	25	498	5	518	504	112
Poland	2 893	1 250	1 461	2 714	2 002	52
Portugal	1 876	625	126	2 386	1 286	128
Russian Federation	3 367	3 165	64	6 511	5 888	41
Slovenia	268	163	31	400	272	137
Spain	15 499	1 162	5 775	11 011	4 696	115
Sweden	35	1 006	74	967	916	103
Turkey	10 859	145	2 341	8 663	7 162	103
United Kingdom	312	5 591	270	5 633	5 470	93
Middle East						
Iran	12 607	151	885	11 877	10 557	157
Kuwait	11	128	20	125	119	51
Saudi Arabia	1 244	1 110	180	2 174	2 094	92
United Arab Emirates	795	824	328	1 292	345	120

Continued

9.7 Supply and consumption of fruit, by selected country a *continued*

	Domestic supply				Food consumption	
	Production	Imports	Exports	Total b	Volume	Per person
	kt	kt	kt	kt	kt	kg
Central America	22 424	1 422	6 982	16 868	14 548	106
North America	31 790	18 742	8 300	42 333	37 238	117
Canada	734	3 758	442	4 066	3 860	124
Mexico	13 850	775	1 476	13 149	11 674	116
United States	31 056	14 984	7 858	38 268	33 378	116
South America	68 993	1 790	23 627	47 179	34 614	98
Argentina	7 212	537	1 680	6 069	3 567	95
Brazil	35 114	349	12 947	22 516	17 449	100
Chile	4 054	196	2 514	1 756	779	51
Uruguay	487	73	132	428	278	83
Oceania	6 162	667	1 175	5 663	3 731	121
Australia	3 292	399	529	3 163	1 780	92
New Zealand	1 034	234	634	642	429	112
World	472 487	82 794	86 865	468 688	370 634	61

a Annual average, 2000–2002. Includes oranges, mandarines, lemons, limes, grapefruit, other citrus, bananas, plantains, apples (excluding cyder), pineapples, dates, grapes (excluding wine) and other fruit. **b** Takes account of stock changes. **c** Not including Middle East countries.
Source: Food and Agriculture Organisation, FAOSTAT nutrition data.

9.8 Supply and consumption of meat, by selected country a

	Domestic supply				Food consumption	
	Production	Imports	Exports	Total b	Volume	Per person
	kt	kt	kt	kt	kt	kg
Africa	11 291	697	134	11 873	11 879	15
Egypt	1 422	146	1	1 568	1 568	23
Nigeria	991	8	0	999	999	9
South Africa	1 668	130	25	1 774	1 768	40
Asia c	95 929	7 335	2 643	100 519	100 219	27
China	65 404	2 447	1 676	66 208	66 165	51
India	5 561	0	285	5 276	5 277	5
Indonesia	1 752	35	12	1 775	1 783	8
Japan	2 975	2 802	6	5 636	5 521	43
Korea, Rep. of	1 634	590	46	2 177	2 177	46
Malaysia	986	181	14	1 153	1 122	48
Pakistan	1 786	0	4	1 782	1 782	12
Philippines	2 046	154	1	2 200	2 200	29
Thailand	2 034	3	454	1 583	1 573	26
Viet Nam	2 133	4	46	2 090	2 090	26
Europe	52 167	12 226	11 350	52 835	52 442	72
Austria	966	179	242	903	903	111
Belgium	1 748	397	1 308	836	833	81
Czech Republic	818	55	41	832	812	79
Denmark	2 071	174	1 597	617	608	114
France	6 556	1 146	1 606	6 114	6 054	102
Germany	6 408	1 804	1 344	6 868	6 844	83
Greece	490	490	12	974	935	85
Italy	4 142	1 556	419	5 279	5 258	91
Malta	18	14	0	32	28	73
Netherlands	2 725	697	1 998	1 446	1 429	89
Norway	268	11	4	276	276	61
Poland	3 005	61	204	2 798	2 755	71
Portugal	728	227	24	931	905	90
Russian Federation	4 513	2 106	23	6 538	6 533	45
Slovenia	178	31	23	186	186	93
Spain	5 069	332	697	4 701	4 729	116
Sweden	547	139	39	637	626	71
Turkey	1 364	1	17	1 348	1 348	20
United Kingdom	3 382	1 774	420	4 737	4 685	79
Middle East						
Iran	1 591	30	10	1 610	1 611	24
Kuwait	76	76	1	151	151	65
Saudi Arabia	643	426	23	1 045	1 046	46
United Arab Emirates	76	153	7	221	216	75

Continued

9.8 Supply and consumption of meat, by selected country a *continued*

	Domestic supply				Food consumption	
	Production	Imports	Exports	Total b	Volume	Per person
	kt	kt	kt	kt	kt	kg
Central America	5 637	1 316	161	6 794	6 791	49
North America	42 154	2 653	6 224	38 516	38 203	120
Canada	4 140	566	1 422	3 272	3 111	100
Mexico	4 639	1 213	89	5 767	5 767	57
United States	38 014	2 087	4 802	35 244	35 092	122
South America	26 872	374	3 271	23 999	23 538	67
Argentina	3 990	95	366	3 719	3 601	96
Brazil	16 354	62	2 487	13 929	13 931	80
Chile	934	112	95	951	960	62
Uruguay	530	13	268	295	293	87
Oceania	5 527	193	2 555	3 166	2 992	97
Australia	3 808	50	1 673	2 185	2 110	109
New Zealand	1 312	44	879	477	386	101
World	240 411	25 131	26 342	238 868	237 185	39

a Annual average, 2000–2002. Includes beef and veal, mutton, goat meat, pigmeat, poultry meat and other meat and offal. **b** Takes account of stock changes. **c** Not including Middle East countries.
Source: Food and Agriculture Organisation, FAOSTAT nutrition data.

9.9 Supply and consumption of eggs, by selected country [a]

	Domestic supply				Food consumption	
	Production	Imports	Exports	Total [b]	Volume	Per person
	kt	kt	kt	kt	kt	kg
Africa	1 997	37	12	2 022	1 669	2
Egypt	192	0	0	192	156	2
Nigeria	430	0	0	430	379	3
South Africa	339	0	7	333	265	6
Asia [c]	34 518	236	255	34 498	30 898	8
China	23 866	90	75	23 882	21 678	17
India	1 873	0	29	1 844	1 556	2
Indonesia	848	2	3	847	695	3
Japan	2 521	43	0	2 564	2 443	19
Korea, Rep. of	538	3	0	541	478	10
Malaysia	422	2	82	341	272	12
Pakistan	360	0	1	359	305	2
Philippines	535	3	0	539	488	6
Thailand	804	2	7	799	607	10
Viet Nam	204	0	2	202	187	2
Europe	9 763	807	866	9 715	8 956	12
Austria	87	26	7	106	102	13
Belgium	185	54	112	128	109	11
Czech Republic	183	4	7	180	161	16
Denmark	79	28	12	95	83	16
France	1 019	94	91	1 022	930	16
Germany	886	284	86	1 084	1 037	13
Greece	110	4	1	113	101	9
Italy	710	46	17	739	695	12
Malta	6	1	0	7	5	13
Netherlands	638	66	366	338	278	17
Norway	48	1	2	47	43	10
Poland	456	3	4	459	427	11
Portugal	123	9	9	122	103	10
Russian Federation	1 969	8	8	1 976	1 917	13
Slovenia	23	2	1	24	21	10
Spain	673	17	55	635	577	14
Sweden	98	11	5	104	97	11
Turkey	582	2	8	577	516	8
United Kingdom	653	65	17	701	626	11
Middle East						
Iran	583	0	30	553	452	7
Kuwait	22	6	1	28	24	10
Saudi Arabia	128	6	7	127	87	4
United Arab Emirates	16	22	1	38	35	12

Continued

9.9 Supply and consumption of eggs, by selected country [a] *continued*

	Domestic supply				Food consumption	
	Production	Imports	Exports	Total [b]	Volume	Per person
	kt	kt	kt	kt	kt	kg
Central America	2 136	26	11	2 150	1 845	13
North America	5 456	51	121	5 385	4 553	14
Canada	384	41	19	405	361	12
Mexico	1 860	13	1	1 872	1 601	16
United States	5 071	10	102	4 980	4 192	15
South America	2 917	18	22	2 913	2 300	7
Argentina	320	3	1	322	274	7
Brazil	1 593	0	9	1 585	1 237	7
Chile	113	0	1	112	85	6
Uruguay	34	0	0	34	28	8
Oceania	199	5	2	202	161	5
Australia	141	1	1	142	111	6
New Zealand	46	0	1	46	37	10
World	57 153	1 189	1 290	57 062	50 523	8

a Annual average, 2000–2002. **b** Takes account of stock changes. **c** Not including Middle East countries.
Source: Food and Agriculture Organisation, FAOSTAT nutrition data.

9.10 Supply and consumption of seafood, by selected country a

	Domestic supply				Food consumption	
	Production	Imports	Exports	Total b	Volume	Per person
	kt	kt	kt	kt	kt	kg
Africa	7 184	2 327	2 040	3 374	6 345	8
Egypt	756	549	2	1 303	1 038	15
Nigeria	473	413	3	882	869	7
South Africa	722	121	242	601	322	7
Asia c	77 388	20 779	9 472	86 424	66 277	18
China	43 288	8 735	4 118	47 913	33 201	26
India	5 872	67	493	5 446	4 953	5
Indonesia	4 958	581	598	4 943	4 440	21
Japan	5 555	6 102	384	11 273	8 500	67
Korea, Rep. of	2 190	1 353	690	2 853	2 570	55
Malaysia	1 399	475	292	1 583	1 373	59
Pakistan	624	0	132	493	334	2
Philippines	2 348	788	196	2 940	2 283	30
Thailand	3 533	1 199	1 565	3 167	1 904	31
Viet Nam	1 993	69	470	1 592	1 442	18
Europe	17 528	20 713	16 467	20 685	14 987	21
Austria	3	152	6	149	114	14
Belgium	na	na	na	na	na	na
Czech Republic	25	211	19	216	139	14
Denmark	1 561	1 559	2 563	564	131	25
France	869	2 028	784	2 113	1 854	31
Germany	267	2 664	1 768	1 247	1 216	15
Greece	193	500	110	584	252	23
Italy	524	1 545	212	1 856	1 463	25
Malta	2	32	3	31	18	46
Netherlands	571	1 200	1 023	797	381	24
Norway	3 198	931	2 565	1 582	241	54
Poland	259	414	266	406	506	13
Portugal	198	605	136	666	583	58
Russian Federation	3 826	1 257	1 415	3 676	2 726	19
Slovenia	3	30	4	30	15	7
Spain	1 384	2 339	1 199	2 524	1 911	47
Sweden	327	478	520	285	286	32
Turkey	589	197	51	735	504	7
United Kingdom	915	2 355	874	2 398	1 339	23
Middle East						
Iran	408	256	7	656	318	5
Kuwait	6	15	1	22	19	8
Saudi Arabia	57	140	3	194	169	7
United Arab Emirates	118	23	10	134	70	24

Continued

9.10 Supply and consumption of seafood, by selected country a *continued*

	Domestic supply				Food consumption	
	Production	Imports	Exports	Total b	Volume	Per person
	kt	kt	kt	kt	kt	kg
Central America	1 825	366	453	1 642	1 252	9
North America	6 484	4 707	2 918	8 316	7 005	22
Canada	1 173	1 238	1 095	1 316	803	26
Mexico	1 436	231	229	1 439	1 106	11
United States	5 311	3 469	1 823	7 000	6 202	22
South America	16 663	1 058	14 782	4 103	3 030	9
Argentina	922	87	640	369	366	10
Brazil	967	343	95	1 215	1 111	6
Chile	4 421	43	3 727	806	188	12
Uruguay	109	18	95	33	29	9
Oceania	1 099	614	715	1 017	695	23
Australia	236	514	192	557	434	22
New Zealand	635	33	462	207	100	26
World	128 389	50 856	46 891	125 921	100 006	16

a Annual average, 2000–2002. Includes freshwater fish, demersal fish, pelagic fish, other marine fish, crustaceans, cephalopods and other molluscs. **b** Takes account of stock changes. **c** Not including Middle East countries.
Source: Food and Agriculture Organisation, FAOSTAT nutrition data.

9.11 Supply and consumption of milk, by selected country a

	Domestic supply				Food consumption	
	Production	Imports	Exports	Total b	Volume	Per person
	kt	kt	kt	kt	kt	kg
Africa	27 905	5 210	401	32 727	29 705	37
Egypt	3 963	294	22	4 258	3 484	50
Nigeria	424	517	5	936	833	7
South Africa	2 663	199	148	2 717	2 351	53
Asia c	175 305	14 834	2 210	187 953	154 901	42
China	14 738	2 081	426	16 396	14 660	11
India	82 337	10	341	82 005	65 653	64
Indonesia	797	1 167	295	1 669	1 574	7
Japan	8 394	2 135	13	10 517	8 488	67
Korea, Rep. of	2 381	341	12	2 710	1 339	28
Malaysia	41	1 365	145	1 261	1 183	50
Pakistan	26 294	60	2	26 351	22 372	153
Philippines	11	1 677	113	1 575	1 526	20
Thailand	555	1 007	294	1 268	1 246	20
Viet Nam	96	265	0	361	358	5
Europe	216 068	39 294	53 014	202 569	152 965	210
Austria	3 335	820	1 374	2 708	2 336	288
Belgium	3 617	3 771	3 982	3 406	2 493	243
Czech Republic	2 781	193	545	2 429	2 084	203
Denmark	4 621	592	2 644	2 454	1 252	235
France	25 799	3 534	8 125	21 234	16 144	271
Germany	28 155	6 159	11 010	23 467	20 076	244
Greece	1 961	1 182	166	2 977	2 737	250
Italy	12 674	6 584	1 479	18 001	15 127	263
Malta	49	58	1	106	80	204
Netherlands	11 096	4 900	7 393	8 352	5 521	345
Norway	1 600	36	188	1 449	1 219	271
Poland	11 883	858	1 959	10 798	6 880	178
Portugal	2 120	569	317	2 372	2 209	220
Russian Federation	32 865	1 024	1 133	32 764	21 706	150
Slovenia	657	46	140	563	483	243
Spain	7 012	2 390	1 012	8 422	6 679	163
Sweden	3 271	458	331	3 398	3 168	358
Turkey	9 233	69	19	9 282	7 542	109
United Kingdom	14 699	3 273	2 220	15 819	13 464	228
Middle East						
Iran	5 926	61	29	5 958	3 923	58
Kuwait	40	191	5	227	228	98
Saudi Arabia	992	1 285	331	1 946	1 894	83
United Arab Emirates	87	415	12	491	420	146

Continued

9.11 Supply and consumption of milk, by selected country a *continued*

	Domestic supply				Food consumption	
	Production	Imports	Exports	Total b	Volume	Per person
	kt	kt	kt	kt	kt	kg
Central America	12 050	3 640	323	15 371	14 279	104
North America	84 137	5 346	2 925	85 643	81 158	254
Canada	8 053	672	817	7 824	6 435	207
Mexico	9 620	2 946	128	12 438	11 427	114
United States	76 084	4 674	2 108	77 819	74 723	259
South America	45 858	2 507	2 307	46 104	39 975	114
Argentina	9 496	63	1 395	8 165	7 586	202
Brazil	21 421	1 129	82	22 468	19 966	115
Chile	2 127	153	153	2 128	1 721	112
Uruguay	1 469	5	472	1 005	668	198
Oceania	24 451	611	16 624	8 471	5 831	189
Australia	11 225	459	6 303	5 406	5 058	261
New Zealand	13 159	56	10 319	2 903	662	174
World	586 959	72 466	77 825	581 009	480 891	79

a Annual average, 2000–2002. Excluding butter. **b** Takes account of stock changes. **c** Not including Middle East countries.
Source: Food and Agriculture Organisation, FAOSTAT nutrition data.

9.12 Supply and consumption of vegetable oils, by selected country a

	Domestic supply				Food consumption	
	Production	Imports	Exports	Total b	Volume	Per person
	kt	kt	kt	kt	kt	kg
Africa	5 257	4 039	668	8 752	6 717	8
Egypt	166	558	25	807	411	6
Nigeria	1 805	167	14	1 958	1 621	14
South Africa	442	510	54	865	588	13
Asia c	50 452	17 767	22 840	44 195	34 323	9
China	12 736	3 967	425	15 859	11 394	9
India	6 137	4 736	270	10 734	9 951	10
Indonesia	9 772	61	6 992	2 958	2 164	10
Japan	1 895	671	13	2 553	1 867	15
Korea, Rep. of	292	597	22	856	576	12
Malaysia	13 271	606	12 790	806	337	14
Pakistan	711	1 357	25	2 013	1 537	11
Philippines	1 589	97	1 174	511	381	5
Thailand	900	76	295	627	372	6
Viet Nam	194	286	50	430	237	3
Europe	16 154	15 291	10 966	20 326	11 553	16
Austria	134	172	99	207	150	19
Belgium	658	1 398	1 439	598	241	23
Czech Republic	234	158	96	292	168	16
Denmark	161	408	248	322	37	7
France	1 368	1 408	798	1 952	1 060	18
Germany	2 919	2 329	2 295	2 973	1 487	18
Greece	616	128	188	539	299	27
Italy	1 208	1 547	686	2 065	1 566	27
Malta	0	6	0	6	3	7
Netherlands	1 330	2 451	2 245	1 569	266	17
Norway	78	73	41	109	67	15
Poland	371	354	49	681	476	12
Portugal	279	167	140	318	173	17
Russian Federation	1 319	1 032	145	2 205	1 441	10
Slovenia	3	65	19	51	18	9
Spain	2 193	707	966	1 754	1 102	27
Sweden	109	219	216	119	139	16
Turkey	909	756	188	1 425	1 236	18
United Kingdom	832	1 432	292	1 977	1 057	18
Middle East						
Iran	167	921	166	563	521	8
Kuwait	0	58	3	54	50	21
Saudi Arabia	14	381	28	387	377	17
United Arab Emirates	0	228	182	52	30	11

Continued

9.12 Supply and consumption of vegetable oils, by selected country a *continued*

	Domestic supply				Food consumption	
	Production	Imports	Exports	Total b	Volume	Per person
	kt	kt	kt	kt	kt	kg
Central America	1 334	1 108	282	2 141	1 237	9
North America	12 444	2 325	3 025	11 401	8 789	28
Canada	1 537	376	720	1 173	749	24
Mexico	898	784	51	1 602	924	9
United States	10 907	1 948	2 305	10 228	8 040	28
South America	12 117	1 340	6 872	6 376	4 242	12
Argentina	5 216	29	4 595	429	447	12
Brazil	5 117	267	1 707	3 744	2 284	13
Chile	35	191	16	195	164	11
Uruguay	21	22	2	38	24	7
Oceania	732	383	577	571	467	15
Australia	264	262	115	430	384	20
New Zealand	2	86	14	77	33	9
World	98 569	42 615	45 244	94 190	67 669	11

a Annual average, 2000–2002. From soyabeans, groundnuts, sunflowerseed, rapeseed, mustardseed, cottonseed, palm kernels, palm, copra, sesameseed, olives, maize germ and other oil crops. **b** Takes account of stock changes. **c** Not including Middle East countries.
Source: Food and Agriculture Organisation, FAOSTAT nutrition data.

9.13 Supply and consumption of animal fats, by selected country [a]

	Domestic supply				Food consumption	
	Production	Imports	Exports	Total [b]	Volume	Per person
	kt	kt	kt	kt	kt	kg
Africa	476	519	45	976	622	1
Egypt	117	64	0	183	173	3
Nigeria	35	96	0	132	38	0
South Africa	44	54	10	88	32	1
Asia [c]	8 053	1 842	234	9 689	7 376	2
China	3 181	897	180	3 926	2 949	2
India	2 444	8	6	2 446	2 268	2
Indonesia	85	25	8	103	93	0
Japan	442	216	5	654	226	2
Korea, Rep. of	237	113	7	343	133	3
Malaysia	16	15	2	29	27	1
Pakistan	612	97	0	710	613	4
Philippines	151	63	0	213	181	2
Thailand	30	24	3	52	44	1
Viet Nam	71	8	0	79	78	1
Europe	11 807	3 523	3 350	12 006	8 258	11
Austria	282	36	94	233	140	17
Belgium	511	432	336	607	268	26
Czech Republic	201	27	29	200	98	10
Denmark	421	125	250	299	145	27
France	1 291	445	468	1 268	1 122	19
Germany	2 223	365	525	2 141	1 788	22
Greece	114	40	3	145	35	3
Italy	608	259	134	737	627	11
Malta	4	2	0	5	4	11
Netherlands	522	383	457	418	151	9
Norway	152	255	55	354	81	18
Poland	740	29	46	724	556	14
Portugal	137	28	20	142	133	13
Russian Federation	1 148	304	11	1 441	990	7
Slovenia	43	5	18	31	33	17
Spain	736	224	117	841	199	5
Sweden	214	30	70	174	150	17
Turkey	140	156	7	290	124	2
United Kingdom	439	319	225	538	417	7
Middle East						
Iran	206	36	2	240	170	3
Kuwait	5	7	0	12	8	3
Saudi Arabia	17	33	4	46	37	2
United Arab Emirates	2	14	3	12	10	4

Continued

9.13 Supply and consumption of animal fats, by selected country [a] *continued*

	Domestic supply				Food consumption	
	Production	Imports	Exports	Total [b]	Volume	Per person
	kt	kt	kt	kt	kt	kg
Central America	346	785	27	1 107	417	3
North America	7 886	335	2 026	6 177	2 321	7
Canada	1 052	161	370	844	534	17
Mexico	255	566	5	816	328	3
United States	6 834	174	1 657	5 333	1 787	6
South America	2 387	355	581	2 221	993	3
Argentina	296	27	132	214	146	4
Brazil	1 196	46	31	1 212	486	3
Chile	191	147	15	305	45	3
Uruguay	64	5	63	22	10	3
Oceania	1 330	59	1 112	297	195	6
Australia	746	26	595	192	128	7
New Zealand	575	17	515	81	49	13
World	32 335	7 545	7 376	32 649	20 248	3

a Annual average, 2000–2002. Includes butter, ghee, cream, raw animal fats, fish body oil and fish liver oil. **b** Takes account of stock changes. **c** Not including Middle East countries.
Source: Food and Agriculture Organisation, FAOSTAT nutrition data.

10 Selected economic and demographic information – key countries

	2003					2002		
	Population a		Age structure (in years) a			Gross domestic product b		
		Growth rate	0–14	15–64	65+		Per person	Agriculture contribution
	million	%	%	%	%	US$b	US$	%
Africa								
Egypt	76.2	1.8	33	62	4	294	3 900	17.0
Nigeria	137.3	2.5	43	54	3	111	800	41.2
South Africa	42.7	-0.2	30	65	5	457	10 700	4.4
Asia c								
China	1 298.9	0.6	22	70	8	6 449	5 000	14.5
India	1 065.1	1.4	32	64	5	3 022	2 900	23.6
Indonesia	238.5	1.5	29	66	5	758	3 200	15.9
Japan	127.3	0.1	14	67	19	3 567	28 000	1.4
Korea, Rep. of	48.6	0.6	20	71	8	855	17 700	4.4
Malaysia	23.5	1.8	33	62	5	207	9 000	8.4
Pakistan	159.2	2.0	40	56	4	318	2 100	23.6
Philippines	86.2	1.9	36	60	4	391	4 600	15.0
Thailand	64.9	0.9	24	69	7	476	7 400	9.0
Viet Nam	82.7	1.3	30	65	6	204	2 500	24.0
Europe								
Austria	8.2	0.1	16	68	16	246	30 000	2.0
Belgium–Luxembourg	10.9	0.2	17	66	17	323	29 000	1.6
Czech Republic	10.3	– 0.1	15	71	14	161	15 700	3.8
Denmark	5.4	0.3	18	66	15	168	31 200	3.0
France	60.4	0.4	19	65	16	1 654	27 500	3.0
Germany	82.4	0.0	15	67	18	2 271	27 600	1.0
Greece	10.6	0.2	14	67	19	212	19 900	8.1
Italy	58.1	0.1	14	67	19	1 552	26 800	2.4
Malta	0.4	0.4	18	69	13	7	17 700	3.0
Netherlands	16.3	0.6	18	68	14	461	28 600	2.6
Norway	4.6	0.4	20	65	15	172	37 700	1.7
Poland	38.6	0.0	17	70	13	427	11 000	3.1
Portugal	10.5	0.4	17	66	17	182	18 000	3.7
Russian Federation	143.8	1.8	15	71	14	1 287	8 900	5.2
Slovenia	2.0	0.0	14	71	15	37	18 300	3.1
Spain	40.3	0.2	14	68	18	886	22 000	3.4
Sweden	9.0	0.2	18	65	17	238	26 800	2.0
Turkey	68.9	1.1	27	67	7	455	6 700	11.9
United Kingdom	60.3	0.3	18	66	16	1 664	27 700	1.4
Middle East								
Iran	69.0	1.1	28	67	5	478	7 000	19.0
Iraq	25.4	2.7	40	57	3	39	1 600	6.0
Kuwait	2.3	3.4	28	70	3	40	18 100	0.5
Saudi Arabia	25.8	2.4	38	59	2	286	11 800	5.2
United Arab Emirates	2.5	1.6	26	71	3	58	23 200	4.0

Continued

10 Selected economic and demographic information – key countries *continued*

	2003					2002		
	Population a		Age structure (in years) a			Gross domestic product b		
		Growth rate	0–14	15–64	65+		Per person	Agriculture contribution
	million	%	%	%	%	US$b	US$	%
North America								
Canada	32.5	0.9	18	69	13	956	29 700	2.2
Mexico	105.0	1.2	32	63	5	942	9 000	4.0
United States	293.0	0.9	21	67	12	10 980	37 800	2.0
South America								
Argentina	39.1	1.0	26	64	10	433	11 200	6.0
Brazil	184.1	1.1	27	68	6	1 379	7 600	8.2
Chile	15.8	1.1	26	66	8	155	9 900	6.4
Uruguay	3.4	0.5	24	63	13	43	12 600	9.0
Oceania								
Australia	19.9	0.9	20	67	13	570	28 900	3.0
New Zealand	4.0	1.1	22	67	12	85	21 600	8.0
Papua New Guinea	5.4	2.3	38	58	4	11	2 200	32.1
World	6 379.2	1.1	28	65	7	51 410	8 200	4.0

a 2003 estimate. **b** Purchasing power parity, 2002 estimate. **c** Not including Middle East countries.
Source: Central Intelligence Agency, *World Factbook 2004.*

Australian Food Statistics 2004

The food industry is Australia's largest manufacturing sector, producing a wide range of world class products for a variety of markets.

Australian Food Statistics 2004 provides a statistical overview of the Australian food industry's performance, from 'the paddock to the plate'.

The Australian Government Department of Agriculture, Fisheries and Forestry has policy responsibility for the entire food production and processing chain. The Department is working with the industry for improved international competitiveness, innovation and an export focus.

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