DISCLAIMER

Users are warned that this historic issue of this publication series may contain language or views which, reflecting the authors' attitudes or that of the period in which the item was written, may be considered to be inappropriate or offensive today.

CHAPTER 22

RURAL INDUSTRY

This chapter is divided into four major parts:

Introduction, dealing with the disposal of Crown lands, closer settlement and war service settlement (all transferred from the former chapter Land Tenure and Settlement) and general rural activity in Australia;

Agricultural production;

Pastoral production; and

Other rural industries, which includes the dairying, poultry and bee industries.

For greater detail on the subjects dealt with in this chapter *see* the annual bulletins *Rural Industries*, *Value of Production*, and *Secondary Industries* (regarding butter, cheese, etc. factories) issued by this Bureau. Current information on commodities produced is obtainable in the *Quarterly Summary of Australian Statistics*, *Monthly Review of Business Statistics*, *Monthly Bulletin of Production Statistics*, and *Digest of Current Economic Statistics* (monthly). The series of bulletins *Classifications of Rural Holdings by Size and Type of Activity* (*see* page 883) shows particulars of rural holdings classified by size, nature and area of crops, and numbers of livestock, and also according to main type of activity. The mimeographed annual *Report on Food Production and the Apparent Consumption of Foodstuffs and Nutrients in Australia* contains details of the production and utilisation of foodstuffs. The following mimeographed publications also contain considerable detail on the particular subjects dealt with.

General. *Value of Production and Indexes of Price and Quantum of Farm Production* (annual), *Value of Primary Production* (*Preliminary Statement*) (annual), *Value of Primary Production* (*Preliminary Estimates*) (annual), *Farm Machinery on Rural Holdings* (annual), *Tractors on Rural Holdings*, 31 *March* 1966 (detailed information), *New Tractors: Receipts, Sales and Stocks* (quarterly), and *New Agricultural Machinery* (quarterly).

Agricultural production. *Rural Land Use and Crop Production* (annual), *Agricultural Statistics* (*Preliminary Statement*) (annual), *The Wheat Industry* (two a year), *The Fruit Growing Industry* (annual), and *Fruit Statistics* (*Preliminary Statement*) (annual).

Pastoral production. *Livestock Statistics* (annual), *Livestock Numbers* (annual), *The Meat Industry* (monthly), *Wool Production* (annual), and *Wool Production and Utilisation* (annual).

Other rural production. *The Dairying Industry* (monthly and half-yearly), *Livestock Statistics* (annual), *Livestock Numbers* (annual), *Manufacturing Industries No.* 20.—*Bacon Curing* and *No.* 21.—*Butter, Cheese and Condensed, Concentrated, etc., Milk* (annual), *Production Summaries No.* 36.—*Preserved Milk Products* and *No.* 55.—*Butter and Cheese* (monthly), and *Bee-farming* (annual).

Values of Australian overseas trade shown throughout this chapter are expressed as f.o.b. port of shipment.

Throughout this chapter yearly periods for area and production of crops relate to years ended 31 March. Other periods in respect of e.g. factory and trade statistics relate to years ended 30 June.

INTRODUCTION

Disposal of Crown lands

The information on pages 875–82, was formerly included in a separate chapter Land Tenure and Settlement (*see* Year Book No. 52, pages 78–86).

Land legislation and tenures

The following sections contain figures showing the extent of the different land tenures in the several States and Territories, classified under broad headings indicating the nature of the tenure, together with some general descriptive matter. Information in greater detail, descriptions of the land tenure systems of the several States and the internal Territories, and conspectuses of land legislation in force and of the systems of land tenure were provided in Year Book No. 48 and previous issues (*see also* Year Book No. 50, page 85 and List of Special Articles, etc. preceding General Index to this Volume).

Free grants and reservations

Provision exists in all States except Tasmania for the disposal of Crown lands for public purposes by free grants, and in all States for the temporary and/or permanent reservation of Crown lands for public purposes. In the Northern Territory any Crown lands not subject to any right of, or contract for, purchase may be resumed for public purposes, and the whole or any portion of the lands resumed may be reserved for that purpose. In the Australian Capital Territory, under the *Seat of Government (Administration) Act* 1910, Crown lands may not be sold or disposed of for any estate in freehold except in pursuance of some contract entered into before the commencement of the Act.

AREAS OF CROWN LANDS RESERVED: STATES AND TERRITORIES, 1962 TO 1966

('000 acres)

Year	N.S.W. (a)	Vic. (b)	Qld (b)	S.A. (a)	W.A. (a)	Tas. (a)	N.T. (a)	Total (c)
1962 . .	15,883	8,783	25,126	22,743	68,672	3,850	59,595	204,652
1963 . .	15,958	8,810	25,053	22,754	74,353	3,994	59,663	210,585
1964 . .	15,931	8,847	25,234	22,764	76,450	4,098	60,903	214,227
1965 . .	15,943	8,885	25,451	22,802	78,088	4,116	60,903	216,188
1966 . .	15,937		25,662	22,878	78,226	4,191	60,922	

(a) At 30 June. (b) At 31 December. (c) Excludes the Australian Capital Territory.

The purposes for which areas were reserved are given hereunder for the latest years available as set out in the table above.

New South Wales. For travelling stock, 4,958,978 acres; forest reserves, 1,539,292 acres; water and camping reserves, 760,863 acres; mining reserves, 1,033,950 acres; for recreation and parks, 726,620 acres; other reserves, 6,917,345 acres; total, 15,937,048 acres.

Victoria. For roads, 1,706,981 acres; water reserves, 314,643 acres; agricultural colleges, 24,409 acres; forest and timber reserves, 5,753,921 acres; mallee reserves, 410,000 acres; other reserves, 675,022 acres; total, 8,884,976 acres.

Queensland. For timber reserves, 1,954,956 acres; State forests and national parks, 7,666,115 acres; Aboriginal reserves, 6,642,535 acres; for streets, surveyed roads and stock routes, 4,024,693 acres; general reserves, 5,374,178 acres; total, 25,662,477 acres.

South Australia. Total area of surveyed roads, railways and other reserves, 22,877,721 acres, including 18,833,822 acres set apart as Aboriginal reserves.

Western Australia. For State forests, 4,448,827 acres; timber reserves, 1,859,538 acres; other reserves 71,917,590 acres; total, 78,225,955 acres.

Tasmania. For forest reserves, 3,607,000 acres; national parks, 584,000 acres; total, 4,191,000 acres.

Northern Territory. For Aboriginal, defence and public requirements, 60,921,977 acres.

Conditional and unconditional purchases of freehold

Crown lands in the States may be disposed of by unconditional purchase at public auction or by certain other forms of purchase (for details *see* Year Book No. 48, pages 91–2). Conditional purchases of various types may also be made. In the Northern Territory only 0.1 per cent of the total area is alienated, the remainder being held under lease or licence, or reserved for various purposes or unoccupied. In the Australian Capital Territory about 18 per cent of the area is alienated or in process of alienation in consequence of contracts existing prior to the establishment of the Territory.

Leases and licences

Well over half the area of the States of New South Wales and South Australia and of the Northern Territory and more than four-fifths of that of Queensland are occupied under some form of lease or licence. In Victoria, only about one-tenth of the area is leased or licensed, more than half being alienated; in Western Australia, more than one-third is leased or licensed, most of the remainder being unoccupied; and in Tasmania only one-twelfth is leased or licensed, while about half the area of the State is occupied by the Crown or unoccupied, and the remainder alienated. Areas leased or licensed in the States are held under Crown lands Acts, closer settlement Acts, mining Acts, etc., and in the Territories under various Ordinances.

Land Acts and Ordinances. The types of lease and licence which obtain under land legislation cover a wide range, and vary with each State or Territory. The following are examples: grazing or pastoral, settlement and closer settlement, settlement purchase, conditional and unconditional

purchase, perpetual and Crown; however, the variations of these forms and the special forms of lease and licence which exist would extend this list considerably. Details of the various types in existence are given in Year Book No. 48, pages 93–4, and some detail is included in the tables on pages 878–81 of this chapter.

AREAS OCCUPIED UNDER LEASE OR LICENCE OTHER THAN MINING AND FORESTRY: STATES AND TERRITORIES, 1962 TO 1966

('000 acres)

Year	N.S.W. (a)	Vic. (b)	Qld (b)	S.A. (a)	W.A. (a)	Tas. (a)	N.T. (a) (c)	A.C.T. (a) (c)	Total
1962 .	111,809	5,542	364,928	146,889	235,914	1,092	174,102	292	1,040,568
1963 .	110,066	5,936	364,140	146,807	243,976	1,032	178,017	289	1,050,263
1964 .	111,386	6,147	367,209	146,382	242,309	1,062	191,436	285	1,066,216
1965 .	111,567	6,263	365,318	147,661	241,911	984	191,840	282	1,065,826
1966 .	111,262		362,866	150,422	241,662	933	190,688	279	

(a) Year ended 30 June. (b) Year ended 31 December. (c) Leases and licences for all purposes.

Closer settlement and war service settlement

Closer settlement

Particulars of the methods of acquisition and disposal of land for the closer settlement of civilians and returned service personnel (1914–18 War) in the several States are given in issues of the Year Book up to No. 22 (*see* No. 22, pages 163–9), and the results of the operations of the several schemes have appeared in subsequent issues in considerable detail. However, the amalgamation in some States of closer settlement records with those of other authorities has since made it impossible to obtain up-to-date figures for those States and for Australia as a whole. Page 96 of Year Book No. 48 contains particulars as at 30 June 1960 of the areas and costs for those States for which separate information is available.

War Service Land Settlement Scheme

The War Service Land Settlement Scheme provides for the settlement on the land of eligible ex-servicemen from the 1939–45 War and the Korea-Malaya operations. Finance for capital expenditure under the scheme in South Australia, Western Australia and Tasmania and for special loans to New South Wales and Victoria is provided through Loan (War Service Land Settlement) Acts. Finance for other aspects of the scheme in all States is provided by annual parliamentary appropriation. The *States Grants (War Service Land Settlement) Act* 1952 provides that the responsible Commonwealth Minister may make grants of financial assistance to the States under such terms as he may from time to time determine.

New South Wales, Victoria and Queensland agreed, at the inception of the scheme, to find their own finance for the acquisition and development of properties. In 1954 Queensland abandoned the scheme and made available for general settlement all unallotted lands held under it. Detailed information about the agreements and the methods of operation and administration of the scheme are contained in earlier Year Books (*see* List of Special Articles, etc., preceding General Index to this volume).

WAR SERVICE LAND SETTLEMENT: SUMMARY, STATES, TO 30 JUNE 1966

State	Land acquired	Farms allotted		Farms in course of development		Other
	acres	no.	acres	no.	acres	acres
New South Wales .	9,094,021	3,047	9,094,021	..	..	..
Victoria . . .	1,181,599	3,048	1,181,599	..	..	..
Queensland . . .	398,524	470	218,640	..	..	(a)179,884
South Australia .	755,873	1,021	690,225	..	..	(b) 65,648
Western Australia .	2,053,972	1,010	1,905,475	..	..	(b)148,497
Tasmania . . .	449,629	543	431,550	9	11,700	(b) 6,379
Total . . .	**13,933,618**	**9,139**	**13,521,510**	**9**	**11,700**	**400,408**

(a) War Service Land Settlement was discontinued in 1954, and unallotted lands were made available for general settlement. (b) Includes land disposed of outside the scheme and discrepancies to be corrected upon survey.

Particulars of expenditure on war service land settlement are given in Chapter 20, Public Finance (*see* pages 775–6).

Alienation and occupation of Crown lands

The figures in the previous parts of this chapter show separate particulars of various forms of land settlement. The following tables set out the position with regard to the tenure of land in each State, in the Northern Territory and in the Australian Capital Territory for the latest years available. A summary for each State and Territory and for Australia as a whole is also included. Particulars for each year from 1955 to 1965 appear in the bulletin *Rural Industries* No. 3, 1964–65, page 1. The area occupied includes roads, permanent reserves, forests, etc. In some cases lands which are permanently reserved from alienation are occupied under leases or licences, and have been included therein. Lands occupied under leases or licences for pastoral purposes are frequently held on short tenures only, and could thus be made available for settlement practically whenever required.

New South Wales

The total area of New South Wales is 198,037,120 acres, of which 30.9 per cent had been alienated at 30 June 1966; 2.6 per cent was in process of alienation; 57.1 per cent was held under leases and licences; and the remaining 9.4 per cent was unoccupied or held by the Crown.

ALIENATION AND OCCUPATION OF CROWN LAND: NEW SOUTH WALES
30 JUNE 1966
(Acres)

Tenure	Area	Tenure	Area
Alienated	61,118,244	Held under leases and licences—	
		Homestead selections and grants	1,709,521
		Alienable leases, long-term and perpetual	23,870,082
		Long-term leases with limited right of alienation	1,295,890
		Other long-term leases	81,559,373
		Short-term leases and temporary tenures	2,827,440
		Forest leases	1,667,155
		Mining and auriferous leases	231,934
		Total leased or licensed	*113,161,395*
In process of alienation—		Unoccupied—	
Conditional purchases	3,936,484	Particulars of Lord Howe Island not being available, the area, 3,220 acres, is included under unoccupied (approximate)	18,559,932
Closer settlement purchases	754,693		
Soldiers' group purchases	119,911		
Other forms of sale	386,461		
Total in process of alienation	*5,197,549*	**Total area of State**	**198,037,120**

Victoria

The total area of Victoria is 56,245,760 acres, of which 56.7 per cent had been alienated up to 31 December 1965; 4.1 per cent was in process of alienation under deferred payments and closer settlement schemes; 11.1 per cent was occupied under leases and licences; and 28.1 per cent was unoccupied or held by the Crown.

ALIENATION AND OCCUPATION OF CROWN LANDS: VICTORIA
31 DECEMBER 1965
(Acres)

Tenure	Area	Tenure	Area
Alienated	31,866,897	Leases and licences held—	
		Under Lands Department—	
		Perpetual leases	157,649
		Agricultural college leases	24,409
		Other leases and licences	1,543
		Temporary (yearly) grazing licences(*a*)	6,000,900
In process of alienation—			
Exclusive of mallee and closer settlement lands	127,016		
Mallee lands (exclusive of closer settlement lands)	910,889	*Total leased or licensed*	*6,184,501*
Closer settlement lands	1,255,308		
		Occupied by the Crown or unoccupied	15,901,149
Total in process of alienation	*2,293,213*	**Total area of State**	**56,245,760**

(*a*) In addition, 78,996 acres of reserved Crown lands are held under grazing licenses.

Queensland

The total area of this State is 426,880,000 acres, of which, on 31 December 1966, 6.2 per cent was alienated; 1.8 per cent was in process of alienation; and 85.6 per cent was occupied under leases and licences. The remainder, 6.3 per cent, was either unoccupied or held as reserves or for roads.

ALIENATION AND OCCUPATION OF CROWN LANDS: QUEENSLAND
31 DECEMBER 1966
(Acres)

Tenure	Area	Tenure	Area
Alienated	26,534,242	Occupied under leases and licences—	
		Pastoral leases	242,589,600
		Occupation licences	16,595,840
		Grazing selection and settlement farm leases	92,501,483
		Leases—special purposes(*a*)	4,923,385
		Mining leases	2,591,000
		Perpetual lease selections	5,988,643
		Auction perpetual leases, etc.	48,549
		Forest grazing leases (of reserves)	211,120
		Development leases	6,897
		Total leased or licensed	*365,456,517*
		Reserves (net, not leased)	17,413,390
		Surveyed roads and surveyed stock routes	4,024,693
		Unoccupied	5,610,068
In process of alienation	7,841,090	**Total area of State**	**426,880,000**

(*a*) Special leases of Crown land, 910,111 acres; special leases of reserves, 4,013,274 acres.

South Australia

The area of South Australia is 243,244,800 acres and at 30 June 1966, 6.6 per cent was alienated; 0.2 per cent in process of alienation; 61.8 per cent occupied under leases and licences; and 31.4 per cent occupied by the Crown or unoccupied.

ALIENATION AND OCCUPATION OF CROWN LANDS: SOUTH AUSTRALIA 30 JUNE 1966

(Acres)

Tenure	Area	Tenure	Area
Alienated	16,110,907	Held under lease and licence(*a*)—	
		Perpetual leases, including irrigation leases	20,677,830
		Pastoral leases	126,829,719
		Other leases and licences	2,914,222
		Total leased or licensed	*150,421,771*
		Area unoccupied(*b*)	76,321,322
In process of alienation	390,800	**Total area of State**	**243,244,800**

(*a*) Mining leases and licences have also been issued over an area comprising 224,226,000 acres. (*b*) Includes surveyed roads, railways and other reserves, salt water lakes, lagoons, and fresh water lakes.

Western Australia

The total area of Western Australia is 624,588,800 acres, of which, at 30 June 1966, 4.9 per cent was alienated; 2.4 per cent was in process of alienation; and 39.4 per cent was occupied under leases and licences issued by the Lands, Mines or Forests Departments. The balance of 53.3 per cent was unoccupied.

ALIENATION AND OCCUPATION OF CROWN LANDS: WESTERN AUSTRALIA 30 JUNE 1966

(Acres)

Tenure	Area	Tenure	Area
Alienated	30,487,407	Leases and licences in force—	
		(i) Issued by Lands Department—	
		Pastoral leases	235,113,241
		Special leases	4,002,666
		Leases of reserves	646,471
In process of alienation—		Residential lots	4,475
Free homestead farms	303,403	Perpetual leases	1,895,058
Conditional purchase	14,330,201	(ii) Issued by Mines Department—	
Selections under Part VIII. of the Land Act	227,892	Gold-mining leases	18,573
Town and suburban lots	2,176	Mineral leases	25,150
Crown grants of reserves	64,463	Miners' homestead leases	32,684
		(iii) Issued by Forests Department—	
		Timber permits	4,300,123
		Total leased or licensed	*246,038,441*
		Area unoccupied	333,134,817
Total in process of alienation	*14,928,135*	**Total area of State**	**624,588,800**

Tasmania

The total area of Tasmania is 16,885,000 acres, of which, at 30 June 1966, 39.2 per cent had been alienated; 1.2 per cent was in process of alienation; 7.7 per cent was occupied under leases and licences for either pastoral, agricultural, timber or mining purposes, or for closer settlement; while the remainder (51.9 per cent) was unoccupied or reserved by the Crown.

ALIENATION AND OCCUPATION OF CROWN LANDS: TASMANIA
30 JUNE 1966
(Acres)

Tenure	Area	Tenure	Area
Alienated	6,616,065	Leases and licences—*continued*	
		(i) Issued by Lands Department for—*continued*	
In process of alienation	207,737	Soldier settlement	40,882
		Short-term leases	1,128
		(ii) Issued by Mines Department	44,606
Leases and licences—			
(i) Issued by Lands Department for—		*Total leased or licensed*	*1,291,363*
Pastoral purposes	875,245	Area occupied by the Crown or unoccupied	8,769,835
Timber getting	313,755		
Closer settlement	15,747	**Total area of State**	**16,885,000**

Northern Territory

The area of the Northern Territory is 332,979,200 acres, of which, at 30 June 1966 only 0.1 per cent was alienated; 57.3 per cent was held under leases and licences; 18.3 per cent was reserved for Aborigines, defence and public requirements; and the remaining 24.3 per cent was unoccupied and unreserved.

The following shows the mode of occupancy of areas at 30 June 1966: alienated, 324,802 acres; leased—pastoral leases, 174,451,920 acres; other leases, licences and mission stations, 16,236,069 acres; total leased, 190,687,989 acres; reserved for Aboriginal, defence and public requirements, 60,921,977 acres; unoccupied and unreserved, 81,044,432 acres; total 332,979,200 acres.

Australian Capital Territory

Alienated land of the Territory at 30 June 1966 comprised 10.6 per cent of the total area; land in process of alienation 6.9 per cent; land held under lease and licence 46.4 per cent; land otherwise occupied, including city tenures, 12.4 per cent; and unoccupied 23.7 per cent.

The following are the particulars of land areas in the Australian Capital Territory at 30 June 1966: alienated 63,754 acres; in process of alienation 41,224 acres; leased—grazing, agricultural, etc., leases, 260,133 acres; grazing licences, 12,359 acres; total leased, 272,492 acres; otherwise occupied, including city area leases, 63,146 acres; unoccupied, 142,313 acres; total, 582,929 acres. Including the Jervis Bay area of 18,000 acres—6,266 acres leased and 11,734 acres otherwise occupied—the grand total for the whole Territory is 600,929 acres.

Summary

The following table provides a summary for each State and Territory, and for Australia as a whole, of the alienation and occupation of Crown lands in 1966.

ALIENATION AND OCCUPATION OF CROWN LANDS: STATES AND TERRITORIES
1966

State or Territory	Private lands				Crown lands				Total area
	Alienated		In process of alienation		Leased or licensed		Other (*a*)		
	'000 acres	Per cent	'000 acres	Per cent	'000 acres	Per cent	'000 acres	Per cent	'000 acres
N.S.W.(*b*)	61,118	30.9	5,198	2.6	113,161	57.1	18,560	9.4	198,037
Vic.(*c*)	31,867	56.7	2,293	4.1	6,185	11.1	15,901	28.1	56,246
Qld(*d*)	26,534	6.2	7,841	1.8	365,457	85.6	27,048	6.3	426,880
S.A.(*b*)	16,111	6.6	391	0.2	150,422	61.8	76,321	31.4	243,245
W.A.(*b*)	30,487	4.9	14,928	2.4	246,038	39.4	333,135	53.3	624,589
Tas.(*b*)	6,616	39.2	208	1.2	1,291	7.7	8,770	51.9	16,885
N.T.(*b*)	325	0.1	..	..	190,688	57.3	141,966	42.6	332,979
A.C.T.(*d*)(*e*)	64	10.6	41	6.9	279	46.4	217	36.1	601
Australia	173,122	9.1	30,900	1.6	1,073,521	56.5	621,918	32.7	1,899,462

(*a*) Occupied by Crown; reserved; unoccupied; unreserved. (*b*) At 30 June. (*c*) At 31 December 1965. (*d*) At 31 December 1966. (*e*) Includes Jervis Bay area.

Number and area of rural holdings

Number and area

A holding in Australia has been defined by statisticians on a more or less uniform basis, and discrepancies which exist are not of sufficient importance to prevent comparisons. For the purpose of these statistics a holding has been defined as land of one acre or more in extent used in the production of agricultural produce or for the raising of livestock and the production of livestock products.

There are considerable fluctuations from time to time in the numbers of very small holdings, and it is very difficult to determine in some cases whether or not they are rural holdings within the definition. In addition, in the very dry parts, such as the far west of New South Wales and Queensland and the remoter parts of South Australia and Western Australia, there are large areas of marginal lands sporadically occupied for extensive grazing under short-term lease or other arrangement, and the areas so occupied tend to fluctuate with the seasons. Similarly, there are rugged areas in the mountain country of some States which are also occasionally occupied.

RURAL HOLDINGS: NUMBER AND AREA, STATES AND TERRITORIES
1961–62 TO 1965–66

Year	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
NUMBER OF RURAL HOLDINGS									
1961–62	76,949	69,866	43,287	28,886	22,082	11,117	284	217	252,688
1962–63	76,294	69,700	43,284	28,922	22,554	10,974	281	217	252,226
1963–64	77,339	69,775	43,183	28,711	22,770	10,949	299	214	253,240
1964–65	77,098	69,737	43,565	28,754	22,856	10,979	307	207	253,503
1965–66	76,158	69,199	43,914	28,759	22,853	10,777	305	203	252,168
TOTAL AREA OF RURAL HOLDINGS ('000 acres)									
1961–62	172,327	37,754	374,501	156,898	252,783	6,551	168,045	377	1,169,235
1962–63	172,038	37,709	376,788	156,697	262,660	6,422	164,955	376	1,177,645
1963–64	172,076	37,798	376,687	158,905	266,556	6,377	165,734	373	1,184,506
1964–65	172,148	37,844	377,010	156,955	268,553	6,420	171,482	358	1,190,770
1965–66	171,161	37,844	380,325	159,394	270,054	6,496	175,862	355	1,201,492

Land utilisation of rural holdings

The following table shows the purposes for which the land on the rural holdings referred to in the preceding paragraph was used.

RURAL HOLDINGS: LAND UTILISATION, 1961–62 TO 1965–66
('000 acres)

Year	Area used for crops(*a*)	Land lying fallow(*b*)	Area under sown grasses and clovers(*c*)	Balance of holdings (*d*)	Total area of holdings
1961–62	27,907	8,049	39,063	1,094,216	1,169,235
1962–63	30,056	8,719	40,991	1,097,879	1,177,645
1963–64	29,948	8,510	44,211	1,101,837	1,184,506
1964–65	32,251	8,466	47,159	1,102,894	1,190,770
1965–66—					
New South Wales	8,780	3,771	10,884	147,727	171,161
Victoria	5,396	2,620	14,804	15,023	37,844
Queensland	3,990	860	3,739	371,736	380,325
South Australia	5,931	1,201	5,923	146,340	159,394
Western Australia	8,449	1,942	11,382	248,281	270,054
Tasmania	242	76	1,685	4,493	6,496
Northern Territory	4	..	17	175,841	175,862
Australian Capital Territory	6	1	86	262	355
Australia	**32,798**	**10,471**	**48,519**	**1,109,703**	**1,201,492**

(*a*) Excludes (i) duplication on account of area double cropped, except for New South Wales and South Australia, and (ii) clovers and grasses cut for hay and seed which have been included in Area under sown grasses and clovers, and differs therefore from crop area figures shown later in this chapter. (*b*) Excludes short or summer fallow. (*c*) Includes paspalum. (*d*) Used for grazing, lying idle, etc.

Classification by size and type of activity

Some of the information obtained from the 1965–66 Agricultural and Pastoral Census has been classified by size of principal characteristics (area of holdings, area of sown grasses and clovers, area of selected crops, and numbers of livestock). In addition, all holdings have been classified according to type of activity. Tables showing this information, for statistical divisions and States, and an outline of the methods used will be published in a series of bulletins *Classification of Rural Holdings by Size and Type of Activity*, 1965–66. Similar information was published in a series of bulletins for the year 1959–60. A size classification for each State is available for the year 1955–56.

Employment on rural holdings

Persons engaged

The following table shows, for each State and Territory, the recorded number of males working on rural holdings. Particulars for females are not available except for New South Wales. Additional particulars relating to the number of males employed in agriculture up to 1941–42 are shown in Year Book No. 36, page 852, and previous issues. Similar details for later years are not available.

MALES(a) ENGAGED ON RURAL HOLDINGS: STATES AND TERRITORIES 31 MARCH 1966

Males engaged	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.(b)	A.C.T.	Aust.
Permanent—									
Owners, lessees or share-farmers	63,181	58,543	44,291	23,035	20,530	7,450	198	134	217,362
Relatives of owner, lessee or share-farmer over 14 years of age, not receiving wages or salary	2,263	5,073	2,667	912	1,173	6	42	10	12,146
Employees, including managers and relatives working for wages or salary	27,812	14,232	17,878	8,172	8,506	4,073	653	143	81,469
Total permanent males	*93,256*	*77,848*	*64,836*	*32,119*	*30,209*	*11,529*	*893*	*287*	*310,977*
Temporary	20,296	26,284	12,516	10,585	2,817	5,715	1,185	27	79.425
Total males	**113,552**	**104,132**	**77,352**	**42,704**	**33,026**	**17,244**	**2,078**	**314**	**390,402**

(a) Details for females not available except for New South Wales. (b) Includes 1,034 male full-blood Aboriginals employed as temporary employees.

Information regarding the number of persons (males and females) working full-time on rural holdings in Australia at 31 March of years to 1958 appears in Year Book No. 50, page 987, and in earlier Year Books. Data for subsequent years are the subject of investigation and are not available at this stage.

Salaries and wages paid

Particulars of salaries and wages paid to employees (including amounts paid to contractors) working full-time on rural holdings are shown below for the year 1965-66. Data for New South Wales and Victoria, and hence Australia, are not available.

EMPLOYEES ON RURAL HOLDINGS: SALARIES AND WAGES PAID(a) STATES AND TERRITORIES, 1965-66

($'000)

Employees	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Permanent—Males	(b)	(b)	33,479	14,064	16,524	7,392	1,317	432	n.a.
Females			2,083	439		167	130	32	
Temporary(c)—Males			46,357	10,407	13,623	3,941	734	137	
Females				1,066		992		10	
Total			81,919	25,976	30,147	12,492	2,181	611	

(a) Includes value of keep. (b) Not available; subject to investigation. (c) Includes amounts paid to contractors.

Similar information for Australia for years up to 1957–58 is given in Year Book No. 50, page 988, and in earlier Year Books. Particulars for subsequent years are the subject of investigation and are not available at this stage.

Persons residing permanently on holdings

Particulars of persons (of all ages) residing permanently on rural holdings in each State and Territory at 31 March 1966, and throughout Australia for a series of years, are shown on page 885.

PERSONS (OF ALL AGES) RESIDING PERMANENTLY ON RURAL HOLDINGS STATES AND TERRITORIES, 31 MARCH 1966

	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Males	155,818	139,167	103,151	57,932	50,126	25,123	1,281	441	533,039
Females	135,582	124,014	85,390	51,298	41,581	22,767	684	367	461,683
Total	291,400	263,181	188,541	109,230	91,707	47,890	1,965	808	994,722

PERSONS (OF ALL AGES) RESIDING PERMANENTLY ON RURAL HOLDINGS AUSTRALIA, 31 MARCH 1962 TO 1966

	31 March—				
	1962	1963	1964	1965	1966
Males	544,709	540,893	541,394	538,496	533,039
Females	465,238	464,048	465,990	464,416	461,683
Total	1,009,947	1,004,941	1,007,384	1,002,912	994,722

Technical aspects of rural industry

Farm machinery on rural holdings

The history of the development of large-scale field crops and sown pastures in Australia is essentially also the history of the mechanisation of the rural industries. This may be divided into four phases.

The first phase extended from initial settlement to the mid-nineteenth century, when agriculture was primarily local and non-commercial, and confined by the use of hand methods to small areas and low production per farm worker.

The invention of an effective wheat stripper in South Australia in 1843 and the extension of its use into Victoria and New South Wales, however, greatly increased the area which could be harvested in a season. This initiated the second phase, which continued with the development of stump-jump implements in the 1870's and the scrub roller and mulleniser in the 1890's. These later developments made possible an extension of the wheat belt into the drier mallee lands of Victoria and South Australia. By the turn of the century machinery had thus been developed to conduct all cropping operations on an extensive basis.

The third major change in farm machinery followed the 1914–18 War, when tractor power became increasingly available in a variety of models and sizes. The increase in numbers of tractors on rural holdings and higher operating speeds led in turn to new and improved types of farm machinery drawn by tractors. These trends were interrupted by the economic depression of the 1930's.

After the 1939–45 War there was a widespread expansion of labour-saving machinery and devices in all sectors of rural industry. Clearing methods were extended with the bulldozer, log, chain, and hi-ball units, and cultivation was improved by means of large disc ploughs and disc harrows, and seeding and harvesting machinery. These methods were extended to crops for which methods involving greater use of manual labour had previously been employed. Milking machines

almost entirely replaced hand milking on dairy farms, and labour-saving machinery was introduced into farm and station development and maintenance operations. These operations included fencing, bulk transport of grain and fodder, pasture treatment, fodder conservation, and pasture improvement.

The tables following show data for the principal types of farm machinery on rural holdings in the several States and Territories at 31 March 1966 and throughout Australia for a series of years. A more detailed analysis of tractors on rural holdings according to horse-power, type of fuel used, and age of tractor has been published in the Statistical Bulletin *Tractors on Rural Holdings—Australia, 31 March* 1966.

FARM MACHINERY ON RURAL HOLDINGS: STATES AND TERRITORIES 31 MARCH 1966

Machinery	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Cultivating—									
Rotary hoes and rotary tillers—									
Self-contained power unit	9,837	7,354	3,534	4,228	1,647	1,199	64	n.a.	*a* 27,863
Tractor-drawn	7,229	4,662	3,879	1,655	1,539	626	14		*a* 19,604
Seeding and planting—									
Grain drills—									
Combine type	27,813	19,604	12,756	15,589	13,593	1,416	29	66	90,866
Other types	5,765	9,586	2,431	5,201	4,752	2,620	9	37	30,401
Maize and cotton planters	7,146	762	6,519	..	71	..	21	4	14,523
Fertiliser distributors and broadcasters	21,417	28,219	12,842	8,893	9,159	5,766	19	94	86,409
Harvesting—									
Grain and seed headers, strippers and harvesters	19,052	13,963	7,207	12,393	11,398	703	..	27	64,743
Mowers—									
Power-driven	n.a.	n.a.	8,061	n.a.	7,343	5,132	47	n.a.	n.a.
Ground-driven			3,406		n.a.	994	8		
Hay rakes—									
Side delivery	n.a.	n.a.	4,080	n.a.	n.a.	2,386	25	n.a.	n.a.
Buck			2,805			1,022	n.a.		
Dump			5,473			971	n.a.		
Pick-up balers	9,899	11,972	2,563	4,609	3,461	1,661	17	47	34,229
Potato diggers	n.a.	n.a.	1,137	n.a.	n.a.	950	..	n.a.	n.a.
Forage harvesters	2,618	1,625	1,143	764	494	269	12	14	6,939
Peanut pickers	n.a.	..	355	..	..	..	16	..	n.a.
Corn pickers	n.a.	n.a.	949	..	..	..	..	..	n.a.
Other—									
Shearing machines (number of stands)	70,931	41,689	19,139	29,291	22,486	4,652	16	292	188,496
Milking machines (number of units)	41,796	105,003	42,199	18,833	9,780	15,894	26	94	233,625
Tractors—									
Wheel	75,803	73,668	57,713	30,984	28,706	10,856	225	194	278,149
Crawler	5,191	2,493	7,277	3,014	3,606	1,091	66	6	22,744
Hammer mills	n.a.	n.a.	7,408	n.a.	n.a.	512	..	21	n.a.

(*a*) Incomplete.

FARM MACHINERY ON RURAL HOLDINGS: AUSTRALIA
31 MARCH 1962 TO 1966

Machinery	31 March—				
	1962	1963	1964	1965	1966
Cultivating(*a*)—					
Mouldboard ploughs	n.a.	n.a.	102,228	n.a.	n.a.
Disc implements (including disc ploughs, disc cultivators, disc tillers and disc harrows)			229,818		
Tyne implements—					
Chisel ploughs, scarifiers, cultivators and rippers			175,928		
Tyne harrows (number of leaves)			511,346		
Rotary hoes and rotary tillers—					
Self-contained power unit	*b* 38,868	(*b*) 38,896	(*c*) 37,561	(*c*) 40,195	27,863
Tractor-drawn					19,604
Seeding and planting—					
Grain drills—					
Combine type	84,743	116,116	117,271	90,008	90,866
Other types	29,191			30,537	30,401
Maize and cotton planters	(*d*) 16,050	(*d*) 15,509	(*d*) 14,635	15,220	14,523
Fertiliser distributors and broadcasters	82,820	83,499	84,320	86,653	86,409
Harvesting—					
Grain and seed headers, strippers and harvesters	64,891	65,628	64,697	65,568	64,743
Mowers(*a*)—					
Power-driven	71,585	n.a.	n.a.	81,410	n.a.
Ground-driven	23,076			17,153	
Hay rakes(*a*)—					
Side delivery	35,777	n.a.	n.a.	42,832	n.a.
Buck	12,347			11,917	
Dump	20,267			16,564	
Pick-up balers	26,647	28,725	30,411	32,275	34,229
Potato diggers(*a*)	6,223	n.a.	n.a.	6,613	n.a.
Forage harvesters	4,073	5,083	5,509	5,674	6,939
Peanut pickers(*a*)	255	n.a.	n.a.	315	n.a.
Corn pickers(*a*)	1,264	n.a.	n.a.	1,246	n.a.
Other—					
Shearing machines (number of stands)	177,579	178,805	180,370	186,393	188,496
Milking machines (number of units)	228,228	229,270	229,042	231,389	233,625
Tractors—					
Wheel	264,069	249,783	283,748	295,502	278,149
Crawler		21,277			22,744
Hammer mills(*a*)	17,508	n.a.	n.a.	22,128	n.a.

(*a*) Details for all States are collected at triennial intervals only. (*b*) Rotary hoes, all types. (*c*) Incomplete; excludes tractor-drawn rotary hoes and rotary tillers in Queensland. (*d*) Incomplete; particulars for Victoria not available.

The soils of Australia

Year Book No. 52 contains an article (pages 873–9) on the soils of Australia which deals with the following matters: nature and development of Australian soils, including the agricultural development of soils, and types of Australian soils. A soil map of Australia and illustrations are included on plates 47 to 51 of Year Book No. 52.

Soil improvement and conservation

Fertilisers

In the early days of settlement in Australia the principles of scientific cultivation were little understood. It was common for the land to be cropped continuously until the natural fertility was almost exhausted. More scientific methods have been adopted in recent decades, much of the improvement in this regard being due to the assistance and guidance offered to farmers by various State and Commonwealth departments and authorities.

Fertiliser is generally applied to pastures at the time of sowing, and periodical (usually annual) top-dressings are carried out afterwards to keep the pastures in good condition. The introduction of the modern seed-drill, acting also as a fertiliser distributor, has greatly facilitated the use of artificial manures, and much land formerly regarded as useless for cultivation has now been brought into production. With the rapid increase in the area of sown pastures, particularly since the 1939–45 War, large quantities of artificial fertilisers have been used. In addition, increasing areas of native pastures have been top-dressed. The use of aircraft for the distribution of fertilisers has increased greatly in recent years (*see* page 890) and, in particular, has enabled the fertilising of some areas which would otherwise be inaccessible. In 1965–66 pastures (sown and native) accounted for over 60 per cent of both the total area fertilised and the total quantity of fertiliser used.

The Australian output of prepared fertilisers is derived chiefly from imported rock phosphate. Complete information regarding local production of fertilisers is not available. The number of firms engaged in the manufacture of chemical fertilisers in Australia for the year 1965–66 was 48 made up as follows: New South Wales, 12; Victoria, 6; Queensland, 5; South Australia, 9; Western Australia, 8; and Tasmania, 8. The production of superphosphate in Australia during 1965–66 amounted to 4,265,000 tons.

Information regarding the area treated with artificial fertilisers and the quantity of artificial fertilisers (superphosphate, bonedust, nitrates, etc.) used in each State during the 1965–66 season is given in the following table.

AREA FERTILISED AND QUANTITY OF ARTIFICIAL FERTILISERS USED STATES AND TERRITORIES, 1965-66

State or Territory	Crops			Pastures			Total		
	Area fertilised	Superphosphate used	Other artificial fertilisers used	Area fertilised	Superphosphate used	Other artificial fertilisers used	Area fertilised	Superphosphate used	Other artificial fertilisers used
	'000 acres	tons	tons	'000 acres	tons	tons	'000 acres	tons	tons
New South Wales	5,494	216,474	49,070	10,604	564,762	9,649	16,098	781,236	58,719
Victoria	4,664	204,949	49,843	11,730	743,062	56,539	16,394	948,011	106,382
Queensland	883	22,959	178,261	131	10,300	2,967	1,014	33,259	181,228
South Australia	4,869	252,301	12,831	5,093	295,430	1,400	9,962	547,731	14,231
Western Australia	8,434	421,071	30,853	10,051	512,758	7,750	18,486	933,829	38,603
Tasmania	235	25,200	11,494	1,475	121,330	5,901	1,711	146,530	17,395
Northern Territory	3	138	92	9	379	63	11	517	155
Australian Capital Territory	6	379	54	62	3,336	8	68	3,715	62
Australia	24,588	1,143,471	332,498	39,156	2,251,357	84,277	63,744	3,394,828	416,775

Particulars of the quantity of artificial fertilisers used in each State and Territory during each of the seasons 1961–62 to 1965–66 are shown in the next table. These details include the quantity used for the top-dressing of pasture lands.

QUANTITY OF ARTIFICIAL FERTILISERS USED: STATES AND TERRITORIES 1961-62 TO 1965-66

(Tons)

Year	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
1961–62	512,201	777,429	126,301	404,233	649,323	112,785	216	4,492	2,586,980
1962–63	576,561	822,488	135,896	430,561	713,067	124,523	226	4,501	2,807,823
1963–64	683,968	880,941	183,326	465,583	720,943	141,507	305	5,213	3,081,786
1964–65	837,959	988,106	198,696	528,827	844,455	142,660	307	5,225	3,546,235
1965–66	839,955	1,054,393	214,487	561,962	972,432	163,925	672	3,777	3,811,603

The chief sources of Australia's supplies of rock phosphate are Nauru, Christmas Island (Indian Ocean) and the Gilbert and Ellice Islands. Sodium nitrate is obtained chiefly from Chile.

The imports of artificial fertilisers during the five years ended 1965–66 are shown in the following table.

ARTIFICIAL FERTILISERS: IMPORTS INTO AUSTRALIA, 1961-62 TO 1965-66

Fertiliser	1961–62	1962–63	1963–64	1964–65	1965–66
	QUANTITY ('000 cwt)				
Ammonium fertilisers	422	934	2,533	1,565	1,311
Potassium fertilisers	1,496	1,167	1,935	2,180	2,163
Natural phosphate	39,017	33,898	39,788	50,346	55,901
Sodium nitrate	154	144	193	221	153
Other	708	515	337	746	335
Total	**41,797**	**36,658**	**44,786**	**55,058**	**59,862**
	VALUE ($'000 f.o.b.)				
Ammonium fertilisers	862	1,615	3,934	3,132	2,841
Potassium fertilisers	2,554	1,848	2,856	3,441	3,550
Natural phosphate	9,950	9,874	12,486	17,978	21,543
Sodium nitrate	310	336	478	443	393
Other	1,996	1,471	1,092	2,532	1,181
Total	**15,672**	**15,144**	**20,846**	**27,526**	**29,508**

Exports of fertilisers (manufactured locally) amounted to 37,000 cwt valued at $124,000 in 1965–66 compared with 36,000 cwt valued at $149,000 in 1964–65.

Aerial agriculture

During recent years increasing use has been made of aircraft for top-dressing and seeding, for spraying and dusting of crops and pastures, and for pest and vermin extermination.

For 1956–57 (the first year for which data are available) the total area treated was 1,466,000 acres; in 1965–66 the total was 15,010,000 acres, more than ten times as great. The following table shows details of area treated and materials used for each State for the five years ended 31 March 1966.

AERIAL AGRICULTURE: OPERATIONS, STATES
1961-62 TO 1965-66

		N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	Aust.
1961–62	acres	4,687,232	972,269	231,220	279,541	908,508	84,000	7,162,770
1962–63	"	5,480,999	923,776	539,714	470,476	1,262,346	86,150	8,763,461
1963–64	"	8,083,748	1,512,819	497,518	1,181,349	1,424,479	87,786	12,787,699
1964–65	"	10,771,791	1,896,461	760,505	1,362,881	1,633,312	215,254	16,640,204
1965–66—								
Top-dressing and seeding—								
Area treated with—								
Superphosphate alone	"	6,922,449	1,574,412	73,160	877,227	494,616	192,540	10,134,404
Seed alone	"	220,335	15,021	260,196	30,880	..	..	526,432
Superphosphate and seed together	"	6,074	40,200	500	..	167,136	..	213,910
Gypsum	"	1,303,855	..	..	..	..	..	1,303,855
Other	"	621,147	60	1,376	1,690	3,599	..	627,872
Total area treated, top-dressing, etc.(a)	"	*7,584,880*	*1,629,693*	*335,232*	*908,107*	*663,606*	*192,540*	*11,314,058*
Materials used—								
Superphosphate	tons	374,487	110,550	5,334	46,392	37,654	13,628	588,045
Seed on—								
Pasture	lb	697,121	55,623	371,065	111,480	112,221	..	1,347,510
Other	"	43,780	..	31,820	157,500	..	..	233,100
Spraying and dusting—								
Area treated—								
Pasture	acres	194,769	101,512	11,455	44,696	124,198	12,120	488,750
Crops	"	767,715	600,826	362,217	218,871	962,707	12,266	2,924,602
Other	"	13,370	..	35,917	6,700	..	..	55,987
Total area treated, spraying, etc.	"	*975,854*	*702,338*	*409,589*	*270,267*	*1,086,905*	*24,386*	*3,469,339*
Grand total, area treated(a)	"	8,619,734 (b)	2,471,941 (c)	772,821 (d)(e)	1,178,374	1,750,511	216,926	15,010,307 (f)

(a) Where an area has been treated with a mixture of materials or more than one material, the area treated is included in the line relating to each of the various materials but is counted in the total once only. (b) Includes 59,000 acres baited for rabbit destruction, etc. (c) Includes 139,910 acres baited for rabbit destruction, etc. (d) Includes 28,000 acres baited for rabbit destruction, etc. (e) Includes details for the Northern Territory. (f) Includes 226,910 acres baited for rabbit destruction, etc.

NOTE. The information contained in this table was collected by the Department of Civil Aviation.

Pasture improvement

An article on pasture improvement, which includes notes on indigenous and introduced species of grasses and which traces the development of pasture research in Australia, appears on pages 1001–2 of Year Book No. 49.

Soil conservation

Year Book No. 49 contains an article (pages 1003–4) on soil conservation which deals with the following matters: land use and soil erosion, agents of erosion, prevention and control, and the activities of various Commonwealth and State authorities which promote and co-ordinate research into the problems of soil erosion and the initiation of preventive measures.

AGRICULTURAL PRODUCTION

In general, statistics in this chapter relating to agricultural production are derived from 'census' returns supplied by approximately 250,000 farmers who utilise one acre or more of land for agricultural or pastoral purposes. The latest figures available are those for the year 1965–66. The returns are collected on a substantially uniform basis in all States at 31 March each year, and relate mainly to crops sown in the previous twelve months. Where harvests are not completed by March (e.g. potatoes), provision is made in some States for a special collection after the harvest is completed and in others for the inclusion of the total estimated yield expected from the complete harvest. In cases where additional data are available from marketing authorities or other sources these are used in conjunction with the 'census' returns. The statistics published in this section are therefore shown in 'agricultural' years. For most purposes there will be little error involved in considering them as applying to years ended 30 June.

For more detailed information on period covered and details of the weights and measures used in recording production of agricultural commodities *see* introductory notes to the bulletin *Rural Industries.*

Progress, assistance and control

Early development

The coastal districts of southern Australia are characterised to a large degree by leached soils of low fertility, with limited areas suitable for intensive crop cultivation. This, combined with an unfamiliar climate and problems associated with the clearance of scrub-land, severely checked early attempts to establish crops. A brief reference to these attempts at cultivation by the first settlers in New South Wales and to the discovery of suitable agricultural land on the Parramatta and Hawkesbury Rivers prior to the year 1813 and west of the Blue Mountains thereafter is contained in early issues of the Year Book. (*See* No. 22, page 670.)

In an *Account of Live Stock and Ground under Crop in New South Wales, 19th August*, 1797 Governor Hunter gives the acreage of crops as follows: wheat, 3,361 acres; maize, 1,527 acres; barley, 26 acres; potatoes, 11 acres; and vines, 8 acres. The following details of crops were collected in 1808: wheat, 6,874 acres; maize, 3,389 acres; barley, 544 acres; oats, 92 acres; peas and beans, 100 acres; potatoes, 301 acres; turnips, 13 acres; orchards, 546 acres; and flax and hemp, 37 acres.

By the year 1850 the area of crops had increased to 491,000 acres, of which 198,000 acres were cultivated in what is now the State of New South Wales and 169,000 acres in Tasmania. At the end of 1850 the area under cultivation in Victoria, which was then the Port Phillip District of New South Wales, was 52,190 acres. The bulk of the arable land in this part of the colony was devoted to the extensive grazing of sheep.

The gold discoveries of 1851 (at Bathurst in New South Wales and later at Ballarat and Bendigo in Victoria) had at first a very disturbing effect on agricultural progress. The area of crops declined from 491,000 acres in 1850 to 458,000 acres in 1854, as landowners and rural labourers joined in the various gold rushes. The demand for agricultural products occasioned by the large influx of population was, however, soon reflected in the increased area cultivated, for at the end of 1858 the land under crop in Australia exceeded a million acres. There was still a shortage of rural labour, and the increased acreage was due largely to the increasing mechanisation of crop operations.

Progress of cultivation

The following table shows the area of crops in each of the States and Territories of Australia at ten-yearly intervals since 1860–61 and during each of the ten seasons 1956–57 to 1965–66. Plate 43 in this chapter shows the area of crops in Australia from 1900–01 onward (page 894).

AREA OF CROPS: STATES AND TERRITORIES, 1860-61 TO 1965-66

('000 acres)

Year	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
1860–61	246	387	4	359	25	153	..	..	1,174
1870–71	385	693	52	802	55	157	..	..	2,144
1880–81	606	1,549	114	2,087	64	141	..	..	4,561
1890–91	853	2,032	225	2,093	70	157	..	..	5,430
1900–01	2,447	3,114	458	2,370	201	224	..	..	8,814
1910–11	3,386	3,952	667	2,747	855	287	..	..	11,894
1920–21	4,465	4,490	780	3,231	1,805	297	..	2	15,070
1930–31	6,811	6,716	1,144	5,426	4,792	268	2	5	25,164
1940–41	6,375	4,467	1,734	4,255	4,027	254	..	6	21,118
1950–51	4,761	4,537	2,077	3,812	4,650	290	n.a.	6	20,133
1956–57	3,789	3,904	2,469	4,273	5,233	288	1	5	19,962
1957–58	5,000	4,431	2,600	4,233	5,615	292	1	5	22,177
1958–59	6,820	5,040	2,852	4,436	6,135	339	1	8	25,631
1959–60	7,137	4,817	2,926	4,400	6,495	322	1	7	26,105
1960–61	8,044	5,838	3,057	5,399	6,871	357	2	8	29,576
1961–62	8,288	5,626	3,216	5,024	7,112	364	2	7	29,639
1962–63	8,903	6,318	3,490	5,495	7,482	395	2	7	32,092
1963–64	8,997	6,102	3,665	5,975	6,915	380	3	8	32,045
1964–65	10,334	6,477	3,967	5,965	7,505	404	4	9	34,665
1965–66	9,052	6,219	4,119	6,030	8,680	386	4	8	34,498

The progress of agriculture was practically uninterrupted from 1860–61 to 1915–16, when, as the result of a special effort to increase wheat production during the 1914–18 War, 18.5 million acres were cultivated in Australia. There was a temporary setback in later war years, but after the end of the war the area continued to expand and increased steadily to the record area of 25.2 million acres in 1930–31. In the following years the slump in wheat prices seriously depressed incomes in the agricultural industry, and the area of crops decreased to just under 20 million acres in 1935–36.

By 1938–39 the industry was recovering from the depression, and the total area under cultivation reached the high level of 23.5 million acres. Thereafter, as a result of war-time manpower shortages and shipping difficulties, the area declined to less than 16 million acres in 1943–44. After that year production gradually increased again until, in 1947–48, 22.5 million acres were sown to crops. This upward trend was reversed after 1948–49, largely because many primary producers transferred from wheat to wool production as a result of the high prices of wool. After 1951–52, however, when the area sown was 20.0 million acres, the area under crops increased steadily except for 1956–57, when excessively wet conditions caused reductions in the area sown to wheat. Subsequent to that year the area of all crops has generally shown an upward trend and, in 1965–66, 34.5 million acres were sown, which was 0.2 million acres below the record area sown in 1964–65. As the area under wheat in Australia constitutes a large proportion of the total area cropped (51 per cent during the five years ended 1965–66), fluctuations in the former have been largely responsible for year to year variation in total crop area.

The Australian Agricultural Council

The influence of governmental and semi-governmental authorities on Australian rural industry is most apparent in the fields of guaranteed prices, subsidies and controlled marketing. Many of these aspects of intervention at the national level take place indirectly through the Australian Agricultural Council. This is a permanent organisation which was formed following a conference of Commonwealth and State Ministers on agricultural and marketing matters, held at Canberra in December 1934. The Council consists of the Commonwealth Ministers for Primary Industry and Territories and the State Ministers of Agriculture, with power to co-opt the services of other Commonwealth and State Ministers as required. The principal functions of the Council are: the promotion of the welfare and development of agricultural industries generally; the exchange of information on agricultural production and marketing; the improvement of the quality of agricultural products and the maintenance of high grade standards; to ensure, as far as possible, balance between production and available markets; and organised marketing.

In addition, a permanent Standing Committee on Agriculture was formed to advise the Council, to secure co-operation and co-ordination in agricultural research, to advise State and Commonwealth Governments on the initiation and development of agricultural research, and to secure co-operation between all Governments in respect of quarantine measures against pests and diseases of plants and animals.

The Standing Committee on Agriculture comprises the permanent heads of the State Departments of Agriculture, the Secretary, Department of Primary Industry, and a representative each from the Commonwealth Departments of the Treasury, Health, Trade and Industry, and Territories, and from the Commonwealth Scientific and Industrial Research Organization.

Financial assistance to primary producers

Financial assistance to primary producers by the Commonwealth Government may be provided in a number of ways. Examples of these follow.

Bounties. A bounty to producers, not exceeding $4,000,000 in any one year, is currently paid on raw cotton produced and sold for use in Australia. This arrangement is due for review in 1968.

A bounty of $27,000,000 paid annually on the production of butter, cheese and related butterfat products and an export bounty on processed milk products of a maximum of $800,000 annually are both continued in the fifth Five Year Dairy Industry Stabilization Plan which commenced 1 July 1967.

Commitments to industry-financed stabilisation schemes. In schemes of this nature the Commonwealth generally accepts a defined contingent liability to contribute to Government

approved stabilisation funds if falling prices, or rising costs, or both, lead to a situation where growers' contributions prove inadequate. The Dried Vine Fruits Stabilization Fund and the Wheat Prices Stabilization Fund are examples of this.

Other financial assistance

The Commonwealth Government also pays for cattle tick control, flood, drought and bush fire relief, fisheries research, and farm mechanisation research.

Over recent years legislative research schemes financed by matching contributions from the Commonwealth, and industry or States, or both, have been initiated in regard to tobacco, wool, wheat, dairy produce, meat, eggs, wine, and honey. Non-legislative schemes, on a similar financial basis, have been operative in relation to Australian plague locusts, pest management in pome fruit orchards, grape crop forecasting, honey research, barley research, banana research, and fruit fly research.

Agricultural training and research

Agricultural colleges have been established in all States except Tasmania. The primary function of these colleges is the training of students in the various phases of agriculture and livestock husbandry. Students are required to undertake a considerable amount of practical work in addition to lectures and theory. A secondary function of the colleges is agricultural research and experimentation. To a lesser degree, they carry out extension work in the form of public field days. Upon graduation, students receive diplomas in agriculture, dairying, etc., according to the course undertaken.

Experimental farms have been set up by State Departments of Agriculture in all States. They are concerned primarily with agricultural research and experimentation, each farm concentrating on problems specific to the region in which it is located. The results of the work undertaken are passed on to farmers at field days which are held at regular intervals, through publication in various agricultural or scientific journals, and through the agricultural extension services of the State Departments of Agriculture.

The Commonwealth Scientific and Industrial Research Organization has field stations in many parts of Australia, and sometimes undertakes research jointly with the appropriate State authorities. It also has regional laboratories in several States, conducting research into agronomic and livestock problems as they occur in each particular region (*see also* the chapter Education, Cultural Activities and Research). The State Departments of Agriculture study problems of particular significance within their own boundaries. In addition, the universities carry out valuable work in their laboratories and on their experimental farms.

Extension services

Extension services operate in each State and in the Northern Territory, Australian Capital Territory and the Territory of Papua-New Guinea. Commonwealth funds have been provided to assist the States in their extension activities, through the Commonwealth Extension Services Grant and the Commonwealth Dairy Industry Extension Grant. These grants totalled $1.4 million in 1965–66. In 1966 the Commonwealth determined that the grants would be amalgamated and enlarged, undertaking to make available in 1966–67 and each of the next four years additional funds rising to at least $5.4 million per annum. The amount provided in 1966–67 was $2.9 million. The scope of the grant was widened to enable support to be given to extension, regional (adaptive) research, information services, economic advisory work, etc., and to training for these purposes.

Distribution, production and value of crops

Distribution of crops

The wide range of climatic and soil conditions over the agricultural regions of Australia has resulted in a diversity of crops being grown throughout the Commonwealth. Generally, cereal crops (excluding rice and sorghum) are grown in all States over wide areas, while industrial crops are confined to specific locations in a few States. A graph showing the area sown to principal crops for the years 1900–01 to 1965–66 appears on plate 43, over the page.

AREA OF CROPS

AUSTRALIA, 1900-01 TO 1965-66

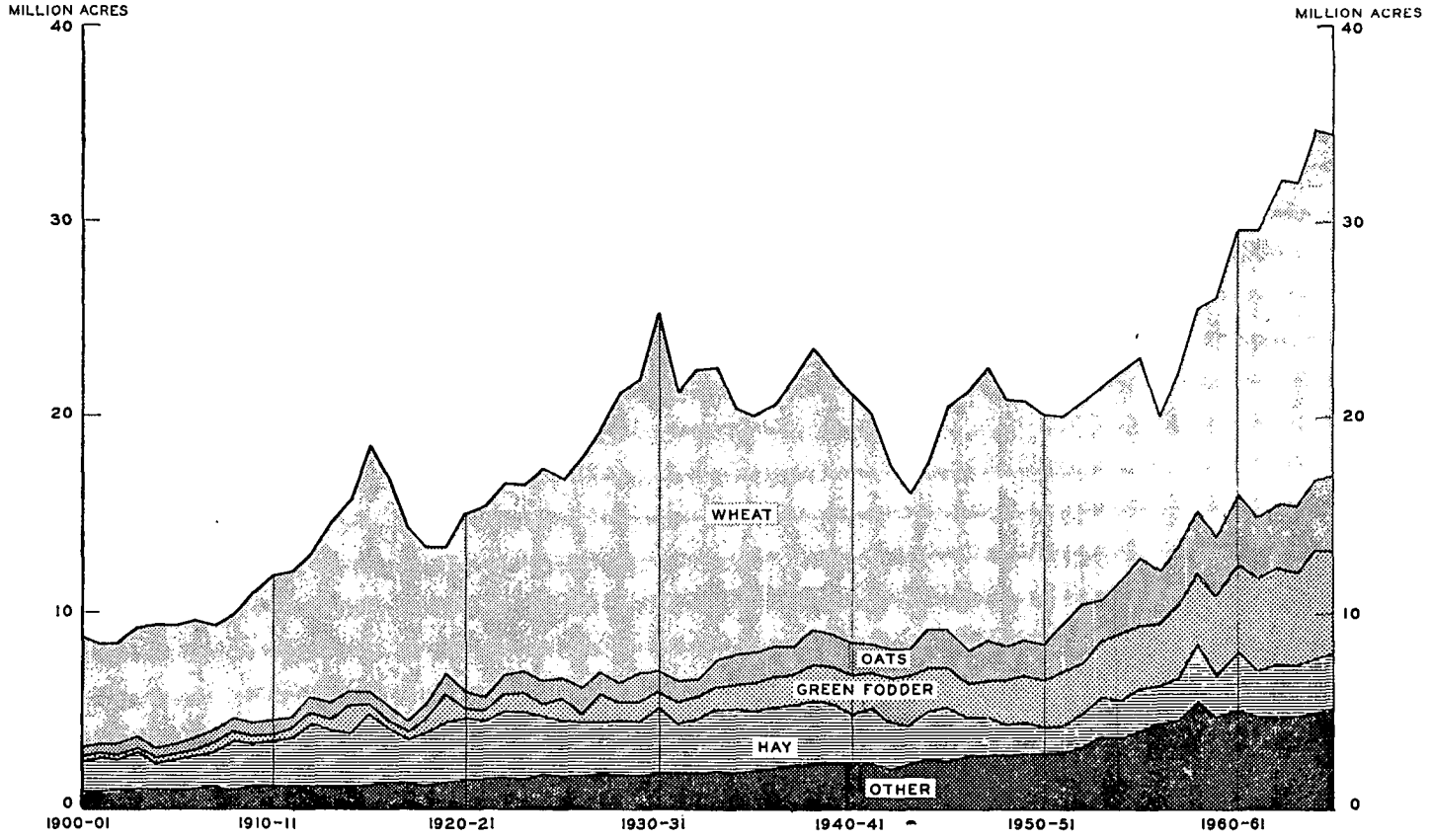


PLATE 43

AREA OF CROPS: STATES AND TERRITORIES, 1965-66

(Acres)

Crop	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Cereals for grain—									
Barley—									
2-row	136,463	181,175	301,591	1,056,115	71,847	19,283	..	..	1,766,474
6-row	99,631	11,103	36,596	42,023	341,230	624	..	..	531,207
Maize—Hybrid	(a) 38,027	1,497	(a)124,862	..	(b)	..	..	..	(c)164,386
Other	(a) 3,973	186	(a) 28,219	..	1	..	(d)	..	(c) 32,379
Oats	1,032,659	965,702	44,983	454,562	1,240,104	28,290	..	1,458	3,767,758
Panicum, millet and setaria	2,551	3,302	56,416	..	..	..	(d)	..	(c) 62,270
Rice	64,398	..	..	..	(d)	..	(e)	..	(c) 64,398
Rye	4,596	13,409	322	36,395	10,052	34	..	..	64,808
Sorghum	(a) 99,576	..	(a)332,768	..	..	..	1,093	..	433,437
Wheat	4,576,686	3,074,103	953,756	2,744,863	6,149,727	14,107	..	1,342	17,514,584
Hay	733,195	1,150,345	154,581	298,614	290,797	147,828	1,116	3,737	2,780,213
Green fodder	1,951,764	525,511	1,143,463	1,209,933	413,916	78,233	673	840	5,324,333
Other stock fodder	8,681	27,672	2,960	30,844	4,385	32,098	n.a.	..	(c) 106,640
Grass seed—									
Lucerne	7,497	(f)	546	24,018	177	..	654	..	(c) 32,892
Clover	12,883	6,939	3	4,984	80,890	728	..	..	106,427
Other	8,319	19,779	35,944	6,750	14,680	(g) 2,382	229	..	(c) 88,083
Industrial crops—									
Broom millet	1,668	158	237	..	12	..	..	..	2,075
Canary seed	..	(d)	13,440	..	..	..	..	..	(c) 13,440
Cotton	33,176	(d)	(a) 13,455	..	8,307	..	..	..	(c) 54,938
Flax—									
For linseed	3,658	7,370	12,266	1,196	97	..	..	..	24,587
Hops	..	678	..	..	(d)	(h) 1,569	..	..	(c) 2,247
Peanuts	394	..	57,298	..	..	..	16	..	57,708
Sugar cane—									
For crushing	15,824	..	487,375	..	(d)	..	..	..	(c) 503,199
Stand-over and cut for plants	24,018	..	119,604	..	..	..	..	..	143,622
Safflower	2,539	935	56,727	(d)	75	..	..	..	(c) 60,276
Sunflower	(d)	(d)	10,653	..	..	..	..	..	(c) 10,653
Tobacco	1,742	9,230	12,509	..	..	..	..	..	23,481
Other	..	920	172	..	..	253	..	..	1,345
Vegetables for human consumption—									
Onions	999	2,955	2,748	1,148	331	69	(i)	(i)	(c) 8,250
Potatoes	21,913	34,333	16,080	5,748	6,229	11,993	1	14	96,311
Other	43,996	54,319	44,074	9,668	8,528	23,970	143	119	184,818
Vineyards—									
Bearing	18,444	44,788	2,920	53,534	7,531	..	..	..	127,217
Not bearing	2,848	3,829	348	5,196	684	..	..	..	12,905
Fruit—									
Bearing	76,814	57,351	33,250	29,504	19,690	19,065	58	34	235,766
Not bearing	20,398	17,650	14,465	14,482	7,025	3,361	52	8	77,441
Nurseries and cut flowers	989	2,487	456	238	284	105	(d)	9	(c) 4,568
All other crops	2,086	1,219	4,116	281	3,329	1,865	27	23	12,946
Total area	9,052,405	6,218,946	4,119,203	6,030,096	8,679,928	385,855	4,062	7,584	34,498,079

(a) Sown 1964–65. (b) Included in Other maize. (c) Incomplete: *see* individual States. (d) Not available for publication. Included in All other crops. (e) Not available for publication. Excluded from totals. (f) Not available separately. Included in All other crops. (g) Excludes area sown simultaneously to oats. (h) Includes 78 acres not bearing. (i) Not available for publication. Included in Other vegetables.

RELATIVE AREAS OF CROPS: STATES AND TERRITORIES, 1965-66

(Per cent)

Crop	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Wheat (grain)	50.6	49.4	23.2	45.5	70.8	3.7	..	17.7	50.8
Green fodder	21.6	8.5	27.8	20.1	4.8	20.3	16.6	11.1	15.4
Oats (grain)	11.4	15.5	1.1	7.5	14.3	7.3	..	19.2	10.9
Hay	8.1	18.5	3.8	5.0	3.4	38.3	27.5	49.3	8.1
Barley (grain)	2.6	3.1	8.2	18.2	4.8	5.2	..	..	6.7
Sugar cane for crushing	0.2	..	11.8	..	..	..	..	..	1.5
Sorghum	1.1	..	8.1	..	..	..	26.9	..	1.3
Fruit	1.1	1.2	1.2	0.7	0.3	5.8	2.7	0.6	0.9
Maize (grain)	0.5	..	3.7	..	..	..	..	..	0.6
Vineyards	0.2	0.8	0.1	1.0	0.1	..	..	..	0.4
Potatoes	0.2	0.6	0.4	0.1	0.1	3.1	..	0.2	0.3
All other	2.5	2.4	10.8	1.9	1.5	16.3	26.3	2.0	3.3
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

AREA OF CROPS: AUSTRALIA, 1961-62 TO 1965-66

('000 acres)

Crop	1961–62	1962–63	1963–64	1964–65	1965–66
Cereals for grain—					
Barley—					
2-row	2,383	1,553	1,621	1,655	1,766
6-row		474	392	409	531
Maize—					
Hybrid	211	161	172	176	164
Other		48	43	36	32
Oats	3,097	3,292	3,392	3,497	3,768
Rice	50	55	59	62	64
Sorghum	363	391	366	346	433
Wheat	14,723	16,469	16,474	17,919	17,515
Hay	2,274	2,720	2,602	2,793	2,780
Green fodder	4,702	4,952	4,877	5,614	5,324
Grass seed	138	162	219	258	227
Industrial crops—					
Cotton	29	38	41	38	55
Flax for linseed	62	97	118	134	25
Hops	2	2	2	2	2
Peanuts	34	36	45	46	58
Sugar cane	499	506	539	628	647
Safflower	9	6	19	48	60
Tobacco	27	29	29	26	23
Vegetables for human consumption—					
Onions	9	11	9	10	8
Potatoes	94	114	102	88	96
Other	163	163	166	168	185
Vineyards	133	134	136	139	140
Fruit	294	305	310	311	313
All other crops	343	374	312	262	282
Total	**29,639**	**32,092**	**32,045**	**34,665**	**34,498**

Production and yield per acre of crops

PRODUCTION OF CROPS: STATES AND TERRITORIES, 1965–66

Crop		N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Cereals for grain—										
Barley—										
2-row	'000 bus	2,201	3,038	8,145	17,927	1,263	661	..	..	33,235
6-row	"	1,601	179	992	587	5,218	23	..	..	8,600
Maize—										
Hybrid	"	(a)1,482	94	(a)2,678	..	(b)	..	..	..	(c) 4,253
Other	"	(a) 125	8	(a) 531	..	..	..	(d)	..	(c) 664
Oats	"	12,607	17,784	735	5,622	23,279	677	..	37	60,739
Panicum, millet and setaria	"	9	63	726	..	..	..	(d)	..	(c) 799
Rice	"	9,540	..	..	..	(d)	..	(d)	..	(c) 9,540
Rye	"	60	66	4	186	75	..	..	..	392
Sorghum	"	(a) 605	..	(a)6,533	..	..	..	12	..	7,149
Wheat	"	39,117	60,591	17,429	39,976	102,156	368	..	28	259,666
Hay	'000 tons	978	1,873	282	368	414	257	2	5	4,179
Grass seed—										
Lucerne	cwt	7,909	n.a.	312	28,030	147	..	691	..	(c) 37,089
Clover	"	21,567	9,761	3	11,245	177,545	454	..	..	220,575
Other	"	10,114	27,195	22,392	9,844	24,680	4,862	64	..	99,151
Industrial crops—										
Broom millet—										
Fibre	cwt	10,394	740	682	..	80	..	..	..	11,896
Grain	bushels	17,391	1,105	n.a.	..	..	..	..	..	(c) 18,496
Canary seed	'000 bus	..	(d)	142	..	..	..	..	..	(c) 142
Cotton, unginned	'000 lb	103,280	(d)	a 10,138	..	20,431	..	..	..	(c)133,850
Flax—										
Linseed	tons	213	2,538	2,895	403	15	..	..	..	6,064
Hops (dry weight)	cwt	..	9,994	..	..	(d)	27,400	..	..	(c) 37,394
Peanuts	"	4,468	..	543,735	..	..	..	76	..	548,279
Sugar cane for crushing	'000 tons	609	..	13,546	..	(d)	..	..	..	(c) 14,155
Safflower	bushels	13,941	11,738	522,810	(d)	1,070	..	..	..	(c)549,559
Sunflower	cwt	(d)	(d)	48,580	..	..	..	..	..	(c) 48,580
Tobacco, dried leaf	'000 lb	1,698	11,083	14,580	..	..	..	..	..	27,361
Vegetables for human consumption—										
Onions	tons	8,764	17,115	17,728	10,069	3,948	500	(d)	(d)	(c) 58,124
Potatoes	"	104,623	240,786	97,744	56,471	62,865	76,400	4	83	638,976
Vineyards—										
Grapes—										
For drying	"	47,716	256,353	..	52,737	5,688	..	..	..	362,494
" table	"	7,699	9,706	4,602	1,210	2,310	..	..	..	25,527
" wine	"	41,839	16,961	208	129,855	5,232	..	..	..	194,095

(a) Harvested from crop sown in 1964–65. (b) Included in Other maize. (c) Incomplete; *see* individual States. (d) Not available for publication.

PRODUCTION OF PRINCIPAL CROPS: AUSTRALIA, 1961–62 TO 1965–66

Crop		1961–62	1962–63	1963–64	1964–65	1965–66
Cereals for grain—						
Barley—						
2-row	'000 bus	41,504	31,370	36,464	41,775	33,235
6-row	"		8,209	6,931	7,540	8,600
Maize—Hybrid	"	7,307	6,064	5,592	5,896	4,253
Other	"		1,393	1,130	983	664
Oats	"	55,130	68,809	68,234	70,043	60,739
Rice	"	7,045	7,129	7,455	8,030	9,540
Sorghum	"	9,361	10,252	7,889	7,164	7,149
Wheat	"	247,178	306,912	327,912	368,789	259,666
Hay	'000 tons	3,693	4,717	4,269	4,963	4,179
Grass seed	cwt	187,810	232,669	333,286	411,919	356,815
Industrial crops—						
Cotton, unginned	'000 lb	10,948	15,762	18,223	63,009	133,850
Flax for linseed	tons	12,589	25,717	29,516	46,600	6,064
Hops (dry weight)	cwt	32,936	33,629	19,858	27,893	37,394
Peanuts	"	299,613	319,402	460,726	207,115	548,279
Sugar cane for crushing	'000 tons	9,577	12,736	12,118	15,070	14,155
Safflower	'000 bus	86	90	303	697	550
Tobacco (dried leaf)	'000 lb	22,578	27,148	34,342	25,111	27,361
Vegetables for human consumption—						
Onions	'000 tons	58	68	59	70	58
Potatoes	"	526	667	562	508	639
Vineyards—						
Grapes	"	628	471	646	680	582
Wine made(*a*)	'000 gals	41,736	29,893	37,536	38,520	33,956
Dried vine fruits	'000 tons	96	71	104	108	91

(*a*) Net factory and farm production of beverage and distillation wine. This excludes the liquid gallonage of spirits added in wine fortifying.

YIELD PER ACRE OF PRINCIPAL CROPS: AUSTRALIA 1961–62 TO 1965–66

Crop		1961–62	1962–63	1963–64	1964–65	1965–66
Cereals for grain—						
Barley—						
2-row	bushels	17.4	20.2	22.5	25.2	18.8
6-row	"		17.3	17.7	18.4	16.2
Maize—Hybrid	"	34.7	37.7	32.6	33.4	25.9
Other	"		28.7	26.2	27.4	20.5
Oats	"	17.8	20.9	20.1	20.0	16.1
Rice	"	140.4	129.8	125.5	130.3	148.1
Sorghum	"	25.8	26.2	21.6	20.7	16.5
Wheat	"	16.8	18.6	19.9	20.6	14.8
Hay	tons	1.62	1.73	1.64	1.78	1.50
Industrial crops—						
Cotton, unginned	lb	380	418	445	1,662	2,436
Flax for linseed	tons	0.20	0.26	0.25	0.35	0.25
Hops (dry weight)(*a*)	cwt	17.1	16.8	9.7	13.2	17.2
Peanuts	"	8.81	8.89	10.25	4.51	9.50
Sugar cane for crushing(*a*)	tons	24.8	31.7	29.0	32.0	28.1
Safflower	bushels	9.6	15.8	15.6	14.7	9.1
Tobacco (dried leaf)	lb	848	924	1,183	954	1,165
Vegetables for human consumption—						
Onions	tons	6.20	6.34	6.43	7.18	7.04
Potatoes	"	5.57	5.86	5.51	5.78	6.63
Vineyards—						
Grapes(*a*)	"	5.14	3.86	5.21	5.42	4.56

(*a*) Per acre of productive crops.

Gross value of agricultural production

Further reference to the value of production of agriculture and other industries in Australia as well as a brief explanation of the terms used may be found in the chapter Miscellaneous.

GROSS VALUE(*a*) OF AGRICULTURAL PRODUCTION: AUSTRALIA
1961–62 TO 1965–66
($'000)

Crop	1961–62	1962–63	1963–64	1964–65	1965–66
Cereals for grain—					
Barley	43,866	42,656	47,484	55,620	47,932
Maize	10,570	9,524	10,364	9,999	9,517
Oats	40,002	51,258	49,666	51,449	53,323
Rice	7,664	7,676	7,912	8,529	10,224
Wheat	372,344	449,064	467,432	517,702	384,853
Hay	75,492	92,958	87,462	99,209	107,755
Green fodder	17,486	19,224	20,990	25,011	28,380
Industrial crops—					
Cotton, unginned	1,294	1,876	2,212	7,685	14,323
Hops	2,484	2,570	1,534	2,372	3,020
Sugar cane	99,216	131,038	162,880	133,372	121,865
Tobacco (dried leaf)	24,244	30,022	33,408	24,608	30,399
Vegetables for human consumption—					
Onions	5,094	3,628	4,096	5,340	6,667
Potatoes	41,394	27,960	33,226	60,713	43,751
Other vegetables for human consumption	57,486	57,552	66,514	68,335	75,566
Grapes	39,630	32,048	46,416	50,385	43,516
Fruit and nuts	126,726	128,860	135,133	146,242	151,877
All other crops	43,352	48,712	51,758	53,413	51,603
Total	**1,008,344**	**1,136,626**	**1,228,487**	**1,319,984**	**1,184,571**

(*a*) Includes amounts paid as bounty, relief, etc.

Values of agricultural production in the various States and Territories are shown for 1965–66 in the following table. In computing the net value of production, no deduction has been made for the cost of maintenance of farm buildings and fences, nor for the depreciation of farm plant.

GROSS, LOCAL AND NET VALUES OF AGRICULTURAL PRODUCTION
STATES AND TERRITORIES, 1965–66
($'000)

State or Territory	Gross production valued at principal markets	Marketing costs	Local value of production	Value of materials used in process of production	Net value of production (*a*)
New South Wales	245,734	44,083	201,651	(*b*) 26,261	175,390
Victoria	262,852	37,139	225,713	23,039	202,674
Queensland	274,221	32,015	242,207	43,542	198,665
South Australia	144,017	15,824	128,193	22,536	105,657
Western Australia	216,711	29,753	186,958	31,777	155,181
Tasmania	40,523	11,179	29,344	6,274	23,070
Northern Territory	225	n.a.	225	n.a.	225
Australian Capital Territory	288	23	265	12	253
Australia	**1,184,571**	**170,016**	**1,014,556**	**153,441**	**861,115**

(*a*) No deduction has been made for depreciation and maintenance. (*b*) No allowance has been made for costs of power, power kerosene, petrol and other oils.

NET VALUE OF AGRICULTURAL PRODUCTION(a)
STATES AND TERRITORIES, 1961-62 TO 1965-66

Year	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Net value ($'000) —									
1961–62	187,716	176,490	150,152	90,934	102,650	24,690	150	224	733,006
1962–63	226,072	193,972	185,728	93,358	108,506	22,312	168	298	830,414
1963–64	245,906	218,136	222,370	125,180	79,622	25,729	169	276	917,388
1964–65	293,883	232,775	193,673	134,239	92,800	27,223	222	349	975,164
1965–66	175,390	202,674	198,665	105,657	155,181	23,070	225	253	861,115
Per head of population ($)—									
1961–62	47.52	59.70	98.11	93.10	137.71	69.91	5.44	3.57	69.13
1962–63	56.27	64.42	119.56	93.76	141.55	62.30	5.81	4.28	76.88
1963–64	60.35	71.01	140.37	122.69	101.11	70.95	5.35	3.59	83.32
1964–65	71.03	74.26	119.90	128.03	115.23	74.34	6.53	4.14	86.87
1965–66	41.72	63.50	120.59	98.03	188.10	62.45	6.21	2.73	75.24

(a) No deduction has been made for depreciation and maintenance.

Indexes of quantum and price of agricultural production

Indexes of quantum and price of agricultural production are shown in the following table. The quantum indexes relate to gross output of farm products valued at constant prices. The quantities of each farm product produced each year have been revalued at the unit gross value for the period 1936–37 to 1938–39. The price indexes relate to average 'prices' of farm products realised at the principal markets of Australia. Average quantities of each product marketed in the period 1946–47 to 1950–51 have been used as fixed weights. Further details on weights used, etc. are to be found in the chapter Miscellaneous.

INDEXES OF QUANTUM(a) AND PRICE OF AGRICULTURAL PRODUCTION, 1961-62 TO 1965-66

(*Base: Average three years ended June*, 1939 = 100)

	1961–62	1962–63	1963–64	1964–65	1965–66
Quantum produced—					
Wheat	150	186	199	224	158
Other crops	171	194	194	214	200
Total, all crops	*163*	*191*	*196*	*218*	*184*
Per head of population	*106*	*122*	*122*	*133*	*110*
Price—					
Wheat	380	366	356	351	372
Other crops	323	309	348	351	340
Total, all crops	*348*	*334*	*351*	*351*	*354*

(a) Indexes of value at constant prices, i.e. quantities revalued at average unit values of the base years (1936–37 to 1938–39).

Wheat

Wheat is grown on a large scale in all States except Tasmania, and is the most important crop in Australia in terms of area, production and exports. The present limits of the wheat belt have been established after considerable fluctuation over the last four decades. In January 1934 a Royal Commission was appointed to inquire into and report upon the economic condition of the growing, handling and marketing of wheat, and the manufacturing, distributing and selling of flour and bread. The Report of this Royal Commission provides an authoritative description of all aspects of the industry up to that time.

Wheat marketing and research

Two of the aspects of governmental and semi-governmental assistance and control which have contributed to the development of the industry are the organisation of overseas marketing and of research.

As a large proportion of the Australian wheat crop is normally exported, the marketing of wheat plays an important part in the industry. The Australian Wheat Board was constituted in September 1939, under National Security (Wheat Acquisition) Regulations, to purchase, sell, or dispose of wheat or wheat products, and to manage and control all matters connected with the handling, storage, protection, shipment, etc. of wheat acquired, and such other matters as were necessary to give effect to the regulations. Details of the operations of the Australian Wheat Board and the Wheat Stabilization Board in licensing wheat grown during the seasons 1941–42 to 1948–49 will be found in Year Book No. 38, pages 940–1, and a detailed survey of legislation relating to stabilisation of the wheat industry, including controls exercised during the 1914–18 and 1939–45 Wars and legislation establishing the Wheat Stabilization Plan in 1948, is given in the Appendix to Year Book No. 37, pages 1295–9.

The Wheat Stabilization Board ceased to function on 31 December 1948, and under the *Wheat Industry Stabilization Act* 1948 the Australian Wheat Board was reconstituted for five years to administer the first stabilisation plan and was given powers similar to those held under the National Security Regulations. The new Board commenced to function on 18 December 1948. The Board has been continued in existence by the *Wheat Industry Stabilization Acts* 1954, 1958 and 1963 for the purpose of administering the second, third and fourth five-year stabilisation plans. Details of the more recent plans were published in Year Book No. 40, pages 841 and 842 (1947–48 to 1952–53 Plan), No. 44, page 861 (1953–54 to 1957–58), and No. 48, pages 903 and 904 (1958–59 to 1962–63).

Fourth Post-war Wheat Industry Stabilisation Plan. Following negotiations during 1962 and 1963, the fourth post-war Wheat Industry Stabilisation Plan was enacted by the Commonwealth and States towards the end of 1963. The new plan operates on very much the same lines as the previous ones. However, there are some important changes in detail in the main features of the plan which are set out below.

The plan operates for five years. It commenced with the 1963–64 wheat crop and will end with the marketing of the 1967–68 crop.

The *Wheat Export Charge Act* 1963 repealed the *Wheat Export Charge Act* 1958 and provided for an export charge on wheat and wheat products for the seasons 1963–64 to 1967–68 inclusive. The charge which may be levied is the excess of the export price over the cost of production or 15 cents a bushel, whichever is the less. The Commonwealth has guaranteed a return to growers applying to a maximum of 150 million bushels of wheat exported from each crop during the period of the plan. The guaranteed return is based on the findings of a survey of the economic structure of the wheat industry conducted by the Bureau of Agricultural Economics. It is subject to adjustment in each year of the plan in accordance with the movements in costs based on a cost index established from the survey. The guaranteed returns per bushel since the inception of the latest plan were: 1963–64, $1.442; 1964–65, $1.458; 1965–66, $1.517. For the 1966–67 season the guaranteed return has been fixed at $1.550 per bushel. The ceiling of the stabilisation fund is established at $60 million; any excess beyond this figure is returned to growers on the 'first-in, first-out' principle. Collections from the wheat export charge are paid into the Wheat Prices Stabilization Fund, out of which payments will be made to the Australian Wheat Board, when required, for the purpose of building up the average export price, for any season, to the guaranteed price. When the average export realisations fall below the guaranteed return the deficiency is made up first by drawing upon the stabilisation fund in respect of up to 150 million bushels of wheat from each crop. If the fund is exhausted, additional payments will be made from the Consolidated Revenue Fund. As the return from exports has been below the guaranteed price, there have been no collections of the wheat export charge since the 1956–57 (No. 20) pool when $3,178,000 was collected. In fact, growers' moneys in the Fund were exhausted with the closure of the 1959–60 Pool and since then the Commonwealth has been obliged to meet its commitment in respect of the export guarantee. Up to the closure of the 1964–65 Pool this has involved an amount totalling $81 million.

The Australian Wheat Board is retained as the sole constituted authority for the marketing of wheat within Australia and for the marketing of wheat and flour for export from Australia for the period of the plan.

The home consumption base price for 1963–64, the first year of the new plan, was established at $1.442 a bushel, bulk basis, f.o.r. ports plus 1.66 cents a bushel loading to cover the cost of transporting wheat to Tasmania. (Provision is made for a loading on the price of all wheat sold for consumption in Australia to the extent necessary to cover the cost of transporting wheat from the mainland to Tasmania in each season of the plan.) There is provision in the plan for annual adjustments in the following years in accordance with the guaranteed price as outlined above. The home consumption price for the 1965–66 season was $1.533 a bushel and is $1.565 a bushel for the 1966–67 season, including the freight to Tasmania loading of 1.5 cents a bushel.

A premium is paid from export realisations on wheat grown in Western Australia and exported from that State, in recognition of the natural freight advantage enjoyed by Western Australia owing to its proximity to the principal overseas markets for wheat. The premium is the amount of the actual freight advantage enjoyed by Western Australia up to a maximum of 2.5 cents a bushel.

F.A.Q. standard of wheat

Sales and shipments of grain in bulk overseas are generally made on a 'fair average quality' (f.a.q.) basis. Samples of wheat are obtained each year from the different wheat districts and mixed to give a representative sample of the whole crop in each State. From this representative sample the f.a.q. weight for each State is determined by the use of the Schopper 1-litre scale chondrometer. This standard is used as a basis for sales of each crop and it varies from year to year and from State to State. F.a.q. is an Australian term, and the method of selling differs from that of other countries, which sell according to sample, or (as in Canada) according to grades which are fixed and do not vary from year to year. The f.a.q. method does not, however, take protein quantity and quality into account, and it gives no indication therefore of the baking strength of the resulting flour.

There are two main classifications of Australian wheat in addition to the f.a.q. standard, namely, 'semi-hard' and 'premium-hard'. The former applies to wheat segregated as such in South Australia, and the latter to higher-protein wheat of northern New South Wales and Queensland of a guaranteed minimum protein content. Both wheats sell at a premium above f.a.q. The f.a.q. weight of a bushel of wheat in each of the four main wheat-producing States for the 1965–66 season's crop was as follows: New South Wales, north, none fixed due to drought conditions, south and west, 63 lb; Victoria, 63¾ lb; South Australia, semi-hard, 62½ lb, f.a.q., 63 lb; and Western Australia, 62½ lb.

Bulk handling and storage of wheat

A detailed description of the bulk handling system, including its advantages and disadvantages compared with other methods of handling, appears on pages 954–8 of Year Book No. 39.

New South Wales, Victoria and Western Australia have operated bulk handling systems for a number of years, and in more recent years other States have also introduced bulk systems. The bodies concerned with the administration of bulk handling in the various States are: Grain Elevators Board of New South Wales, Victorian Grain Elevators Board, State Wheat Board (Queensland), South Australian Co-operative Bulk Handling Ltd., Co-operative Bulk Handling Ltd. (Western Australia), and the Tasmanian Grain Elevators Board.

The table below sets out the bulk handling capacities of the several States for the years 1962 to 1966.

WHEAT: TOTAL CAPACITY OF BULK HANDLING FACILITIES(*a*)
STATES, 30 NOVEMBER 1962 TO 1966
('000 bushels)

State	1962	1963	1964	1965	1966
New South Wales	79,486	87,046	93,727	104,852	117,472
Victoria(*b*)	76,969	86,253	90,247	97,132	101,302
Queensland	9,525	11,081	13,178	15,956	19,213
South Australia	23,220	28,370	35,483	39,685	43,328
Western Australia	98,734	99,535	115,438	128,175	134,898
Tasmania	960	960	960	1,060	1,060
Australia	**288,894**	**313,245**	**349,033**	**386,860**	**417,273**

(*a*) Includes terminals, sub-terminals, country installations, and temporary storage. (*b*) Includes storage in southern New South Wales operated by the Victorian Grain Elevators Board.

Particulars of the operation of the bulk handling and storage systems in each State are set out on pages 916 and 917 of Year Book No. 48.

International wheat agreement

Details of the first and second International Wheat Agreements operative from 1 August 1949 to 31 July 1953, and from 1 August 1953 to 31 July 1956, respectively, were published in

Year Book No. 42 (*see* pages 840–1) and previous issues. Details of the third and fourth International Wheat Agreements which covered the period from 1 August 1956 to 31 July 1959 and 1 August 1959 to 31 July 1962 were published in Year Books 43 (page 836) and 48 (page 906), respectively.

A fifth International Wheat Agreement, ratified by the required number of wheat exporting and importing countries, came into force on 1 August 1962. This was intended to cover the three-year period from 1 August 1962 to 31 July 1965, but at a special meeting held in February 1965 the International Wheat Council adopted the text of a protocol providing for the prolongation of the Agreement, without amendment, to 31 July 1966. The council stated that it recognised the need for the maintenance of institutional arrangements to provide for continuing international co-operation in wheat matters, and that, following its decision to recommend a one-year extension of the existing agreement, it had given immediate consideration to preparatory work designed to ensure effective arrangements to follow the expiry of the term of the protocol. The Agreement was subsequently extended by protocol to 31 July 1967 and, with the exception of provisions relating to maximum and minimum prices, for a further year to 31 July 1968.

The current Agreement, negotiated at an international conference convened by the United Nations, continues the basic arrangements covered by previous Agreements. It seeks to obtain an element of stability in world wheat marketing by providing that a significant proportion of wheat entering international trade will be bought and sold at prices within a prescribed price range. The maximum and minimum prices fixed under the Agreement are expressed in terms of 'Canadian currency per bushel, at the parity of the Canadian dollar determined for the purposes of the International Monetary Fund as at 1 March 1949'. Member exporting countries compete to supply at prices within the prescribed range, which is from 202.5 cents (U.S. equivalent) or about 182.9 cents (Australian), to 162.5 cents (U.S. equivalent), or about 145.0 cents (Australian) per bushel. The maximum of the range is based on the price of Canada's No. 1 Northern Manitoba wheat in bulk in store at Fort William/Port Arthur. The minimum f.o.b. price for each exporter is the equivalent of the c. and f. price in the United Kingdom of the minimum price of Canada's No. 1 Northern Manitoba wheat in bulk in store at Fort William/Port Arthur, using currently prevailing transportation costs and exchange rates and making such allowance for differences in quality as may be agreed between the exporting and importing countries concerned.

Member importing countries have undertaken to buy each year from member exporting countries a stated percentage of their total commercial requirements at prices within the agreed range. For their part, exporting countries are obliged to make wheat available for purchase by importing countries in any crop year at prices within the price range in quantities sufficient to satisfy the commercial requirements of those countries; if the price goes to the maximum, exporters have undertaken to make available, at that maximum price, specified (datum) quantities based on their past trading record with member importers.

The current Agreement empowers the International Wheat Council to make an annual review of the world wheat situation, including the international implications of national policies in respect of wheat production, stocks and marketing, and the disposal of wheat surpluses on non-commercial terms.

Provision has also been made for the right of appeal against excessive discounts from the minimum price on the basis of differences in quality between the basic wheat—Canada's No. 1 Northern Manitoba wheat—and the wheat supplied by other member countries.

Member countries of the fifth International Wheat Agreement are as follows.

Exporters. Argentina, Australia, Canada, France, Italy, Mexico, Spain, Sweden, Union of Soviet Socialist Republics, and United States of America.

Importers. Austria, Belgium and Luxembourg, Brazil, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Federal Republic of Germany, Finland, Greece, Guatemala, Iceland, India, Indonesia, Ireland, Israel, Japan, Liberia, Libya, the Netherlands, New Zealand, Nigeria, Norway, Peru, Philippines, Portugal, Republic of Korea, Saudi Arabia, Sierra Leone, South Africa, Rhodesia, Switzerland, Tunisia, United Arab Republic, United Kingdom, Vatican City, Venezuela, and Western Samoa.

Research into the wheat industry

The extension and growth of the wheat industry in the past has been made possible to a large extent through research into new varieties of seed, crop rotation and fertiliser treatments by governmental, university and private research organisations. In recent years there has been a growing awareness of the value of this research, and funds are being raised by a direct levy on the growers' returns.

The *Wheat Tax Act* 1957 imposed a tax of 0.21 cents for each bushel of wheat:

(*a*) which was delivered to the Wheat Board on or after the first day of October 1956 and before the date of commencement of the Act, or

(*b*) which was delivered to the Wheat Board on or after that date.

The Act was amended in October 1965 to become the *Wheat Tax Act* 1957–1965 to provide for an increase in the rate of taxation from 0.21 cents to 0.25 cents for each bushel of wheat delivered to the Board on or after 1 October 1965. The *Wheat Research Act* 1957 provided for the establishment of a Wheat Research Trust Account to receive moneys payable under the *Wheat Tax Act* 1957, and for the setting up of a Wheat Industry Research Council to direct the expenditure of moneys from that account for research, etc. to benefit the wheat industry. This money, contributed by the growers, is being spent by the Wheat Industry Research Committees set up in the wheat-growing States. These Committees, which consist of representatives of wheatgrowers, universities and State Departments of Agriculture, also received a total of $568,000 under the provisions of the *Wheat Acquisition (Undistributed Moneys) Act* 1958.

The Commonwealth Government has undertaken to supply additional funds for research (with a maximum of $1 for $1 against the growers' contribution) and has set up the Wheat Industry Research Council to make recommendations on the appropriate expenditure of the Commonwealth contribution. The Council, at its inaugural meeting in February 1958, considered that possible avenues of research would include the breeding of better varieties, cereal chemistry, soil fertility, mechanisation, the industry's cost structure, and marketing problems. To the end of June 1966 the Council and the State Committees had spent $7,488,812, including grants to the Commonwealth Scientific and Industrial Research Organization, State Departments of Agriculture, universities, and agricultural colleges.

Wheat farms: number and classification by activity

Particulars of the number of farms growing twenty acres and upwards of wheat for grain during each of the years 1961–62 to 1965–66 are shown in the following table. A farm worked on the share system or as a partnership is included as one holding only.

NUMBER OF FARMS GROWING TWENTY ACRES AND UPWARDS OF WHEAT FOR GRAIN: STATES AND A.C.T., 1961–62 TO 1965–66

State or Territory	1961–62	1962–63	1963–64	1964–65	1965–66
New South Wales	17,489	18,286	17,753	18,537	16,194
Victoria	11,648	12,166	11,370	11,981	11,355
Queensland	4,483	5,095	4,927	5,236	4,941
South Australia	9,434	9,881	9,902	9,657	9,387
Western Australia	8,722	8,966	8,983	8,779	9,044
Tasmania	222	243	251	255	213
Australian Capital Territory	25	27	29	20	13
Australia	**52,023**	**54,664**	**53,215**	**54,465**	**51,147**

There is in Australia a widespread combination of wheat growing with other rural activities. This is illustrated, for the 1959–60 season, by a table on pages 1016 and 1017 of Year Book No. 49.

Varieties of wheat sown

The breeding of wheat suitable to local conditions has long been established in Australia. Farrer (*1845–1905*) did invaluable work in pioneering this field, and the results of his labour and the continued efforts of those who have followed him have proved of immense benefit to the industry. Their efforts have resulted in the development of disease-resistant varieties, better average yields, and a greater uniformity of sample, with which have accrued certain marketing advantages, as well as an improvement in the quality of wheat grown. More than 1,000 different varieties of Australian wheats have been catalogued by the Commonwealth Scientific and Industrial Research Organization, but the number of principal varieties grown in any one season is restricted to about forty-five.

The principal varieties of wheat sown and the percentage of each to the total area sown in the five main wheat-producing States of Australia in 1965–66 were as follows: New South Wales, Heron (26.6), Falcon (15.5), Olympic (14.3); Victoria, Insignia (47.1), Olympic (23.2), Pinnacle (18.7); Queensland, Spica (33.2), Mendos (19.0), Gala (14.9); South Australia, Insignia (37.4), Heron (17.5), Gabo (13.6); and Western Australia, Gamenya (24.9), Gabo (18.4), Insignia (17.0), Insignia 49 (10.7). A detailed table of wheat varieties sown appears in the annual bulletin *The Wheat Industry* (*see* no. 110, published in February 1967).

Wheat area, production and yield per acre

Prominent factors in the early development of the wheat industry were the increase in population following the discovery of gold and the redistribution of labour after the surface gold had been won. The economic depression of 1893 interrupted its progress, but its subsequent recovery was assisted by the invention of mechanical appliances, the use of superphosphates as an aid to production, and the introduction of new and more suitable varieties of wheat for Australian conditions. The establishment of closer settlement schemes and the settling of returned soldiers and others on the land were additional factors in its expansion.

The area, production and yield per acre of wheat for grain in each State are shown below for the years 1961–62 to 1965–66 in comparison with the averages for the three-year periods ended 1938–39, 1948–49 and 1958–59.

WHEAT FOR GRAIN: AREA, PRODUCTION AND YIELD PER ACRE STATES AND A.C.T., 1936-37 TO 1965-66

Period	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	A.C.T.	Aust.
AREA ('000 ACRES)								
Average for three years ended—								
1938–39	4,366	2,609	366	3,100	3,005	18	2	13,466
1948–49	4,519	3,241	439	2,319	2,685	7	4	13,214
1958–59	2,392	1,737	508	1,392	3,005	5	1	9,040
Year—								
1961–62	4,498	2,849	750	2,229	4,380	16	1	14,723
1962–63	5,008	3,125	919	2,595	4,804	15	3	16,469
1963–64	4,964	3,109	938	2,802	4,640	18	3	16,474
1964–65	5,760	3,236	1,026	2,727	5,151	17	2	17,919
1965–66	4,577	3,074	954	2,745	6,150	14	1	17,515
PRODUCTION ('000 BUSHELS)(a)								
Average for three years ended—								
1938–39	56,890	36,374	4,783	34,606	31,539	434	45	164,671
1948–49	58,537	48,332	8,569	28,856	31,517	138	78	176,027
1958–59	35,178	36,705	9,938	26,126	40,950	135	15	149,047
Year—								
1961–62	78,350	56,879	12,018	33,854	65,700	345	32	247,178
1962–63	109,002	67,899	18,683	38,339	72,500	419	70	306,912
1963–64	122,472	76,302	22,275	53,971	52,340	483	69	327,912
1964–65	151,483	78,166	22,830	52,817	63,071	364	58	368,789
1965–66	39,117	60,591	17,429	39,976	102,156	368	28	259,666
YIELD PER ACRE (BUSHELS)(a)								
Average for three years ended—								
1938–39	13.0	13.9	13.1	11.2	10.5	24.1	22.5	12.2
1948–49	13.0	14.9	19.5	12.4	11.7	19.7	19.5	13.3
1958–59	14.7	21.1	19.6	18.8	13.6	24.7	15.0	16.5
Year—								
1961–62	17.4	20.0	16.0	15.2	15.0	22.2	22.7	16.8
1962–63	21.8	21.7	20.3	14.8	15.1	27.3	29.3	18.6
1963–64	24.7	24.5	23.8	19.3	11.3	27.5	24.6	19.9
1964–65	26.3	24.2	22.3	19.4	12.2	21.7	27.6	20.6
1965–66	8.5	19.7	18.3	14.6	16.6	26.1	20.8	14.8

(a) 60 lb per bushel.

A graph showing the area sown to wheat for grain in Australia since 1900–1 appears on plate 43 of this Year Book, and a map showing the distribution of areas growing wheat for grain throughout Australia in 1962–63 appears on page 1013 of Year Book No. 50. Similar maps showing the distribution of wheat areas in 1924–25, 1938–39, 1947–48, and 1954–55 appeared respectively in Year Books No. 22, page 695, No. 34, page 451, No. 39, pages 977–8, and No. 43, page 883.

Apart from the variations in the area sown, the size of the wheat harvest in Australia is determined largely by the nature of the season, resulting in considerable year-to-year fluctuations in production. The main wheat-producing States of Australia are New South Wales, Victoria, South Australia, and Western Australia. Tasmania imports wheat from the mainland to satisfy its needs, though it exports flour made from local wheat which is particularly suitable for biscuits.

Production of wheat in 1965–66 at 259,666,000 bushels was 30 per cent below the record production of 1964–65, owing to severe drought conditions in New South Wales and Queensland. Compared with the previous season, production decreased in New South Wales by 112,367,000 bushels (74 per cent), Victoria, 17,574,000 bushels (23 per cent), Queensland, 5,400,000 bushels (24 per cent), and South Australia, 12,841,000 bushels (24 per cent). The fall in production was offset to some extent by a record crop in Western Australia, which exceeded that of the previous year by 39,085,000 bushels (62 per cent).

Short-term variations in yield per acre are due chiefly to seasonal influences. The yield per acre in 1965–66 (14.8 bushels) was the lowest since 1957–58. A record yield of 20.7 bushels was obtained in 1958–59.

The following table shows the average area, production and yield per acre for decennial periods since 1861 together with similar details for the latest season, 1965–66. Repeated cropping and short rotations (mainly in the eastern States) are believed to have led to the decline in yield to 1900, while fallowing and the widespread use of artificial fertilisers contributed to the increased yields in the decade following. The increase in yield since 1950 has been generally ascribed to the impact of improved pastures and ley-farming (broadly, the alternation of crops and pastures) upon soil fertility in wheat-growing areas. The production and yield per acre of wheat for each year from 1935–36 to 1965–66 are shown on plate 44 opposite.

WHEAT FOR GRAIN: AVERAGE AREA AND PRODUCTION, AUSTRALIA, 1861 TO 1965-66

Period	Area	Production	Yield per acre
	'000 acres	'000 bushels	bushels
Yearly average—			
1861–70	831	10,622	12.8
1871–80	1,646	17,711	10.8
1881–90	3,258	26,992	8.3
1891–1900	4,087	29,934	7.3
1901–10	5,711	56,058	9.8
1911–20	8,928	95,480	10.7
1921–30	11,291	135,400	12.0
1931–40	14,176	177,758	12.5
1941–50	11,358	145,599	12.8
1951–60	10,164	173,622	17.1
Year—			
1965–66	17,515	259,666	14.8

Price of wheat

The prices charged by the Australian Wheat Board for wheat sold to millers for gristing into flour for consumption in Australia and for wheat sold as stock feed were as follows: year ended 30 November 1963, $1.60; 1964, $1.46; 1965, $1.47; 1966, $1.53; and 1967, $1.57. These prices include a loading to meet freight charges incurred on wheat shipped to Tasmania (1.25 cents in 1963; 1.66 cents in 1964; 0.83 cents in 1965; 1.66 cents in 1966; and 1.50 cents in 1967).

The Wheat Board's monthly basic export selling prices for f.a.q. bulk wheat f.o.b. basis, both for wheat sold under the International Wheat Agreement and for 'free' wheat sold on the open market, fell in the following ranges: season ended 31 July 1963, $1.42 to $1.49; 1964, $1.43 to $1.58; 1965, $1.35 to $1.52; and 1966, $1.38 to $1.51. Actual selling prices have been lower than the basic prices in some cases, particularly where other exporting countries enjoy a geographical freight advantage.

The 1959 International Wheat Agreement set the maximum price at 200 cents (U.S. equivalent) a bushel and the minimum at 150 cents (U.S. equivalent) for f.a.q. wheat sold under the Agreement. Under the current 1962 Agreement operative from 1 August 1962 (*see* page 903) the agreed price range is between 202.5 cents (U.S. equivalent) and 162.5 cents (U.S. equivalent). Directly converted into Australian currency these limits are approximately 182.9 cents and 145.0 cents a bushel respectively.

WHEAT FOR GRAIN

AUSTRALIA, 1935-36 TO 1965-66

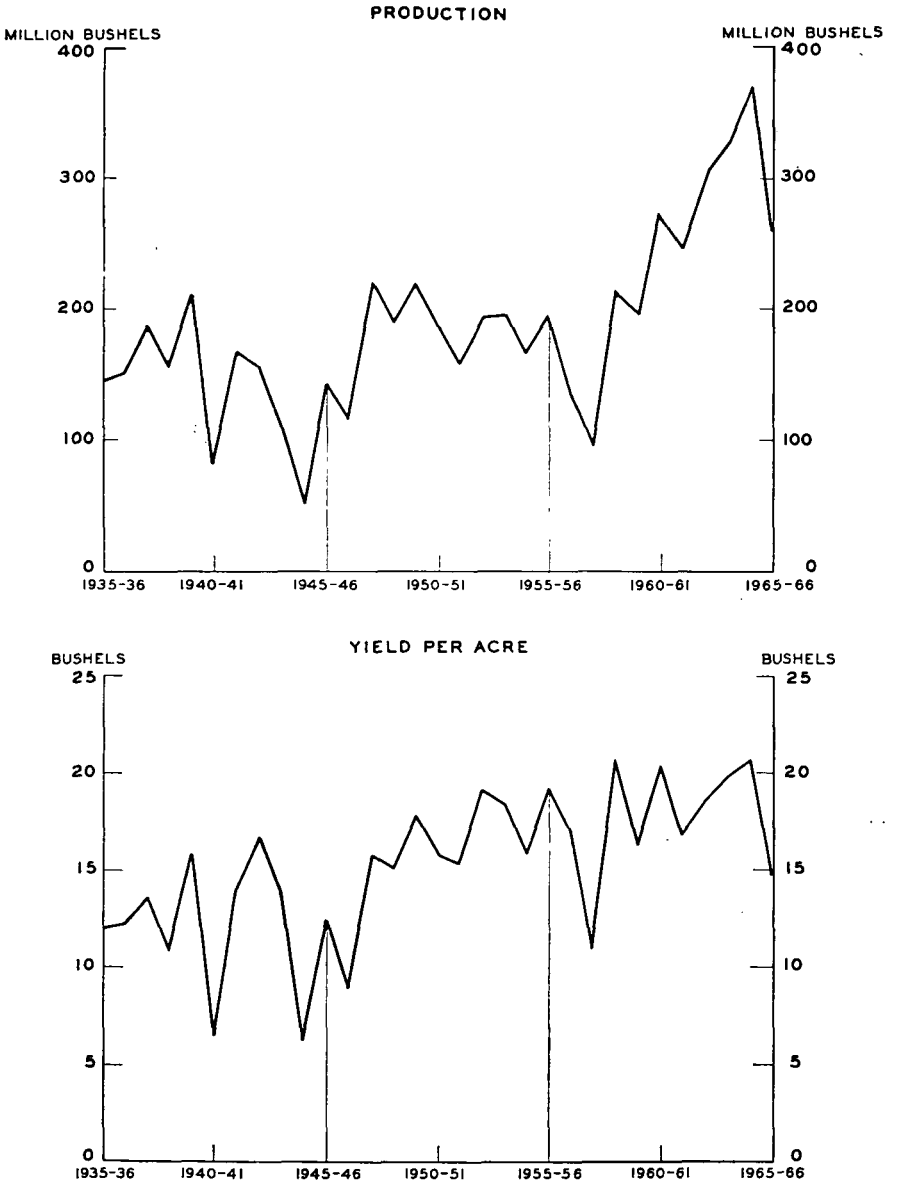


PLATE 44

Details of export prices of wheat in previous years, including those received for wheat sold under the terms of the 1949–1953 International Wheat Agreement, are given in Year Book No. 40, pages 849–50, and in the statistical bulletin *The Wheat Industry, Australia*, No. 99, March 1961, and in previous issues of these publications.

Value of the wheat crop

The estimated gross value of the wheat crop in each State and in Australia during the season 1965–66 and the value per acre are shown below.

WHEAT FOR GRAIN: VALUE OF CROP(*a*), STATES, *1965-66*

		N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	Aust.(*b*)
Aggregate value	$'000	*56,524*	*89,939*	*25,231*	*59,559*	*153,050*	*508*	*384,853*
Value per acre	$	12.35	29.26	26.45	21.70	24.89	36.01	21.97

(*a*) Gross value of total crop, including wheat used for seed and for stock feed on farms. Also includes payment of $16,154,000 by the Commonwealth Government. (*b*) Includes the Australian Capital Territory.

Production and disposal of wheat in Australia

In the following tables details are given of Australian Wheat Board transactions and of total production and disposal of wheat during each of the years ended 30 November 1962 to 1966.

AUSTRALIAN WHEAT BOARD
WHEAT RECEIVED, STATES, 1961–62 TO 1965–66 HARVESTS
('000 bushels)

Pool	Harvest	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	Aust.
25 . . .	1961–62	67,784	55,121	9,981	30,737	60,459	208	224,290
26 . . .	1962–63	98,677	67,215	17,537	35,120	66,898	275	285,722
27 . . .	1963–64	110,722	77,728	20,330	51,660	47,071	325	307,836
28 . . .	1964–65	137,495	80,685	20,712	49,991	57,440	188	346,511
29 . . .	1965–66	27,554	60,904	13,701	36,160	95,837	217	234,373

Stocks of wheat (including flour in terms of wheat) held by the Australian Wheat Board in each State at 30 November for the years 1962 to 1966 are shown in the following table. These data relate to stocks held at mills, sidings, ports, and depots as recorded by the Australian Wheat Board.

AUSTRALIAN WHEAT BOARD: STOCKS(*a*) OF WHEAT (INCLUDING FLOUR IN TERMS OF WHEAT), STATES, 30 NOVEMBER 1962 TO 1966
('000 bushels)(*b*)

Year	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	Aust.
1962 . . .	5,574	6,021	1,333	1,831	2,449	491	17,699
1963 . . .	10,879	7,000	775	1,775	2,221	625	23,275
1964 . . .	7,340	7,490	806	3,048	1,257	472	20,413
1965 . . .	*15,265*	*3,716*	862	2,602	1,556	382	24,383
1966 . . .	3,406	6,020	343	2,623	3,626	529	16,547

(*a*) Held at mills, sidings, ports and depots. Excludes new season's wheat received from growers prior to 30 November of years shown. (*b*) One short ton (2,000 lb) of flour is taken as being equivalent to 46.3 bushels of wheat.

Particulars of the disposal of wheat during the years ended 30 November 1962 to 1966, as recorded by the Australian Wheat Board, are shown in the following table.

AUSTRALIAN WHEAT BOARD: DISPOSAL OF WHEAT, 1962 TO 1966

('000 bushels)

	Year ended 30 November—				
	1962	1963	1964	1965	1966
Exported as wheat	152,818	203,703	221,530	243,725	158,104
Exported as flour(*a*)	25,123	24,903	31,797	23,318	16,615
Sold for local consumption as flour	40,736	40,389	42,954	44,160	44,164
Sold for other purposes	11,635	10,791	13,658	30,556	22,705

(*a*) Includes wheat equivalent of manufactured wheat products exported.

A summary of *all* transactions in wheat for Australia, as distinct from those recorded for the Wheat Board above, appears in the following table.

WHEAT: PRODUCTION AND DISPOSAL, AUSTRALIA, 1962 TO 1966

(million bushels)(*a*)

	Year ended 30 November—				
	1962	1963	1964	1965	1966
Opening stocks (including flour)(*b*)(*c*)(*d*)	24.4	17.7	23.3	20.4	24.4
Production	247.2	306.9	327.9	368.8	259.7
Total available supplies	*271.6*	*324.6*	*351.2*	*389.2*	*284.1*
Exports—					
Wheat	154.7	200.4	221.6	244.5	159.8
Flour(*b*)	26.6	25.1	34.4	23.8	17.0
Breakfast foods and other products(*b*)(*d*)	0.6	0.7	0.7	0.7	0.7
Local consumption—					
Flour(*b*)(*d*)	40.7	40.4	43.0	44.2	44.2
Breakfast foods and other products(*b*)(*d*)	1.6	1.7	1.8	1.9	2.4
Stock feed wheat sales(*d*)	10.0	9.1	12.0	28.7	20.3
Seed	15.4	15.4	16.6	16.3	18.5
Retained on farm (excluding seed)	7.4	5.8	3.4	6.0	6.7
Closing stocks (including flour)(*b*)(*c*)(*d*)	17.7	23.3	20.4	24.4	16.5
Total disposals	*274.7*	*321.9*	*353.9*	*390.5*	*286.1*
Excess (+) or deficiency (−) of disposals in relation to available supplies(*e*)	+3.1	−2.7	+2.7	+1.3	+2.0

(*a*) One short ton (2,000 lb) of flour is taken as being equivalent to 46.3 bushels of wheat. (*b*) In terms of wheat. (*c*) Held at ports, depots, mills, and sidings. (*d*) *Source:* Australian Wheat Board. (*e*) Includes allowance for unrecorded movements in stocks, gain or loss in out-turn, etc.

The *Wheat Industry Stabilization Act* 1948 empowered the Minister to arrange with the Commonwealth Bank for advances to the Board, the advances being guaranteed by the Commonwealth Government. These provisions have been continued in the subsequent legislation, with the exception that advances are now arranged through the Reserve Bank.

AUSTRALIAN WHEAT BOARD: FINANCIAL OPERATIONS, POOLS NOS. 25 TO 29

($'000)

	No. 25 Pool (1961–62 Harvest)	No. 26 Pool (1962–63 Harvest)	No. 27 Pool (1963–64 Harvest)	No. 28 Pool (1964–65 Harvest)	No. 29 Pool(a) (1965–66 Harvest)
Paid to growers	288,414	351,972	373,254	409,337	223,177
Rail freight	33,886	45,358	49,270	57,765	34,633
Expenses	16,720	20,552	17,990	21,298	20,542
Total payments	*339,020*	*417,882*	*440,514*	*488,400*	*278,352*
Value of sales delivered	(b)324,910	(c)395,842	(d)439,262	(e)471,052	(f)334,660

(a) Incomplete. (b) Subject to additional $14,576,000 provided by the Commonwealth Government and payment of $466,000 to Wheat Industry Research Fund. (c) Subject to additional $22,634,000 provided by the Commonwealth Government and payment of $594,000 to Wheat Industry Research Fund. (d) Subject to additional $1,892,000 provided by the Commonwealth Government and payment of $640,000 to Wheat Industry Research Fund. (e) Subject to additional $18,069,000 provided by the Commonwealth Government and payment of $722,000 to Wheat Industry Research Fund. (f) Subject to additional $16,154,000 provided by the Commonwealth Government and payment of $586,000 to Wheat Industry Research Fund.

Details of earlier pools will be found in previous issues of the Year Book.

Imports of wheat

Wheat and flour have been imported in substantial quantities on three occasions since 1900; in 1902–3 the wheat harvest was only 12,378,000 bushels, and wheat and flour equivalent to 12,468,000 bushels of wheat were imported. An equivalent of 7,279,000 bushels was imported in 1914–15 to supplement the yield of 25 million bushels produced in that season. Owing to drought conditions in 1957–58 supplies of high protein wheat were insufficient for local requirements and, as a result, 1,485,000 bushels were imported from Canada in 1958. No wheat has since been imported.

Exports of wheat and flour

Statistics in the following three tables are for years ended 30 June and relate to the exports of *Australian produce* only.

WHEAT AND FLOUR: EXPORTS, AUSTRALIA, 1961–62 TO 1965–66

Year	Quantity				Value		
	Wheat	Flour		Total (in terms of wheat)	Wheat	Flour(a)	Total
		As flour (a)	In terms of wheat (b)				
	'000 bushels	short tons	'000 bushels	'000 bushels	$'000 f.o.b.	$'000 f.o.b.	$'000 f.o.b.
1961–62	203,155	602,665	27,903	231,058	284,892	36,328	321,220
1962–63	151,970	544,441	25,208	177,178	216,904	32,660	249,565
1963–64	253,724	714,939	33,102	286,826	362,018	43,758	405,776
1964–65	209,980	598,037	27,689	237,669	297,199	39,122	336,321
1965–66	189,479	416,201	19,270	208,749	264,062	26,526	290,588

(a) White flour (plain and self-raising), sharps and wheatmeal for baking. (b) One short ton (2,000 lb) of flour is taken as being equivalent to 46.3 bushels of wheat.

WHEAT: EXPORTS TO VARIOUS COUNTRIES, AUSTRALIA, 1961–62 TO 1965–66

('000 bushels)

Country to which exported	1961–62	1962–63	1963–64	1964–65	1965–66
China (mainland)	71,760	76,230	93,440	83,623	74,131
United Kingdom	23,282	16,317	28,146	19,132	23,293
U.S.S.R. (Europe and Asia)	..	23	51,045	31,665	21,146
Japan	15,698	12,673	18,800	16,276	13,357
India	21,166	7,144	7,572	17,543	6,650
Iran	582	705	1,163	8,983	6,046
New Zealand	6,252	6,088	6,687	6,104	5,461
United Arab Republic	3,952	..	285	728	4,551
Singapore(*a*)	63	32	1,588	(*b*)	4,479
Malaysia(*c*)	522	560	149	3,669	3,758
Norway	2,472	2,739	4,169	2,830	702
Other	57,406	29,459	40,680	19,427	25,905
Total	**203,155**	**151,970**	**253,724**	**209,980**	**189,479**

(*a*) Included in Malaysia from 1 July 1964 to 30 September 1965. (*b*) Not recorded separately; *see* footnote (*a*). (*c*) Includes Singapore from 1 July 1964 to 30 September 1965.

The following table shows the exports of flour to various countries for each of the years 1961–62 to 1965–66. The figures relate to exports of white flour (plain and self-raising), sharps and wheatmeal for baking.

FLOUR: EXPORTS TO VARIOUS COUNTRIES, AUSTRALIA, 1961–62 TO 1965–66

(Short tons)

Country to which exported	1961–62	1962–63	1963–64	1964–65	1965–66
Ceylon	178,538	103,503	115,273	191,144	170,083
Fiji	30,240	29,554	37,993	34,915	34,223
United Kingdom	66,560	66,641	48,744	45,579	33,071
Malaysia(*a*)	93,924	95,724	95,410	97,560	32,344
South Arabia, Federation of	34,997	38,914	40,675	44,990	29,968
Saudi Arabia	11,551	16,212	12,563	15,822	16,692
Papua and New Guinea	12,113	10,370	11,512	13,871	15,859
Mauritius	13,468	14,011	21,279	19,860	11,818
Thailand	13,957	17,129	14,718	8,483	6,194
Singapore(*b*)	52,872	51,781	47,242	(*c*)	1,973
Other	94,445	100,602	269,530	125,813	63,976
Total	**602,665**	**544,441**	**714,939**	**598,037**	**416,201**

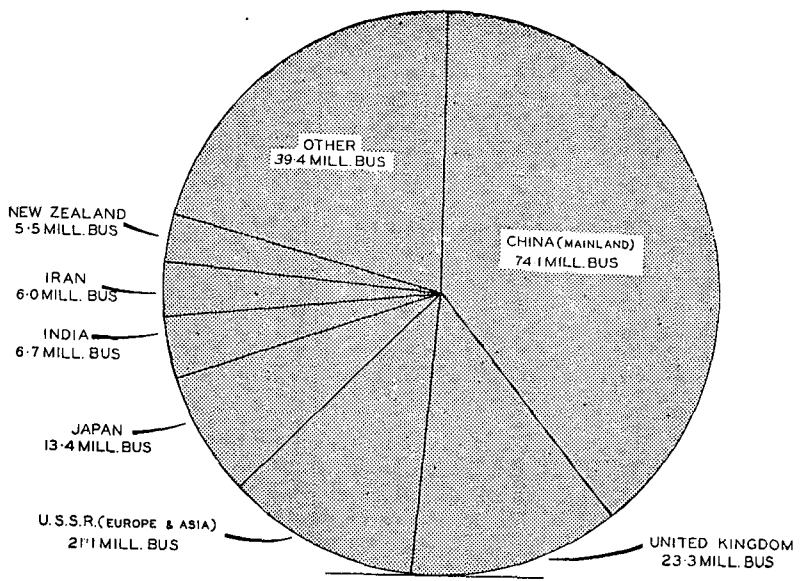
(*a*) Includes Singapore from 1 July 1964 to 30 September 1965. (*b*) Included in Malaysia from 1 July 1964 to 30 September 1965. (*c*) Not recorded separately; *see* footnote (*b*).

The exports of wheat during the year 1965–66 are illustrated in plate 45 over the page.

EXPORTS OF WHEAT AND FLOUR

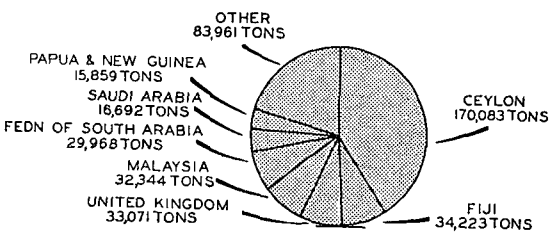
AUSTRALIA, 1965-66

WHEAT



TOTAL: 189·5 MILLION BUSHELS

FLOUR



TOTAL: 416,201 SHORT TONS

(ONE SHORT TON OF FLOUR IS EQUIVALENT TO 46·3 BUSHELS OF WHEAT
I.E. 416,201 SHORT TONS OF FLOUR = 19·3 MILLION BUSHELS OF WHEAT)

World area and production of wheat

The figures in the following table of the world area and production of wheat by principal countries and by continents have been compiled from the statistics published by the International Wheat Council. Harvests in the northern hemisphere occur in the first of the two years mentioned in each column heading, and in the southern hemisphere at the end of that year and the beginning of the next. Harvests of the northern hemisphere countries are thus combined with those of the southern hemisphere which immediately follow; e.g. in 1965–66 the Canadian harvest occurred from August to September 1965 and the Australian harvest from September 1965 to February 1966.

WHEAT: AREA, PRODUCTION AND YIELD PER ACRE IN VARIOUS COUNTRIES 1963-64 TO 1965-66

(*Source for countries other than Australia:* International Wheat Council—*World Wheat Statistics*)

Continent and country	Area			Production			Yield per aere		
	1963–64	1964–65	1965–66	1963–64	1964–65	1965–66	1963–64	1964–65	1965–66
	'000 acres	'000 acres	'000 acres	mill. bus	mill. bus	mill. bus	bus	bus	bus
Europe—									
France	9,513	10,843	11,192	377	509	527	39.9	46.9	47.2
Italy	10,858	10,892	10,601	299	316	359	27.5	30.0	33.9
Romania	7,102	7,312	7,731	140	141	218	19.6	19.2	28.2
Spain	10,495	10,316	10,519	179	146	173	17.0	14.1	16.5
Total, Europe(a)	*68,504*	*71,958*	*71,105*	*2,016*	*2,246*	*2,458*	*29.4*	*31.2*	*34.6*
U.S.S.R. (Europe and Asia)	159,649	167,749	173,464	1,826	2,734	2,190	11.4	16.3	12.6
Asia—									
China (mainland)(b)	59,799	63,012	61,034	801	849	790	13.4	13.5	12.9
India	33,747	33,349	33,260	398	362	452	11.8	10.9	13.6
Turkey	19,724	19,797	19,840	349	310	317	17.7	15.7	16.0
Pakistan	12,592	12,543	13,272	155	154	170	12.3	12.3	12.8
Total, Asia(a)	*151,646*	*153,920*	*153,054*	*2,005*	*2,008*	*2,085*	*13.2*	*13.0*	*13.6*
North and Central America—									
United States	45,209	49,121	49,560	1,147	1,283	1,316	25.4	26.1	26.5
Canada	27,566	29,686	28,282	723	600	649	26.2	20.2	22.9
Total, North and Central America(a)	*74,896*	*80,975*	*80,036*	*1,934*	*1,964*	*2,050*	*25.8*	*24.2*	*25.6*
South America—									
Argentina	14,025	15,160	10,413	329	414	228	23.4	27.3	21.9
Total, South America(a)	*19,990*	*20,460*	*15,147*	*409*	*509*	*309*	*20.4*	*24.9*	*20.4*
Oceania—									
Australia	16,474	17,919	17,515	328	369	260	19.9	20.6	14.8
Total, Oceania(a)	*16,679*	*18,103*	*17,710*	*338*	*378*	*270*	*20.3*	*20.9*	*15.2*
Africa	18,854	19,323	18,854	235	213	220	12.5	11.0	11.7
World total(a)	510,192	532,436	529,370	8,763	10,051	9,582	17.2	18.9	18.1

(*a*) Includes allowances for any missing data for countries shown and for other producing countries not shown.
(*b*) International Wheat Council estimate.

Principal wheat exporting and importing countries

The following table shows world exports of wheat and wheat flour (in terms of wheat) by the major wheat exporting countries, according to continents and countries of primary destination, based on statistics recently published by the International Wheat Council. While Australia's production of wheat has averaged about three per cent of the world's total during recent years, its exports account for a much higher proportion of the total quantities shipped. For the three years ended 1965–66 Australia's share of the world wheat exports has averaged twelve per cent.

WORLD EXPORTS OF WHEAT AND WHEAT FLOUR IN TERMS OF WHEAT

(*Source:* International Wheat Council—*World Wheat Statistics*)

(Million bushels)

Year and country of primary destination	Exporting country—							
	United States of America	Canada	Argentina	Australia	France	U.S.S.R.	Other	Total
1961–62	717.8	365.2	87.3	230.6	67.4	185.6	90.2	1,744.1
1962–63	636.8	331.2	66.4	175.9	109.4	195.8	83.7	1,599.2
1963–64	848.7	554.4	102.0	287.1	98.5	47.1	134.3	2,072.1
1964–65	720.4	437.6	163.3	237.7	169.6	42.6	110.7	1,881.9
1965–66p—								
Asia(*a*)—								
India	262.2	11.3	..	6.2	..	..	..	279.7
China (mainland)	..	75.4	82.3	74.1	1.4	..	0.9	234.1
Japan	71.4	47.2	..	13.3	..	..	..	131.9
Pakistan	35.8	1.2	..	2.0	..	..	..	39.1
Philippines	16.0	3.2	..	0.1	0.9	..	1.3	21.5
Other	99.7	7.0	4.6	42.5	7.3	4.5	16.8	182.3
Total, Asia	*485.1*	*145.3*	*86.9*	*138.2*	*9.6*	*4.5*	*19.0*	*888.6*
Europe(*a*)—								
United Kingdom	29.8	78.1	12.5	24.8	13.9	..	8.5	167.6
Germany, East	1.7	6.2	..	0.4	28.3	33.6	3.1	73.3
Poland	1.0	12.9	3.3	..	25.6	5.0	12.3	60.1
Yugoslavia	54.8	..	..	..	..	..	..	54.8
Czechoslovakia	..	7.6	0.2	..	13.1	31.2	1.4	53.5
Germany, Federal Republic of	14.1	19.7	4.2	0.4	7.6	..	4.7	50.7
Italy	8.3	6.3	17.7	..	11.3	..	3.0	46.6
Netherlands	31.0	3.6	5.8	..	2.8	..	0.2	43.4
Switzerland	8.2	7.2	0.5	..	8.0	..	2.1	26.0
Other	34.2	24.2	9.6	3.2	17.0	..	14.8	103.0
Total, Europe	*183.1*	*165.8*	*53.8*	*28.8*	*127.6*	*69.8*	*50.1*	*679.0*
U.S.S.R.	..	189.9	80.3	21.2	4.8	..	21.2	317.4
Africa—								
United Arab Republic	47.3	..	..	4.6	5.8	5.8	24.8	88.3
Other	48.0	3.0	2.1	7.0	22.3	0.8	10.5	93.7
Total, Africa	*95.3*	*3.0*	*2.1*	*11.6*	*28.1*	*6.6*	*35.3*	*182.0*
South America—								
Brazil	32.4	..	48.2	..	..	..	4.9	85.5
Other	49.2	8.5	20.6	0.1	0.4	..	1.0	79.8
Total, South America	*81.6*	*8.5*	*68.8*	*0.1*	*0.4*	..	*5.9*	*165.3*
North and Central America	15.5	32.4	0.2	0.3	4.2	..	1.0	53.6
Oceania	0.1	0.1	..	8.3	0.9	..	..	9.4
All other	0.1	..	..	0.2	..	..	0.4	0.7
World total, 1965-66	**860.8**	**545.0**	**292.0**	**208.7**	**175.7**	**80.9**	**132.9**	**2,296.0**

(*a*) Excludes U.S.S.R., details for which are shown separately.

The above particulars are based on customs clearances of the exporting countries, and relate to years ended 30 June. There are small differences between Australian exports as shown and those on pages 910–11 due in part to the use by the International Wheat Council of a slightly different factor to convert flour to wheat equivalent.

Oats

This cereal is widely grown in all agricultural areas which have autumn, winter and spring rainfall; it is tolerant of wet conditions and heavy soils. It has excellent feed value and produces a higher yielding crop than other winter cereals. It needs less cultivation, but requires ample fertiliser. Oats has a variety of uses—as a pasture plant when rough sown into stubble or heavy clover pastures, as silage if cut before maturity, as a hay crop when mown and baled or cut for chaff, or as a grain when stripped (the stubble then being grazed off). The grain is sold on a 'fair average quality' basis through voluntary pools in Victoria, South Australia and Western Australia.

Oats area, production and yield per acre

Oats is usually next in importance to wheat among the grain crops cultivated in Australia. However, while wheat grown for grain in 1965–66 accounted for 51 per cent of the area of all crops, oats grown for grain represented only 11 per cent. The area, production and yield per acre of oats in each State are shown below for the years 1961–62 to 1965–66 in comparison with the averages for the three-year periods ended 1938–39, 1948–49 and 1958–59. Drought conditions in New South Wales, one of the principal producing States, caused the 1965–66 crop to fall below the level of recent years.

OATS FOR GRAIN: AREA, PRODUCTION AND YIELD PER ACRE STATES AND A.C.T., 1936-37 TO 1965-66

Period	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	A.C.T.	Aust.
AREA ('000 ACRES)								
Average for three years ended—								
1938–39	297	478	8	338	425	26	..	1,572
1948–49	515	548	21	282	484	17	1	1,868
1958–59	756	735	29	445	1,178	20	..	3,163
Year—								
1961–62	713	774	27	324	1,231	27	1	3,097
1962–63	708	932	27	416	1,177	31	1	3,292
1963–64	794	910	31	501	1,125	30	1	3,392
1964–65	850	966	55	444	1,152	28	1	3,497
1965–66	1,033	966	45	455	1,240	28	1	3,768
PRODUCTION ('000 BUSHELS) (a)								
Average for three years ended—								
1938–39	4,065	4,781	65	2,575	4,159	810	6	16,461
1948–49	7,166	9,757	324	3,606	5,355	406	7	26,621
1958–59	12,619	14,140	547	7,911	15,606	409	10	51,242
Year—								
1961–62	13,225	16,312	412	4,391	20,187	587	16	55,130
1962–63	16,035	27,042	545	5,770	18,572	828	17	68,809
1963–64	19,811	19,885	673	9,149	17,850	844	22	68,234
1964–65	22,885	22,446	1,171	8,977	14,011	521	32	70,043
1965–66	12,607	17,784	735	5,622	23,279	677	37	60,739
YIELD PER ACRE (BUSHELS) (a)								
Average for three years ended—								
1938–39	13.7	10.0	8.1	7.6	9.8	3.1	24.3	10.5
1948–49	13.9	17.8	15.4	12.8	11.1	2.4	11.8	14.3
1958–59	16.7	19.2	18.9	17.8	13.3	20.5	22.5	16.2
Year—								
1961–62	18.5	21.1	15.4	13.6	16.4	21.8	18.7	17.8
1962–63	22.7	29.0	20.0	13.9	15.8	26.6	25.6	20.9
1963–64	24.9	21.8	21.7	18.3	15.9	27.8	19.8	20.1
1964–65	26.9	23.2	21.1	20.2	12.2	18.5	21.6	20.0
1965–66	12.2	18.4	16.3	12.4	18.8	23.9	25.6	16.1

(a) 40 lb per bushel.

Graphs showing the area sown to oats and production of oats in Australia appear on pages 993 and 995 of Year Book No. 49, and a map showing the distribution of areas growing oats for grain throughout Australia in 1962–63 appears on page 1015 of Year Book No. 50. The area sown to oats from 1900–01 is shown in plate 43, page 894.

In 1965–66 the production of oats was 60,739,000 bushels, 26,166,000 bushels (30 per cent) below the record harvest of 86,905,000 bushels in 1958–59. The yield per acre in 1965–66 was 16.1 bushels, compared with the record yield of 21.9 bushels per acre established in 1958–59. The lowest yield recorded was 4.4 bushels per acre in the abnormally dry season of 1944–45.

Value of oat crop

The average wholesale price in the Melbourne market for oats of good milling quality was $0.94 a bushel in 1965–66, compared with $0.77 in 1964–65. The estimated gross value of the oat crop in each State for the 1965–66 season and the value per acre were as follows.

OATS FOR GRAIN: VALUE OF CROP, STATES, 1965-66

		N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	Aust. (a)
Aggregate value	$'000	15,002	15,287	691	3,346	18,403	558	53,323
Value per acre	$	14.53	15.83	15.36	7.36	14.84	19.72	14.15

(a) Includes the Australian Capital Territory.

Exports of oats

The production of oats in Australia is sufficient to allow for an export trade which fluctuates with the incentive offered by overseas prices. The quantities and values of Australian-produced oats exported from Australia during the years 1961–62 to 1965–66 are shown below.

OATS: EXPORTS, AUSTRALIA, 1961-62 TO 1965-66

		1961–62	1962–63	1963–64	1964–65	1965–66
Quantity	'000 bus.	19,064	17,744	16,673	20,161	13,825
Value	$'000 f.o.b.	14,957	14,152	12,623	15,616	11,980

In 1965–66 the principal countries of destination were the Federal Republic of Germany (9,282,000 bushels), Italy (1,502,000 bushels), the United Kingdom (919,000 bushels), the Netherlands (768,000 bushels), and Japan (606,000 bushels). Imports of oats into Australia are not recorded separately.

Oatmeal and other oat products

In 1965–66 the production of granulated or rolled oats or oatmeal (kilned and unkilned) for breakfast foods, porridge and other purposes was 35,600 tons.

World production of oats

The world production of oats for the year 1965, according to figures issued by the United States Department of Agriculture, amounted to 3,030 million bushels, harvested from 73.5 million acres, resulting in an average yield of 41.2 bushels an acre. This compared with an estimated production in the previous year of 2,890 million bushels from an area of 74.5 million acres and an average yield of 38.8 bushels an acre.

Barley

This cereal contains two main groups of varieties, 2-row and 6-row. The former is generally, but not exclusively, preferred for malting purposes. Barley was formerly stubble-sown, but is now grown principally on pasture land worked up early in the year of sowing. In this way it forms an important phase in the rotation of the land. Like oats, it may also be sown for fodder production or for grain. When sown for fodder, sowing may take place either early or late in the season, as it has a short growing period. It may thus provide grazing or fodder supplies when other sources are not available. Barley grain may be crushed to meal for stock (especially pigs) or sold for malting.

Crops sown for malting purposes require well-worked, weed-free paddocks of even soil, and are thus restricted to specific districts. The main barley-growing areas in Australia are situated in South Australia (Murray-Mallee, Eyre and Yorke Peninsulas), but considerable quantities are grown also in New South Wales, Victoria, Queensland, and Western Australia.

Barley boards

The bulk of the barley crop in the various States is acquired and marketed by grower-controlled boards. Pooled returns from sales are distributed to growers at standard rates for the individual grades and varieties delivered. The Victorian and South Australian crops are marketed by the Australian Barley Board (a joint board established by the two State Governments), and the Queensland and Western Australian Barley Boards handle the crops of their respective States. Particulars of the proportion of barley production which was received by the Australian Barley Board (for Victoria and South Australia), together with details of quantity sold, advances and total payments to growers, are presented below.

AUSTRALIAN BARLEY BOARD: BARLEY RECEIVED, SOLD, ETC. 1961–62 TO 1965–66

Pool	Quantity received	Quantity sold(*a*)	Total advances made per bushel on 2-row no. 1 grade less freight	Total net payments to growers
	'000 bushels	'000 bushels	$	$'000
No. 23 (1961–62 Crop)	20,081	20,059	1.1607	19,414
„ 24 (1962–63 „)	17,195	17,285	1.1563	16,666
„ 25 (1963–64 „)	23,145	23,204	1.1862	22,446
„ 26 (1964–65 „)	25,465	25,404	1.2000	25,184
„ 27 (1965–66 „)	14,922	14,893	*b* 1.2000	*b* 13,785

(*a*) Includes surplus or shortage in out-turn, except for No. 27 Pool for which the surplus has not yet been ascertained. (*b*) As at 30 April 1967. At that date it was estimated that the amount still to be paid to growers was 6.969 cents per bushel.

Barley area, production and yield per acre

There was a substantial increase in the area of barley sown for grain (particularly in Western Australia and Queensland) in the years up to 1960–61, and in that year the area sown reached the record level of 2,830,000 acres. However, the area sown in 1965–66, 2,298,000 acres was 19 per cent less than the area in 1960–61. The production of barley for grain in 1965–66, 41,835,000 bushels, was 39 per cent less than the record production of 67,970,000 bushels in 1960–61. The area, production and yield per acre of barley for grain in the several States for the years 1961–62 to 1965–66, compared with the averages for the three-year periods ended 1938–39, 1948–49 and 1958–59 are shown in the following table. Separate details for 2-row and 6-row varieties are shown for all States for 1965–66.

BARLEY FOR GRAIN: AREA, PRODUCTION AND YIELD PER ACRE STATES AND A.C.T., 1936–37 TO 1965–66

Period	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	A.C.T.	Aust.
AREA ('000 ACRES)								
Average for three years ended—								
1938–39	13	138	10	391	53	8	..	613
1948–49	23	166	18	587	65	7	..	866
1958–59	73	354	184	1,255	324	8	..	2,198
Year—								
1961–62	201	225	177	1,271	490	19	..	2,383
1962–63	221	194	150	1,053	390	19	..	2,027
1963–64	211	190	176	1,123	299	14	..	2,013
1964–65	239	187	225	1,095	303	15	..	2,064
1965–66—								
2-row	136	181	302	1,056	72	19	..	1,766
6-row	100	11	37	42	341	1	..	531
Total	*236*	*192*	*338*	*1,098*	*413*	*20*	..	*2,298*

BARLEY FOR GRAIN: AREA, PRODUCTION AND YIELD PER ACRE
STATES AND A.C.T., 1936-37 TO 1965-66—*continued*

Period	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	A.C.T.	Aust.
PRODUCTION ('000 BUSHELS)(*a*)								
Average for three years ended—								
1938–39	197	2,174	135	6,816	660	252	..	10,234
1948–49	316	3,149	375	11,964	748	194	..	16,746
1958–59	1,463	7,192	4,673	29,740	4,239	267	..	47,574
Year—								
1961–62	4,137	4,654	3,532	21,292	7,282	607	..	41,504
1962–63	5,331	5,469	4,088	18,004	6,056	631	..	39,579
1963–64	5,351	4,025	5,191	24,337	4,077	414	..	43,395
1964–65	6,707	4,335	7,111	26,932	3,701	529	..	49,315
1965–66—								
2-row	2,201	3,038	8,145	17,927	1,263	661	..	33,235
6-row	1,601	179	992	587	5,218	23	..	8,600
Total	*3,801*	*3,218*	*9,137*	*18,514*	*6,481*	*684*	..	*41,835*
YIELD PER ACRE (BUSHELS)(*a*)								
Average for three years ended—								
1938–39	15.2	15.7	13.5	17.4	12.5	31.5	52.3	16.7
1948–49	13.7	19.0	20.8	20.4	11.5	27.7	19.5	19.3
1958–59	20.0	20.3	25.4	23.7	13.1	33.4	..	20.7
Year—								
1961–62	20.6	20.6	20.0	16.8	14.8	32.4	..	17.4
1962–63	24.2	28.1	27.3	17.1	15.5	31.9	..	19.5
1963–64	25.3	21.2	29.5	21.7	13.6	30.0	..	21.6
1964–65	28.1	23.2	31.6	24.6	12.2	34.2	..	23.9
1965–66—								
2-row	16.1	16.8	27.0	17.0	17.6	34.3	..	18.8
6-row	16.1	16.2	27.1	14.0	15.3	36.8	..	16.2
Total	*16.1*	*16.7*	*27.0*	*16.9*	*15.7*	*34.4*	..	*18.2*

(*a*) 50 lb per bushel.

For Australia, 77 per cent of the area of barley for grain in 1965–66 was sown with 2-row barley, while the remainder consisted of 6-row varieties. The proportion, however, varied considerably in the several States. The utilisation of barley during the season ended November 1966 was as follows: exports, 9,842,000 bushels; malting and distilling, 13,200,000 bushels; pearl barley, 141,000 bushels; seed, 3,000,000 bushels.

The following table sets out the acreage and production of 2- and 6-row barley in Australia during the seasons 1961–62 to 1965–66 and the averages for the three years ended 1938–39, 1948–49 and 1958–59.

BARLEY FOR GRAIN, 2- AND 6-ROW: AREA AND PRODUCTION
AUSTRALIA, 1936-37 TO 1965-66

Period	Area ('000 acres)			Production ('000 bushels)(*a*)			Yield per acre (bushels)(*a*)		
	2-row	6-row	Total	2-row	6-row	Total	2-row	6-row	Total
Average for three years ended—									
1938–39	523	90	613	8,963	1,271	10,234	17.1	14.1	16.7
1948–49	769	97	866	15,142	1,604	16,746	19.7	16.5	19.3
1958–59	1,809	389	2,198	41,633	5,941	47,574	23.0	15.3	20.7
Year—									
1961–62	(*b*)1,777	(*b*) 587	2,383	*b* 31,739	(*b*) 9,158	41,504	(*b*) 17.9	(*b*) 15.6	17.4
1962–63	1,553	474	2,027	31,370	8,209	39,579	20.2	17.3	19.5
1963–64	1,621	392	2,013	36,464	6,931	43,395	22.5	17.7	21.6
1964–65	1,655	409	2,064	41,775	7,540	49,315	25.2	18.4	23.9
1965–66	1,766	531	2,298	33,235	8,600	41,835	18.8	16.2	18.2

(*a*) 50 lb per bushel. (*b*) Excludes Tasmania.

A graph showing the production of barley in Australia since 1935–36 appears on page 995 of Year Book No. 49, and a map showing the distribution of barley growing areas throughout Australia in 1962–63 appears on page 1014 of Year Book No. 50.

Value of barley crop

The average wholesale price for 2-row English malting barley in the Melbourne market was $1.47 a bushel in 1965–66, the same figure as in 1964–65. The estimated gross value of the barley crop in each State for the 1965–66 season and the value per acre are shown in the following table.

BARLEY FOR GRAIN: VALUE OF CROP, STATES, 1965-66

		N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	Aust.
Aggregate value.	$'000	5,318	3,662	10,521	20,234	7,298	899	47,932
Value per acre .	$	22.52	19.05	31.11	18.43	17.67	45.16	20.86

Exports of barley

South Australia was the principal exporting State in 1965–66, and Italy, the Federal Republic of Germany, Japan, the United Kingdom, and the Netherlands were the principal countries to which barley was shipped. Particulars of exports of Australian produced barley for the years 1961–62 to 1965–66 are shown in the following table.

BARLEY: EXPORTS, AUSTRALIA, 1961-62 TO 1965-66

		1961–62	1962–63	1963–64	1964–65	1965–66
Quantity .	'000 bus	31,435	10,322	17,756	16,281	9,994
Value . .	$'000 f.o.b.	29,908	10,458	18,298	18,002	11,508

In addition to exports of barley grain, there are also exports of Australian pearl and Scotch barley, the total for 1965–66 amounting to 529,945 lb, valued at $20,264, the main country of consignment being Kuwait. Imports of barley into Australia are not recorded separately, but are considered to be negligible.

Barley malt

Details of the recorded usage of barley and the production of barley malt in the years 1961–62 to 1965–66 are given in the following table.

BARLEY MALT: GRAIN USED AND MALT PRODUCED, AUSTRALIA 1961-62 TO 1965-66

		1961–62	1962–63	1963–64	1964–65	1965–66
Barley used . .	'000 bus(*a*)	10,287	10,119	11,886	11,667	12,883
Malt produced .	'000 bus(*b*)	10,207	10,429	11,988	12,127	13,235

(*a*) 50 lb per bushel. (*b*) 40 lb per bushel.

Since 1952–53 the production of malt in Australia has been sufficient to meet local requirements and to provide a margin for export. Exports of Australian produce amounting to 4,058,000 bushels (value $7,842,000) and 4,678,000 bushels (value $9,295,000) were recorded in 1964–65 and 1965–66 respectively.

World production of barley

In comparison with the barley production of other countries that of Australia is extremely small. The main producers in 1965 were the Union of Socialist Soviet Republics, the United States of America and the United Kingdom. China is also normally a major producer, but details for 1965 are not available. Australian production in that year was approximately 1 per cent of the world total.

According to estimates made by the United States Department of Agriculture, world production of barley in the year 1965 amounted to 4,232 million bushels harvested from 154.0 million acres, equivalent to a yield per acre of 27.5 bushels. This compared with the production of 4,295 million bushels in the previous year from 162.5 million acres, a yield of 26.4 bushels per acre.

Sorghum

Grain sorghum is a summer-growing annual palatable to stock and more drought- and frost-resistant than maize. It requires a summer rainfall. The growing of this crop for grain on an extensive scale is a comparatively recent development in Australia, and, as with other cereals, operations are highly mechanised.

The climatic conditions of Queensland and northern New South Wales are particularly suited to the growing of sorghum, and development has so far been restricted mainly to these areas, more particularly to Queensland. The grain produced is fed to livestock and has become an important source for supplementing other coarse grains for this purpose. Other sorghums are grown in Australia mainly as green fodder, hay and silage (sweet sorghums and Sudan grass) and for the production of brush for broom manufacture (broom millet). In Queensland the growing of grain sorghum is concentrated in the Burnett, Dawson-Callide areas and in the central highlands. In New South Wales the north western slopes and Murrumbidgee Irrigation Area are the main areas. This crop is also suitable for the semi-tropical areas of the Northern Territory and the Kimberleys.

Particulars of the area and production of sorghum grown for grain in recent years are given in the following table.

GRAIN SORGHUM: AREA, PRODUCTION AND YIELD PER ACRE, STATES
1961-62 TO 1965-66

Year	Area			Production(*a*)			Yield per acre(*a*)		
	N.S.W.	Qld	Aust. (*b*)	N.S.W.	Qld	Aust. (*b*)	N.S.W.	Qld	Aust. (*b*)
	acres	acres	acres	'000 bushels	'000 bushels	'000 bushels	bushels	bushels	bushels
1961–62 .	70,134	292,397	362,666	1,308	8,054	9,361	18.6	27.5	25.8
1962–63 .	80,255	311,068	391,334	1,891	8,361	10,252	23.6	26.9	26.2
1963–64 .	61,203	303,857	365,708	1,269	6,612	7,889	20.7	21.8	21.6
1964–65 .	51,699	292,769	345,737	1,270	5,883	7,164	24.6	20.1	20.7
1965–66 .	99,576	332,768	433,437	605	6,533	7,149	6.1	19.6	16.5

(*a*) 60 lb per bushel. Production in New South Wales and Queensland harvested from crop sown in previous year. (*b*) Includes small areas sown and quantities produced in other States and Territories.

Maize

Like sorghum, maize is a summer cereal demanding specific soil and climatic conditions. For grain, it is grown almost entirely in the south-east and Atherton Tablelands of Queensland and the north coast and northern tablelands of New South Wales. On the Atherton Tablelands in Queensland, and generally in New South Wales and Victoria, it provides a stock feed for dairy cattle, fat stock and pigs. In times of drought it is used also as a sheep feed. In all States except South Australia, however, this crop is grown to some extent for green fodder and silage, particularly in connection with the dairying industry. There is practically no difference between grain and fodder varieties.

There has been a considerable increase in recent years in the growing of maize from hybrid strains of seed. Varieties have been developed which are capable of producing yields per acre considerably in excess of the older open pollinated types. The expansion in areas sown to hybrid maize has led to a parallel development in the specialised industry of growing hybrid strains for seed.

Maize area, production and yield per acre

The area, production and yield per acre of maize for grain in each State for the years 1961–62 to 1965–66 compared with the averages for the three-year periods ended 1938–39, 1948–49 and 1958–59 are given in the following table. Separate details for hybrid and other varieties are shown for all producing States except Western Australia for 1965–66.

MAIZE FOR GRAIN: AREA, PRODUCTION AND YIELD PER ACRE STATES AND A.C.T., 1936–37 TO 1965–66

Period	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	A.C.T.	Aust.
AREA (ACRES)								
Average for three years ended—								
1938–39	121,178	19,826	179,641	20	16	..	6	320,687
1948–49	91,612	7,511	122,263	1	87	6	1	221,481
1958–59	57,662	3,629	120,417	(a)	13	1	2	(b)181,724
Year—								
1961–62	51,434	3,309	155,780	..	17	..	..	210,540
1962–63	46,537	3,634	159,285	(a)	34	..	..	(b)209,490
1963–64	44,679	3,399	166,598	(a)	85	..	..	(b)214,761
1964–65	41,660	2,353	168,300	..	10	..	..	212,323
1965–66—								
Hybrid	38,027	1,497	124,862	..	(c)	..	..	(b)164,386
Other	3,973	186	28,219	..	1	..	..	32,379
Total	*42,000*	*1,683*	*153,081*	..	*1*	..	..	*196,765*
PRODUCTION ('000 BUSHELS)(d)								
Average for three years ended—								
1938–39	3,204	665	3,170	1	..	..	..	7,040
1948–49	2,446	314	2,960	..	1	..	..	5,721
1958–59	2,347	175	3,428	(a)	..	..	..	(b) 5,950
Year—								
1961–62	2,349	192	4,766	..	..	..	..	7,307
1962–63	2,145	216	5,096	(a)	..	..	..	(b) 7,457
1963–64	2,089	204	4,427	(a)	2	..	..	(b) 6,722
1964–65	1,878	114	4,887	..	..	..	..	6,879
1965–66—								
Hybrid	1,482	94	2,678	..	(c)	..	..	(b) 4,253
Other	125	8	531	..	..	..	..	664
Total	*1,607*	*101*	*3,209*	..	..	..	..	*4,918*
YIELD PER ACRE (BUSHELS) (d)								
Average for three years ended—								
1938–39	26.4	33.5	17.6	43.7	12.3	..	10.2	22.0
1948–49	26.7	41.8	24.2	6.7	7.2	14.8	13.7	25.8
1958–59	40.7	48.2	28.5	(a)	16.8	30.0	..	(b) 32.7
Year—								
1961–62	45.7	58.0	30.6	..	21.9	..	..	34.7
1962–63	46.1	59.5	32.0	(a)	12.2	..	..	(b) 35.6
1963–64	46.8	59.8	26.6	(a)	18.5	..	..	(b) 31.3
1964–65	45.1	48.5	29.0	..	15.6	..	..	32.4
1965–66—								
Hybrid	39.0	62.8	21.4	..	(c)	..	..	(b) 25.9
Other	31.5	40.6	18.8	..	60.0	..	..	20.5
Total	*38.3*	*60.3*	*21.0*	..	*60.0*	..	..	*25.0*

(a) Not available for publication. (b) Incomplete. (c) Included in Other maize. (d) 56 lb per bushel. Production in New South Wales and Queensland harvested from crop sown in previous year.

The average yield for Australia for the five-year period ended 1965–66 was 31.9 bushels per acre. Among principal producing countries, the United States of America averaged 73.1 bushels per acre and Brazil 18.3 bushels for 1965.

Value of maize crop

The average wholesale price of maize in the Melbourne market in 1965–66 was $2.83 a bushel compared with $1.89 in 1964–65. The estimated gross value of the crop in each State for the 1965–66 season and the value per acre were as follows.

MAIZE FOR GRAIN: VALUE OF CROP, STATES, 1965–66

	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	Aust.
Aggregate value $'000	3,359	121	6,037	..	..	..	9,517
Value per acre $	79.98	71.90	39.44	..	..	..	48.37

Exports of maize and maize products

Exports of Australian-produced maize for the years 1961–62 to 1965–66 are shown hereunder.

MAIZE: EXPORTS, AUSTRALIA, 1961–62 TO 1965–66

		1961–62	1962–63	1963–64	1964–65	1965–66
Quantity	'000 bus	2	552	14	20	1
Value	$'000 f.o.b.	6	480	27	42	4

The increase in exports of maize in 1962–63 was due principally to the shipment of 474,000 bushels to Japan, a country to which there had been no previous exports. Imports of maize into Australia are not recorded separately, but are considered to be negligible.

World production of maize

According to figures issued by the United States Department of Agriculture, world production of maize in the year 1965 amounted to 8,182 million bushels, harvested from 240 million acres, giving an average yield per acre of 34.1 bushels. This compared with production in the previous year of 7,835 million bushels from 248 million acres, and an average yield of 31.6 bushels per acre.

The United States of America is the most important maize-producing country in the world, and during the three years ended 1965 the area sown to maize in that country averaged 58 million acres or 24 per cent of the world total. During the same period production averaged 3,949 million bushels or 49 per cent of the world total.

Rice

The principal rice-growing areas of the world are confined almost entirely to Asia, although limited quantities are grown in other countries. In Australia rice was first cultivated at the Yanco Experimental Farm in New South Wales, but it was not grown commercially until 1924–25, when 16,240 bushels were produced from 153 acres. Favoured by high average yields and protected by tariff, rice culture made rapid progress in the Murrumbidgee Irrigation Areas until local requirements were met and a surplus became available for export. The acreage sown in this area is controlled, as the quantity of water available is limited.

Until recent years rice-growing in Australia was practically confined to the Murrumbidgee Irrigation Areas in New South Wales. However, there is now some experimental rice-growing in Western Australia and the Northern Territory, but particulars are not available for publication. The bulk of Australia's exports of rice in 1965–66 was shipped to Papua and New Guinea and the Pacific Islands. Details relating to area, production, and Australian-produced exports for the years 1961–62 to 1965–66 are shown in the following table.

RICE: AREA, PRODUCTION AND EXPORTS, AUSTRALIA(*a*)
1961–62 TO 1965–66

Year	No. of holdings growing rice(*b*)	Area	Production (paddy rice)		Average yield (paddy) per acre	Exports(*c*)	
			Quantity	Gross value(*d*)		Uncleaned	Cleaned
		acres	'000 bushels (*e*)	$'000	bushels (*e*)	cwt	cwt
1961–62	878	50,185	7,045	7,664	140.4	280,540	748,920
1962–63	956	54,929	7,129	7,676	129.8	239,820	905,580
1963–64	1,033	59,398	7,455	7,912	125.5	198,820	918,340
1964–65	1,074	61,617	8,030	8,529	130.3	216,240	1,058,080
1965–66	893	64,398	9,540	10,224	148.1	228,140	1,042,000

(*a*) Particulars of area and production for Western Australia and the Northern Territory are not available for publication, and are excluded. (*b*) Twenty acres or more in area. (*c*) Imports into Australia are not recorded separately, but are considered to be negligible. (*d*) Excludes the value of straw. (*e*) 42 lb per bushel.

Fodder crops

Hay

Because of the comparatively unreliable nature of rainfall in Australian agricultural and pastoral areas, hay as a fodder crop occupies a position of importance. In 1965–66 hay represented 8 per cent of the total area of crops. Up to 1946-47 hay, in terms of area, was second only to wheat for grain, but in more recent years it has been supplanted by green fodder (for feeding-off) and oats for grain. Hay is generally considered to include cereal hay, meadow hay and lucerne hay. Cereal crops cut early for hay contain a higher level of protein than those cut late.

In most European countries hay is made almost entirely from meadow pastures, but in Australia a very large proportion is made from cereals and lucerne, the hay being stored loose, in sheaves or baled. Because of its bulk, hay is usually produced for individual or local use, except in times of drought, when large inter-regional transfers may take place. Meadow hay requires greater care in preparation than cereal hay. Baling must be spaced carefully behind mowing to ensure that the bales are dry enough to prevent moulding, but not so dry as to result in excessive leaf loss. The leaves contain the bulk of the protein. Lucerne hay requires similar attention.

The area, production and yield per acre of hay of all kinds in the several States during the years 1961–62 to 1965–66 and the averages for the three-year periods ended 1938–39, 1948–49 and 1958–59 are shown below.

HAY: AREA, PRODUCTION AND YIELD PER ACRE, STATES AND TERRITORIES 1936-37 TO 1965-66

Season	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
AREA ('000 ACRES)									
Average for three years ended—									
1938–39	859	1,122	67	540	439	81	..	3	3,111
1948–49	516	642	66	287	245	93	..	3	1,852
1958–59	556	978	64	336	305	129	..	4	2,372
Year—									
1961–62	594	922	95	209	294	157	1	2	2,274
1962–63	587	1,251	87	287	340	165	1	2	2,720
1963–64	584	1,138	80	358	289	150	1	2	2,602
1964–65	600	1,306	82	314	305	180	1	3	2,793
1965–66	733	1,150	155	299	291	148	1	4	2,780
PRODUCTION ('000 TONS)									
Average for three years ended—									
1938–39	975	1,181	94	591	434	120	..	3	3,398
1948–49	618	987	119	396	275	153	..	4	2,552
1958–59	752	1,712	129	476	377	248	..	7	3,701
Year—									
1961–62	923	1,585	212	286	396	286	..	5	3,693
1962–63	965	2,376	197	406	453	313	1	6	4,717
1963–64	1,006	1,947	184	488	389	249	1	5	4,269
1964–65	1,040	2,506	167	487	390	365	1	7	4,963
1965–66	978	1,873	282	368	414	257	2	5	4,179
YIELD PER ACRE (TONS)									
Average for three years ended—									
1938–39	1.14	1.05	1.40	1.09	0.99	1.48	..	1.00	1.09
1948–49	1.20	1.54	1.80	1.38	1.12	1.65	..	1.33	1.38
1958–59	1.35	1.75	2.02	1.42	1.24	1.92	0.54	1.75	1.56
Year—									
1961–62	1.55	1.72	2.22	1.37	1.35	1.82	0.76	2.18	1.62
1962–63	1.64	1.90	2.27	1.41	1.33	1.89	1.21	2.38	1.73
1963–64	1.72	1.71	2.30	1.37	1.35	1.67	1.02	1.71	1.64
1964–65	1.73	1.92	2.19	1.55	1.28	2.02	1.11	1.99	1.78
1965–66	1.33	1.63	1.83	1.23	1.43	1.74	1.39	1.29	1.50

Plate 43 shows the area under hay since 1900–01 (page 894).

Information regarding areas cut for hay and varieties grown in 1965–66 is given in the following table.

HAY: AREA OF VARIOUS KINDS GROWN, STATES AND TERRITORIES
1965–66
(Acres)

State or Territory	Oaten	Lucerne	Wheaten	Other	Total
New South Wales	110,595	241,171	135,209	246,220	733,195
Victoria	223,645	83,338	39,771	803,591	1,150,345
Queensland	14,385	89,793	33,542	16,861	154,581
South Australia	111,818	38,135	46,088	102,573	298,614
Western Australia	111,615	1,743	37,681	139,758	290,797
Tasmania	12,847	1,223	384	133,374	147,828
Northern Territory	..	..	..	1,116	1,116
Australian Capital Territory	992	1,514	12	1,219	3,737
Australia	**585,897**	**456,917**	**292,687**	**1,444,712**	**2,780,213**

For all States and the Territories combined, the proportions of the areas sown to the principal kinds of hay in 1965–66 were 21.1 per cent for oaten, 16.4 per cent for lucerne, 10.5 per cent for wheaten, and 52.0 per cent for other hay.

The following table shows the estimated gross value, and the value per acre, of the hay crop of the several States for the 1965–66 season.

HAY: VALUE OF CROP, STATES 1965–66

		N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	Aust.(a)
Aggregate value	$'000	33,685	40,753	13,792	6,923	8,457	3,991	107,755
Value per acre	$	45.94	35.43	89.22	23.18	29.08	27.00	38.76

(a) Includes $47,000 and $107,000 for the Northern Territory and Australian Capital Territory respectively.

Farm stocks of hay

Particulars of stocks of hay held on farms at 31 March for the years 1962 to 1966 are given in the table below.

STOCKS OF HAY HELD ON FARMS, STATES AND A.C.T.
1962 TO 1966
(Tons)

At 31 March—	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	A.C.T.	Aust.(a)
1962	1,775,977	1,847,725	231,335	496,564	254,377	305,108	12,241	4,923,327
1963	1,609,639	2,197,725	194,948	470,202	273,500	333,650	6,896	5,086,560
1964	1,610,063	1,911,475	179,422	547,354	274,812	276,650	5,085	4,804,861
1965	1,586,969	2,402,299	145,737	614,451	275,948	414,415	7,606	5,447,425
1966	1,158,481	1,915,693	190,659	444,089	291,528	296,196	5,171	4,301,817

(a) Excludes the Northern Territory, for which particulars are not available.

Under normal conditions, hay, whether whole or in the form of chaff, is somewhat bulky for overseas trade, and consequently does not figure largely among Australian exports. During 1965–66 exports amounting to 3,304 tons, valued at $153,877, were made, principally to Malaysia, Kuwait and Singapore. There were no imports of hay in 1965–66.

Green fodder

Considerable areas are devoted to the growing of green fodder, usually as an adjunct to cereal operations or as a minor crop in irrigation areas. The areas recorded in respect of green fodder include areas of crops cut for feeding to live stock as green fodder or ensilage, together with areas fed off to stock as green forage. Statistics of green fodder exclude areas which may have been sown with the intention of harvesting for grain, but which, owing to adverse conditions,

showed no promise of producing grain or even hay and were fed off to livestock. The principal crops cut for green fodder are oats, wheat and lucerne, while small quantities of barley, sorghum, maize, rye, and sugar cane are also used in this way. In 1965–66 the area under green fodder (5,324,333 acres) consisted of oats (2,169,435 acres), lucerne (2,097,815 acres), sorghum (192,643 acres), wheat (176,811 acres), barley (151,801 acres), maize (34,179 acres), rye (21,851 acres), sugar cane (4,284 acres), and other crops (475,514 acres). Particulars concerning the area of green fodder in the several States during each of the years 1961–62 to 1965–66 are given in the following table.

GREEN FODDER: AREA, STATES AND TERRITORIES, 1961–62 TO 1965–66

('000 acres)

Year	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
1961–62	1,830	539	865	787	622	57	1	1	4,702
1962–63	1,900	478	912	928	668	65	..	1	4,952
1963–64	1,974	431	1,011	972	417	71	..	1	4,877
1964–65	2,397	454	1,111	1,135	446	67	1	1	5,614
1965–66	1,952	526	1,143	1,210	414	78	1	1	5,324

In the 1965–66 season green fodder ranked second to wheat in area of crops throughout Australia. A graph showing the area sown to green fodder appears on plate 43. The value of these crops is variously estimated in the several States, but the Australian total, excluding Western Australia, may be taken as approximately $25,000,000 for the 1964–65 season and $28,000,000 for the 1965–66 season.

Ensilage

Ensilage is produced from herbage compacted tightly to exclude air and kept from contact with air and extraneous moisture to avoid moulding. Fermentation results in a dark mass of high protein and lactic acid content. Molasses may be added to hasten fermentation. Ensilage may be stored in pits or stacks or in constructed silos.

The several State Governments devote a considerable amount of attention to the education of the farming community with regard to the value of ensilage. Monetary aid is afforded in the erection of silos, and expert advice is supplied in connection with the design of the silos and the cutting and packing of the ensilage. Information regarding production and farm stocks of ensilage for the years 1961–62 to 1965–66 is given in the following table.

ENSILAGE: PRODUCTION AND FARM STOCKS, STATES AND A.C.T. 1961–62 TO 1965–66

(Tons)

Period	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	A.C.T.	Aust.
Production during—								
1961–62 season	196,625	261,884	73,838	52,451	51,364	77,781	700	714,643
1962–63 ,,	210,653	295,914	63,489	64,206	48,806	68,117	290	751,475
1963–64 ,,	222,126	252,837	53,160	88,183	37,238	43,760	270	697,574
1964–65 ,,	182,063	250,997	34,440	78,709	26,798	54,438	400	627,845
1965–66 ,,	139,438	228,439	42,886	48,388	30,225	52,802	120	542,298
Farm stocks at—								
31 March 1962	567,801	181,383	139,788	68,614	37,224	60,157	1,305	1,056,272
,, ,, 1963	602,585	263,440	146,286	63,315	37,415	61,110	1,768	1,175,919
,, ,, 1964	565,457	185,115	139,691	78,997	29,709	43,554	1,108	1,043,631
,, ,, 1965	534,730	206,304	112,596	86,093	24,160	49,668	892	1,014,443
,, ,, 1966	365,995	157,134	73,122	58,038	28,293	43,461	291	726,334

Sugar cane

The growing of sugar cane is restricted to those coastal areas in Queensland and northern New South Wales which have suitable climatic and soil conditions.

The Bureau of Sugar Experiment Stations in Queensland and the Colonial Sugar Refining Company Limited render useful service to the sugar industry by advocating and demonstrating better methods of cultivation and the more scientific use of fertilisers, lime, etc. and by producing and distributing improved varieties of cane. In common with these two organisations, Sugar Research Ltd, of Mackay, undertakes technological research in raw sugar milling practices.

Sugar agreements and marketing arrangements in Australia

In Year Book No. 37, pages 940–1, a summary is given of the agreement operating between the Commonwealth and Queensland Governments in respect of the sugar industry in Australia. Briefly, the agreement places an embargo on sugar importations and fixes the price of sugar

consumed in Australia. The current agreement is for the period from 1 September 1961 to 31 August 1968. The Commonwealth Government appointed a Committee of Enquiry in 1960 to investigate all facets of the sugar and canned fruits industries. The Committee presented its report, publication of which was restricted to a summary of conclusions and recommendations, in 1961. There was no variation of the consequent agreement.

Production of sugar is regulated under the terms of the agreement. At the mill level control is exerted by means of seasonal ' mill peaks ' in respect of Queensland mills and a proportionate allowance for New South Wales mills. The combined total equals the estimated requirements of the domestic and export markets. Farm production is regulated according to the limit on the mill which the farm supplies. Up to the end of 1961 exports were limited by the export quota provisions of the International Sugar Agreement, but these provisions have not been operative since then (*see* below).

The Queensland Government acquires the whole of the sugar production of that State and of New South Wales by legislation and private agreement respectively. The net proceeds of all sugar sold are pooled and a uniform price paid to mills. In 1963 a Queensland Government Committee of Enquiry recommended that the industry should expand production to 2.26 million tons (of 94 net titre sugar) by 1965–66, of which New South Wales might produce 132,000 tons. This recommendation has been implemented, although seasonal conditions prevented the attainment of the target until 1966–67, when 2,342,000 tons were produced, the New South Wales contribution being 140,000 tons.

International Sugar Agreement

The International Sugar Agreement of 1937 was superseded by the International Sugar Agreements of 1953 and 1958. Details of the 1937 and 1953 Agreements were given in Year Books No. 40, pages 881–2, and No. 48, page 936, respectively. The 1958 Agreement, which came into operation on 1 January 1959, established basic export quotas for exporting countries. The British Commonwealth was allocated a total quota, the distribution of which remained a matter for internal arrangement by the countries and territories concerned (*see* below). The Australian quota for 1960 and 1961 was approximately 651,000 tons per annum.

The quota and price provisions of the International Sugar Agreement were subject to review before 31 December 1961. A conference in Geneva in 1961 failed to reach agreement on quota provisions for 1962 and 1963. The conference adjourned with a resolution that it be reconvened if circumstances became favourable for an agreement on quotas. The principal practical effect of the adjournment of the 1961 conference was that former export limitations on participating exporting countries, including Australia, did not apply until such time as agreement on this question was again reached at a resumed session of that conference or at a newly convened conference.

The question of convening a United Nations conference to consider re-introduction of an agreement with quota provisions was deferred at a meeting of the International Sugar Council in April 1963. The 1958 Agreement, in its restricted form, was extended by protocol until 31 December 1965.

A United Nations conference was convened at Geneva in September 1965. The conference did not negotiate a new agreement but extended the 1958 Agreement, in its currently restricted form, until 31 December 1966. Arrangements for a second session of the conference are being negotiated; pending resumption of the Conference, the restricted Agreement has been further extended until 31 December 1968.

British Commonwealth Sugar Agreement

On 1 January 1953 the British Commonwealth Sugar Agreement became effective. This agreement, which has been extended to 1974, provides for Australia to export to preferential markets a maximum of 600,000 tons per annum. Of the 600,000 tons, 335,000 tons are purchased by the United Kingdom Government at a regularly negotiated price and the balance may be sold at world market prices plus tariff preferences where applicable. The negotiated price of £Stg42 a ton bulk f.o.b. and stowed payable for Australian raws in 1965 was increased to £Stg43 10s. a ton for 1966, 1967 and 1968.

Fruit Industry Sugar Concession Committee and sugar rebates

The Fruit Industry Sugar Concession Committee was established by agreement between the Commonwealth and Queensland Governments and administers a fund contributed by the Queensland Government on behalf of the sugar industry.

Until 15 May 1960 a rebate of $4.40 a ton of refined sugar used in processing approved fruit products was paid to Australian manufacturers, provided they bought fresh fruit at prices not lower than those declared by the Committee as reasonable. This was increased to $10 a ton from 16 May 1960.

An export sugar rebate is also paid by the Committee to exporters of approved fruit products to ensure that manufacturers do not pay higher prices for the Australian sugar content than the price for which the cheapest imported sugar could be landed duty free in Australia. The

Queensland Government is responsible for payment of a similar rebate to exporters of other approved products. Payment of the export sugar rebate in respect of approved fruit products has been made conditional upon such fruit having been purchased at not less than the prices (if any) which the Committee has declared to be reasonable at the time of purchase.

Under the Sugar Agreement for 1961–68 the Queensland Government contributes to the fund $528,000 annually, reimburses the Committee for the actual expenditure on export sugar rebates, and, by a supplementary agreement operating from 1 September 1962, pays the Committee an additional sum equal to the amount payable by way of domestic sugar rebate in respect of the products exported. Any money remaining in the fund after the payment of rebates and administrative expenses may be used by the Committee for the promotion of the use and sale of fruit products, or for research for the purpose of increasing the yield per acre of Australian fruit, or of obtaining information regarding Australian fresh marketable fruits.

Financial assistance to the sugar industry

In September 1966 the Commonwealth Government arranged a loan of $19 million through the Queensland Government to the sugar industry to raise returns from sales of the No. 1 Pool in the 1966 season to a level comparable with that received in the 1965 season.

The money was advanced, initially, by the Reserve Bank to the Queensland Sugar Board in October 1966, but the arrangement provided that after 1 July 1967 the Commonwealth Government would provide the Queensland Government with a repayable grant sufficient to meet its obligations to the Reserve Bank.

The grant will be repayable over ten years commencing in mid-1970, and will not be subject to interest before then. Thereafter it will incur interest at the medium term bond rate prevailing when the grant was made.

The *Sugar Marketing Assistance Agreement Act* 1967 gives effect to this arrangement.

Bulk handling of sugar

The total conversion of the Australian sugar industry to bulk handling and mechanised loading and unloading of raw sugar has now been accomplished, except for the operation of a bagging station specially provided at Townsville to meet the needs of a few overseas customers. Terminals for the bulk loading of sugar were opened at Mackay in 1957, at Lucinda and Bundaberg in 1958, at Townsville in 1959, at Mourilyan in 1960, and at Cairns in 1964. A second storage shed at Bundaberg, a third shed at Mackay and second sheds at Lucinda and Townsville have been opened subsequently. The comparatively small New South Wales sugar industry was converted to bulk handling in 1954. Bulk receiving facilities are in operation at all Australian refineries.

Area of sugar cane

A brief outline of the development of the industry was included in earlier issues of the Year Book (*see* No. 38, page 985). The area of sugar cane in Australia for the seasons 1961–62 to 1965–66 and the averages for the three-year periods ended 1938–39, 1948–49 and 1958–59 are shown in the following table. The areas shown in the table do not include the small acreage cut for green fodder, which in 1965–66 amounted to 4,284 acres. The whole area planted is not cut for crushing during any one season, there being always a considerable amount of young and 'stand-over' cane as well as a small quantity required for plants.

SUGAR CANE: AREA(*a*), STATES, 1936-37 TO 1965-66

(Acres)

Period	New South Wales			Queensland			Australia			
	Area crushed	Area of stand-over and newly-planted cane	Area cut for plants	Area crushed	Area of stand-over and newly-planted cane	Area cut for plants	Area crushed	Area of stand-over and newly-planted cane	Area cut for plants	Total
Average for three years ended—										
1938–39	10,468	10,366	n.a.	247,632	89,690	n.a.	258,100	100,056	n.a.	n.a.
1948–49	7,687	8,666	338	230,905	90,448	12,891	238,592	99,114	13,229	350,935
1958–59	11,094	9,462	619	360,709	110,786	12,596	371,803	120,248	13,215	505,266
Year—										
1961–62	14,655	11,299	482	372,223	87,831	12,339	386,878	99,130	12,821	498,829
1962–63	14,109	12,656	495	387,477	80,438	11,313	401,586	93,094	11,808	506,488
1963–64	15,508	14,204	594	402,060	93,149	13,205	417,568	107,353	13,799	538,720
1964–65	19,429	17,043	728	450,956	126,906	12,896	470,385	143,949	13,624	627,958
1965–66	15,824	23,350	668	487,375	105,361	14,243	503,199	128,711	14,911	646,821

(*a*) Excludes areas cut for green fodder and small area sown in Western Australia.

Production of cane and sugar

The production of sugar cane in 1965–66 was 14.2 million tons, 6.1 per cent below the record level of 15.1 million tons in 1964–65. A graph showing the production of sugar appears on page 995 of Year Book No. 49.

In the following table production data relating to cane and raw sugar are shown for the seasons 1961–62 to 1965–66 together with averages for the three-year periods ended 1938–39, 1948–49 and 1958–59.

SUGAR CANE: PRODUCTION OF CANE AND RAW SUGAR, STATES 1936-37 TO 1965-66

(Tons)

Period	New South Wales		Queensland		Australia	
	Cane	Sugar(*a*)	Cane	Sugar(*a*)	Cane	Sugar(*a*)
Average for three years ended—						
1938–39	324,531	43,419	5,215,217	760,994	5,539,748	804,413
1948–49	283,613	35,444	4,767,291	700,053	5,050,904	735,497
1958–59	356,324	43,881	9,221,497	1,260,564	9,577,821	1,304,445
Year—						
1961–62	555,858	67,448	9,020,734	1,315,393	9,576,592	1,382,841
1962–63	637,310	79,733	12,098,582	1,770,084	12,735,892	1,849,817
1963–64	617,402	75,980	11,500,672	1,648,273	12,118,074	1,724,253
1964–65	784,126	95,195	14,286,350	1,854,883	15,070,476	1,950,078
1965–66	609,320	69,989	13,545,719	1,883,364	14,155,039	1,953,353

(*a*) Raw sugar at 94 net titre.

Owing to climatic variations the crop in New South Wales matures in from twenty to twenty-four months, whereas in Queensland a period of from twelve to sixteen months is sufficient. The average yields of cane and sugar per acre for the years 1961–62 to 1965–66 and for the three-year periods ended 1938–39, 1948–49 and 1958–59 are shown below. Allowance should be made in interpreting these figures for the disparity in maturing periods noted above.

SUGAR CANE AND SUGAR: YIELD PER ACRE, STATES, 1936–37 TO 1965–66

(Tons)

Period	New South Wales			Queensland			Australia		
	Cane per acre crushed	Sugar per acre crushed	Cane to each ton of sugar	Cane per acre crushed	Sugar per acre crushed	Cane to each ton of sugar	Cane per acre crushed	Sugar per acre crushed	Cane to each ton of sugar
Average for three years ended—									
1938–39	31.00	4.15	7.47	21.06	3.07	6.85	21.46	3.12	6.89
1948–49	36.90	4.61	8.00	20.65	3.03	6.81	21.17	3.08	6.87
1958–59	32.12	3.96	8.12	25.57	3.49	7.32	25.76	3.52	7.34
Year—									
1961–62	37.93	4.60	8.24	24.23	3.53	6.86	24.75	3.57	6.93
1962–63	45.17	5.65	7.99	31.22	4.57	6.84	31.71	4.61	6.88
1963–64	39.81	4.90	8.13	28.60	4.10	6.98	29.02	4.13	7.03
1964–65	40.36	4.90	8.24	31.68	4.11	7.70	32.04	4.15	7.73
1965–66	38.51	4.42	8.71	27.79	3.86	7.19	28.13	3.88	7.25

Production and utilisation of sugar

Details of the production and utilisation of sugar for the years 1961–62 to 1965–66 are shown below. Consumption is shown in terms of refined sugar, including that consumed in manufactured products.

SUGAR: PRODUCTION AND UTILISATION, AUSTRALIA
1961–62 TO 1965–66

Year	Changes in stocks(*a*)	Production (raw)	Exports (*b*)	Miscellaneous uses(*c*)	Consumption in Australia(*d*)	
					Total	Per head
	'000 tons	'000 tons	'000 tons	'000 tons	'000 tons	lb
1961–62 . .	− 4.8	1,404.2	862.5	18.0	528.5	111.7
1962–63 . .	+111.9	1,831.6	1,175.8	17.8	526.1	109.1
1963–64 . .	− 65.3	1,648.7	1,156.0	21.3	536.7	109.2
1964–65 . .	− 4.0	1,880 0	1,308.2	20.1	555.7	110.9
1965–66 . .	+ 84.1	1,961.8	1,288.9	20.2	568.7	111.3

(*a*) Includes allowance for estimated sugar content of imported foodstuffs. (*b*) Includes sugar content of manufactured products exported. (*c*) Includes refining losses and quantities used in golden syrup and treacle. (*d*) Includes sugar content of manufactured products consumed.

The quantity of sugar recorded as used in factories in 1965–66 amounted to 377,708 tons compared with 359,596 tons in 1964–65 and 308,304 tons in 1963–64. Particulars of sugar used in establishments not classified as factories are not available, and consequently these quantities are deficient to that extent. In 1965–66 consumption by factories engaged in the production of jams, jellies and preserved and dried fruit amounted to 82,042 tons, by those producing confectionery, ice cream, etc. to 69,366 tons, by breweries to 49,198 tons, and by factories producing aerated waters, cordials, etc. to 55,811 tons.

Sugar by-products

Industrial chemicals, together with large quantities of molasses, are produced as by-products in sugar mills. Further, during the period 1939 to 1960 building boards were made from the residue of crushed fibre after removal of the sugar content from sugar cane. These boards possessed high insulating and sound absorbing properties which made them particularly suitable for use in walls and ceilings. Early in the period referred to, the boards were manufactured almost entirely from crushed fibre residue, the remaining component being non-millable pine, but gradually the pine content was increased until by 1960 fibre residue was no longer being used. The main purpose for which crushed cane fibre residue is now used is furnace fuel in sugar mills.

Sugar prices and returns

The current prices of sugar in Australia (as determined under the Sugar Agreement in Australia—*see* page 926) and details of net returns for raw sugar from 1961–62 to 1965–66 are shown in the following tables.

SUGAR: PRICES IN AUSTRALIA

Year	Raw sugar, 94 net titre			Refined sugar		
	Average return per ton received by millers and growers for—			Date of determination	Wholesale price to retailer per ton	Retail price, capital cities per lb
	Home consumption	Exports(*a*)	Whole crop (*a*)			
	$	$	$		$	$
1961 . .	124.95	75 50	96 43			
1962 . .	125 10	82 18	95.98	16.5.60 to 18.6.67	180.52	0.092
1963 . .	122 00	131 22	127.97	19.6.67	206.72	0.105
1964 . .	120 75	83 89	95 78			
1965 . .	121.95	67.27	85.14			

(*a*) Includes 'excess' sugar.

RAW SUGAR(*a*): NET RETURNS, AUSTRALIA, 1961–62 TO 1965–66

(*Source:* The Queensland Sugar Board)

Year	Proportion exported	Net value of exports per ton	Average price per ton for whole crop	Estimated value of crop
	per cent	$	$	$'000
1961–62	57.66	75.50	96.43	133,306
1962–63	67.85	82.18	95.98	177,496
1963–64	64.70	131.22	127.97	220,520
1964–65	67.76	83.89	95.78	186,728
1965–66	67.31	67.27	85.14	166,270

(*a*) 94 net titre.

The estimated value of the raw sugar produced has been based upon details taken from the audited accounts of the Queensland Sugar Board. The values stated comprise the gross receipts from sales in Australia and overseas, less refining costs, freight, administrative charges, etc., and export charges, but including concessions to the fruit industry and other rebates which in 1965–66 amounted to $3,426,000. The value thus obtained represents the net market value of all raw sugar sold, which, less the rebates, is divided between the growers and millers in the approximate proportions of 70 per cent and 30 per cent respectively.

Exports of sugar

Particulars of the exports of Australian-produced cane sugar (raw and refined) for each year from 1961–62 to 1965–66 are as follows.

RAW AND REFINED SUGAR: EXPORTS, AUSTRALIA, 1961–62 TO 1965–66

	1961–62	1962–63	1963–64	1964–65	1965–66
Quantity . . . . tons	843,537	1,145,966	1,116,190	1,269,139	1,252,575
Value . . $'000 f.o.b.	67,790	91,042	156,512	112,682	93,926

Tobacco

Tobacco is a summer-growing annual which requires a temperate to tropical climate, adequate soil moisture and a frost-free period of approximately five months. In Australia almost all tobacco is grown under irrigation. Because of specialised requirements, commercial production is restricted mainly to river valleys where suitable light friable soil types are found. Grown in the three eastern States of Australia, the centres of production include Mareeba (northern Queensland), Bundaberg (central coastal Queensland), Beerwah (Glasshouse Mountains, Queensland), Texas (south-western Queensland), Ashford (north-western New South Wales), Myrtleford (north-eastern Victoria), and Gunbower (northern Victoria). All tobacco produced in Australia is of the flue-cured type. The main variety grown is Hicks.

Marketing

Between 9 May 1941 and 24 September 1948 all leaf was under the direct control of the Australian Tobacco Board, and prices were paid on leaf appraisal. Subsequently the Board was disbanded, and sales have been by open auction through the Tobacco Leaf Marketing Board (Queensland and northern New South Wales) and the Victorian Tobacco Growers Association

Ltd (southern New South Wales and Victoria). In 1964 the Victorian Tobacco Leaf Marketing Board was set up to market the portion of the crop that was formerly sold by the Victorian Tobacco Growers Association Ltd, and in 1965 a Board was established in New South Wales. However, the actual physical handling of New South Wales leaf at auction will continue to be carried out by the Queensland and Victorian authorities.

A stabilisation plan for the tobacco growing industry was agreed between Commonwealth and State Governments in 1965. The plan, which will operate initially for four years, commenced with the 1965 selling season. It provides broadly for the establishment of an annual marketing quota of 26 million pounds (green weight) of leaf which is sold under an agreed grade and price schedule providing for an average minimum price, based on a normal crop fall-out. The overall marketing quota is divided among tobacco-producing States and the State quotas are in turn divided among individual growers.

The plan is administered by the Australian Tobacco Board, constituted under the *Tobacco Marketing Act* 1965–1966 and representative of the Commonwealth, tobacco-producing States, growers, and manufacturers.

The average minimum price for the 1967 season, i.e. 109.4 cents per lb, is unchanged from the previous season.

Central Tobacco Advisory Committee

The Australian Agricultural Council formed the Standing Advisory Committee on Tobacco during 1950. This Committee consisted of representatives of tobacco growers, tobacco manufacturers and the Commonwealth and State Governments. Its main functions were to review the industry and make recommendations on its problems. The Committee was reconstituted by the Agricultural Council during 1952–53.

In 1955 the Committee formulated a programme for increased research and advisory activities. The capital costs of establishing this programme were estimated at $336,000, of which the Commonwealth Government and tobacco manufacturers each agreed to contribute half. Annual contributions are made to a fund by the Commonwealth and State Governments and tobacco growers and manufacturers. A Tobacco Industry Trust Account was established under the *Tobacco Industry Act* 1955 to receive these contributions. The contributions from growers and manufacturers are obtained under the Tobacco Charges Assessment Act and the Tobacco Charges Acts, whose purpose is to provide funds to be used in research and otherwise with a view to fostering and expanding the Australian tobacco industry. This programme commenced in 1956, and since then $3,970,512 has been paid to State and Commonwealth departments for expenditure on tobacco research and extension. The allocation for 1966–67 was $710,664. As from 1 July 1964 the annual Commonwealth contribution has been increased to one-half of approved expenditure from the Tobacco Industry Trust Account. In 1961 a Research Sub-Committee was established to review annually scientific programmes and finance in relation to the Tobacco Industry Trust Account and make recommendations to the Central Tobacco Advisory Committee. However, following the establishment of the Australian Tobacco Board, the Australian Agricultural Council in 1966 abolished this sub-committee and reconstituted the Central Tobacco Advisory Committee with the following terms of reference:

> 'To make recommendations annually to the Australian Agricultural Council, through the Standing Committee on Agriculture, regarding research and extension programmes to be financed from the Tobacco Industry Trust Account.'

Other assistance and research

Details of the recommendations by the Tobacco Inquiry Committee and grants periodically approved by the Commonwealth Government up to 30 June 1953 are given in Year Book No. 40, pages 895–6, and in previous issues.

The Commonwealth Scientific and Industrial Research Organization and the State Departments of Agriculture in the tobacco growing States are carrying out investigations into a wide range of problems involving fundamental research, plant breeding, variety trials, irrigation, disease and pest control, fertilisers, crop rotation, and cultural practices.

Tobacco factories

Manufacturers of Australian cigarettes and tobacco are granted a lower rate of duty on imported tobacco leaf, provided it is blended with a prescribed minimum percentage of Australian leaf. Since November 1946 these percentages have been increased from 3 per cent for

cigarettes and 5 per cent for tobacco to 43 per cent and 40 per cent respectively from 1 July 1962. The percentage applicable to both cigarettes and tobacco from 1 July 1963 was 40 per cent and from 1 July 1964, 41 5 per cent. The rate was increased quarterly from 1 April 1965 to 1 January 1966, from which date onwards it has been set at 50 per cent for both cigarettes and tobacco.

In 1965–66 the quantity of cured leaf recorded as used in tobacco factories in Australia amounted to 49 million lb, of which 23 million lb was of local origin. The balance was imported, chiefly from the United States of America and Rhodesia.

Tobacco area and production

The area of tobacco in 1965–66 was 20.1 per cent below the record area established in 1962–63. Production at 27,361,000 lb was 20 3 per cent below the record established in 1963–64.

In the following table particulars of the area and production of tobacco are given by States for each of the seasons 1961–62 to 1965–66, together with averages for the three-year periods ended 1938–39, 1948–49 and 1958–59.

TOBACCO: AREA AND PRODUCTION, STATES AND N.T., 1936–37 TO 1965–66

Period	N.S.W.	Vic.	Old	S.A.	W.A.	Tas.	N.T.	Aust.
AREA (ACRES)								
Average for three years ended—								
1938–39	697	4,262	3,842	77	1,055	134	..	10,067
1948–49	415	1,046	1,948	..	609	..	..	4,018
1958–59	1,257	3,478	7,479	..	1,295	..	..	13,509
Year—								
1961–62	3,078	9,286	14,069	..	194	..	..	26,627
1962–63	3,163	9,844	16,346	..	28	..	..	29,381
1963–64	2,927	10,519	15,579	..	..	..	..	29,025
1964–65	2,546	9,720	14,042	..	..	..	..	26,308
1965–66	1,742	9,230	12,509	..	..	..	..	23,481
PRODUCTION OF DRIED LEAF ('000 lb)								
Average for three years ended—								
1938–39	471	1,603	2,173	17	741	104	..	5,109
1948–49	380	670	1,725	..	523	..	..	3,298
1958–59	1,066	3,770	5,563	..	1,016	..	..	11,415
Year—								
1961–62	3,116	6,515	12,751	..	196	..	..	22,578
1962–63	2,885	9,447	14,787	..	29	..	..	27,148
1963–64	2,652	14,459	17,231	..	..	..	..	34,342
1964–65	2,356	12,080	10,675	..	..	..	..	25,111
1965–66	1,698	11,083	14,580	..	..	..	..	27,361

Imports and exports of tobacco

Imports of tobacco and tobacco manufactures into Australia during 1965–66 were valued at $26.2 million. This included 27 9 million lb of unmanufactured tobacco valued at $20 1 million. Exports of tobacco and tobacco manufactures during 1965–66 were valued at $2,003,000, including Australian produce, $1,443,000.

Cotton

This annual shrub requires a hot climate and inter-row weed control. Lint (long fibres) is extracted from the seed cotton in the ginneries and is used for yarn. The residue, consisting of linters (short fibres), kernels and hulls (outer seed coat), is treated in oil mills. From linters and kernels are produced such items as short-fibred cotton, cotton seed oil for human consumption and industrial purposes, and meal cakes for stock feed. The hulls may be used as fuel.

The production of cotton in Australia was formerly restricted mainly to the coastal river valleys of Queensland. In recent years, however, the Namoi River area of New South Wales has emerged as the predominant growing area, while smaller quantities are grown in the Murrumbidgee Irrigation Area. The Ord River district in Western Australia is also becoming an increasingly important cotton producer. The extension of areas of cotton under irrigation in these regions has resulted in greatly increased yields.

Cotton bounty

For particulars of the *Cotton Bounty Act* 1951 and amendments of 1952, 1955 and 1957, *see* page 1044 of Year Book No. 49. Under the *Raw Cotton Bounty Act* 1963–1966 the Commonwealth pays a bounty on raw cotton produced and sold for use in Australia at the rate of 13.4375 cents per lb for Middling 1" White, with premiums and discounts on grades and staples above and below, up to a maximum of $4 million in any one year. The bounty is for a period of five years from 1 January 1964.

Cotton area and production

The area under cultivation and the production in the several States for the years 1961–62 to 1965–66 are shown below.

COTTON: AREA, PRODUCTION AND YIELD PER ACRE, STATES AND TERRITORIES, 1961-62 TO 1965-66

Year	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
AREA (ACRES)									
1961–62	1,956	(a)	26,888	..	(a)	..	..	..	(b)28,844
1962–63	2,359	(a)	35,330	..	(a)	..	(a)	..	(b)37,689
1963–64	10,947	..	28,465	..	1,526	..	..	..	40,938
1964–65	18,897	(a)	13,550	..	5,475	..	..	..	(b)37,922
1965–66	33,176	(a)	13,455	..	8,307	..	..	..	(b)54,938
PRODUCTION (UNGINNED) ('000 lb)									
1961–62	532	(a)	10,366	..	(a)	..	..	..	(b)10,948
1962–63	2,993	(a)	12,769	..	(a)	..	(a)	..	(b)15,762
1963–64	8,167	..	7,943	..	2,114	..	..	..	18,223
1964–65	45,951	(a)	6,268	..	10,790	..	..	..	(b)63,009
1965–66	103,280	(a)	10,138	..	20,431	..	..	..	b 133,850
YIELD PER ACRE (lb)									
1961–62	298	(a)	386	..	(a)	..	..	..	(b) 380
1962–63	1,269	(a)	361	..	(a)	..	(a)	..	(b) 418
1963–64	746	..	279	..	1,385	..	..	..	445
1964–65	2,432	(a)	463	..	1,971	..	..	..	(b) 1,662
1965–66	3,113	(a)	754	..	2,460	..	..	..	(b) 2,436

(a) Not available for publication. (b) Incomplete; *see* individual States.

NOTE. Production in Queensland relates to the crop harvested in the first of the years mentioned in column 1, and in other States to the year following: e.g., for 1965–66, the Queensland crop was harvested during 1965, while the crop in other States was harvested during 1966.

Production of ginned cotton for 1961–62 was 3,830,000 lb; 1962–63, 5,403,000 lb; 1963–64, 6,570,000 lb; 1964–65, 17,286,000 lb; and 1965–66, 40,885,000 lb.

The gross value of unginned cotton for the five years ended 1965–66 was $1,294,000; $1,876,000; $2,212,000; $7,685,000; and $14,323,000 respectively.

Imports of raw cotton (excluding linters) during the past five years were: 1961–62, 37,735,000 lb; 1962–63, 42,543,000 lb; 1963–64, 56,663,000 lb; 1964–65, 55,474,000 lb; and in 1965–66, 32,096,000 lb.

Peanuts

Peanuts, or groundnuts, are a sub-tropical legume (and hence summer growers), the pods of which mature beneath the surface of the soil. They thus require well drained, light textured soils. At harvest the plant is pulled, wind-rowed, field-cured for two to four weeks, and then threshed to recover the pods. The main products of the industry are nuts, peanut oil, oil cake, and synthetic protein fibre.

The production of peanuts in Australia is confined mainly to Queensland, although small quantities are grown in New South Wales, the Northern Territory and, in some years, Western Australia. Details of the area and production of peanuts are given in the following table for the years 1961–62 to 1965–66.

PEANUTS: AREA AND PRODUCTION, STATES AND N.T., 1961-62 TO 1965-66

Year	Area (acres)				Production (cwt)			
	N.S.W.	Qld	N.T.	Aust.(a)	N.S.W.	Qld	N.T.	Aust.(a)
1961–62	573	33,131	307	34,011	6,003	292,267	1,343	299,613
1962–63	395	35,552	(b)	c 35,947	4,258	315,144	(b)	c 319,402
1963–64	478	44,482	(b)	c 44,960	4,744	455,982	(b)	c 460,726
1964–65	400	45,554	(b)	c 45,954	4,746	202,369	(b)	c 207,115
1965–66	394	57,298	16	57,708	4,468	543,735	76	548,279

(a) Excludes, for some of the years shown, Western Australia, for which details are not available for publication. (b) Not available for publication. (c) Incomplete; excludes Northern Territory.

The gross value of the 1965–66 crop was $5,289,000 which was approximately $3,085,000 more than in 1964–65. All production is consumed in Australia. In recent years considerable quantities of peanut kernels have been imported. Total supplies available for consumption in Australia in 1965–66 were 14,072 tons (in shell equivalent), after allowing for an increase of 9,360 tons in stock held by the Peanut Marketing Board and exports of 64 tons of peanuts and peanut products. Supplies were made up of 18,675 tons from Australian production received into store by the Board and 11,321 tons imported.

Flax

Flax for linseed

Prior to 1948–49 the growing of flax for linseed oil had not been developed extensively in Australia. Since then, however, action has been taken to develop this industry, the ultimate objective being the production of sufficient linseed to meet Australia's total oil requirements. The main producing areas are the Darling Downs in Queensland, the wheat belt of New South Wales, and the western and north-eastern districts of Victoria.

The question of assistance to the industry was investigated by the Commonwealth Tariff Board in 1953, and its conclusions are contained in its Report on *Linseed and Linseed Products* dated 23 October 1953.

Particulars of area and production of flax for linseed, by States, are given in the following table for the years 1961–62 to 1965–66. The significant reduction in area in 1965–66 was attributable to over-production in 1964–65.

FLAX FOR LINSEED: AREA AND PRODUCTION, STATES, 1961-62 TO 1965-66

Year	N.S.W.	Vic.	Qld	S.A.	W.A.	Aust.
Area (acres)—						
1961–62	7,266	17,711	34,390	1,513	1,253	62,133
1962–63	11,493	25,232	58,493	1,220	626	97,064
1963–64	15,335	16,240	83,336	1,002	1,588	117,501
1964–65	23,769	9,953	97,092	898	2,135	133,847
1965–66	3,658	7,370	12,266	1,196	97	24,587
Production (tons of linseed)—						
1961–62	856	6,093	5,187	275	178	12,589
1962–63	2,634	8,180	14,477	290	136	25,717
1963–64	3,722	4,758	20,342	283	411	29,516
1964–65	8,761	2,671	34,175	426	567	46,600
1965–66	213	2,538	2,895	403	15	6,064

Flax for fibre

This crop was grown only in Victoria and Western Australia until 1963–64, when no production was recorded in Victoria. In 1964–65, Western Australia was again the only State growing flax for fibre, 1,388 tons being harvested from 729 acres. There was no production of flax for fibre recorded in 1965–66.

Hops

Hops are grown from perennial rootstocks over deep, well-drained soils in localities sheltered from the wind. The hop-bearing vine shoots are carried upon wire and coir trellises, from which they are later harvested, principally by hand. The green hops are kiln-dried and bleached with sulphur dioxide fumes, following which the cured hops are pressed into bales.

Hop growing in Australia is confined to the Derwent, Huon and Channel areas of Tasmania and the Ovens and King Valleys in Victoria. A small area is also under hops in Western Australia, near Manjimup, but the details are not available for publication.

Production and imports of hops

The production of hops in Australia is insufficient to meet local requirements, and additional supplies are imported to meet the needs of the brewing industry. In the following table details of the production and imports of hops and the quantity of hops used in breweries are shown for each of the years 1961–62 to 1965–66. Exports of hops are negligible and are not recorded separately.

HOPS: PRODUCTION AND DISPOSAL, AUSTRALIA
1961-62 TO 1965-66

Year	Production(*a*)		Imports	Net available supplies (*b*)	Quantity used in breweries
	Quantity	Gross value			
	cwt	$'000	cwt	cwt	cwt
1961–62	32,936	2,484	5,569	38,505	39,064
1962–63	33,629	2,570	1,337	34,966	38,202
1963–64	19,858	1,534	536	20,394	37,033
1964–65	27,893	2,372	9,521	37,414	39,517
1965–66	37,394	3,020	12,696	50,090	35,223

(*a*) Excludes production in Western Australia, for which details are not available for publication. (*b*) Disregards movements in stocks.

Safflower

The cultivation of safflower in Australia has developed rapidly in recent years to make it one of the major oilseed crops. It is best cultivated, either in the warm temperate zones or as a winter crop in the tropical or sub-tropical regions, on moderately fertile, weed-free, clay or sandy loams. Adequate moisture is required up to the flowering stage, after which it is relatively drought resistant. The soil preparation and sowing techniques are similar to those employed for small grains; it is usually harvested by combine when the seed is hard and dry. The oil, produced by crushing, is used in the manufacture of margarine, soaps, paints, varnishes, enamels, and textiles.

Queensland is the main producer of safflower where suitable growing conditions exist particularly in the marginal wheat regions of Dawson-Callide Valleys, Fitzroy Basin, Central Highlands, and the Darling Downs. Suitable growing conditions also exist in New South Wales, Victoria and Western Australia, but, at present, production in these areas is relatively small.

Particulars of the area and production of safflower for the years 1961–62 to 1965–66 are given in the following table.

SAFFLOWER: AREA AND PRODUCTION, STATES AND TERRITORIES
1961-62 TO 1965-66

Year	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust. (a)
AREA (ACRES)									
1961–62	(b)	..	8,952	..	(b)	..	..	..	8,952
1962–63	(b)	..	5,694	..	(b)	..	..	..	5,694
1963–64	113	(b)	18,141	..	1,125	..	..	..	19,379
1964–65	2,253	1,902	43,350	(b)	4	..	..	..	47,509
1965–66	2,539	935	56,727	(b)	75	..	..	..	60,276
PRODUCTION (BUSHELS)(c)									
1961–62	(b)	..	85,680	..	(b)	..	..	..	85,680
1962–63	(b)	..	90,021	..	(b)	..	..	..	90,021
1963–64	1,546	(b)	275,106	..	26,387	..	..	..	303,039
1964–65	33,373	20,218	643,524	(b)	280	..	..	..	697,395
1965–66	13,941	11,738	522,810	(b)	1,070	..	..	..	549,559

(a) Incomplete; *see* individual States. (b) Not available for publication. (c) 40 lb per bushel.

Imports of crude safflower seed oil in 1964–65 and 1965–66 totalled 781,000 gallons and 873,000 gallons respectively. These imports came mainly from the United States of America.

Vegetables for human consumption

Area, production and trade

Vegetables were initially grown on a large scale near the main cities, where there was ready access to reliable water supplies and to markets. Later, the expansion of irrigation areas and improvement in transport services resulted in their production being extended into many other areas. At present, because of the wide diversity of climatic conditions across Australia, supplies for main city markets are drawn from widely different areas, depending upon the times of maturity of the various crops. Apart from potatoes and onions, which are sold in some States through marketing boards, the bulk of vegetable trading takes place at the metropolitan markets of the cities concerned.

Details of the areas planted and production of individual kinds of vegetables are shown on page 937 for the seasons 1963–64 to 1965–66. Certain particulars shown are incomplete in that details for specific vegetables in some States are either not available or are not available for publication. For further information *see* the bulletin *Rural Industries*. Details of the estimated consumption of vegetables for a series of years ending 1965–66 are given in the chapter Miscellaneous.

FRESH VEGETABLES FOR HUMAN CONSUMPTION: AUSTRALIA
1963–64 TO 1965–66

Vegetable	1963–64		1964–65		1965–66	
	Area sown	Production	Area sown	Production	Area sown	Production
	acres	tons	acres	tons	acres	tons
Asparagus	3,994	6,197	4,067	5,390	3,976	5,957
Beans, French and runner	17,969	33,065	16,692	30,302	17,319	30,434
Beans, navy	5,423	1,026	3,430	710	3,400	242
Beetroot	1,859	14,432	1,893	16,519	2,081	17,248
Cabbages and brussel sprouts	6,190	66,147	5,959	65,914	5,915	69,134
Carrots	5,446	58,478	5,591	62,629	5,922	67,833
Cauliflowers	6,631	72,677	6,941	74,262	6,511	73,967
Celery	740	12,288	756	13,025	769	12,803
Cucumbers	1,679	7,790	1,588	8,115	1,913	8,710
Lettuce	4,823	21,991	4,710	22,386	4,976	23,303
Onions	9,222	59,278	9,707	69,701	8,250	58,124
Parsnips	1,316	12,698	1,314	13,311	1,336	13,766
Peas, blue	5,165	2,656	3,973	2,718	5,502	2,741
Peas, green	50,971	74,229	57,948	100,603	66,938	102,661
Potatoes	101,987	562,032	87,919	508,019	96,311	638,976
Tomatoes	16,356	135,815	16,315	147,194	16,705	159,707
Turnips, swede and white	1,418	9,380	1,255	8,179	1,893	8,373
All other	35,651	..	35,520	..	39,662	..
Total	**276,840**	..	**265,578**	..	**289,378**	..

Processed vegetables

Total production of canned vegetables in 1965–66 amounted to 180,098,000 lb; the principal types produced being green peas (including mint-pro peas), 38,786,000 lb; green beans, 9,593,000 lb; baked beans (including pork and beans), 41,151,000 lb; asparagus, 10,006,000 lb; beetroot, 30,159,000 lb; and mushrooms, 9,098,000 lb.

The production of dehydrated vegetables, including split peas, during 1965–66 amounted to 16,573,000 lb, while the production of potato crisps, chips and flakes was 16,427,000 lb.

There has been rapid development in the quick-frozen vegetable industry. Data were collected for the first time in 1957–58, when 13,846,000 lb of frozen vegetables were produced, made up principally of 10,131,000 lb of peas and 2,540,000 lb of beans. In 1965–66 production had risen to 98,885,000 lb, of which 67,691,000 lb were peas and 14,982,000 lb were beans.

Exports and imports of vegetables

The quantity and value of overseas exports of pulse and fresh (including fresh frozen) vegetables during 1965–66 were respectively: pulse, 8,958 tons, $660,492; onions, 1,609 tons, $171,844; potatoes, 10,064 tons, $626,230; other vegetables, 5,443 tons, $1,041,135. Imports of pulse amounted to 9,075 tons, valued at $1,566,000, while imports of fresh and frozen vegetables in total were 13,119 tons, valued at $2,232,000.

In 1965–66 exports of vegetables preserved in liquid consisted of: asparagus, 991,325 lb, $303,148; beans (including baked), 291,179 lb, $43,208; peas, 241,406 lb, $34,432; tomatoes, 361,460 lb, $55,357; other vegetables, 522,753 lb, $112,228. Exports of vegetables otherwise prepared amounted to 82,375 lb, valued at $50,494.

Potatoes

This crop requires deep friable soils, which in Australia are usually basaltic, alluvial or swampy in origin. Fertiliser requirements, which are generally high, vary with the type of soil. Potatoes are killed by heavy frost, but require only moderate temperatures for growth. Mechanical planters and diggers are used to a variable extent depending upon a variety of factors including terrain, state of the soil and scale of operations. Seed certification schemes, which operate in all States except Queensland, provide a supply of seed which is free from viral, fungal and bacterial diseases. In Australia potatoes are used almost entirely for human consumption and not for the production of starch or alcohol. They are rarely used as stock feed.

Potatoes

Area, production, and yield per acre. Victoria possesses particular advantages for the growing of potatoes, as the rainfall is generally satisfactory and the climate is unfavourable to the spread of Irish blight; consequently, the crop is widely grown. The principal areas of that State are the central highlands and the south-western and Gippsland districts. Until 1958–59 Tasmania (where production is mainly in the north-west) came next in order of acreage sown, although production exceeded that of Victoria in some of the war years. Since then, however, acreage in New South Wales and Queensland has increased considerably, and there is now a greater area of potatoes in both of these States than in Tasmania. In New South Wales production is chiefly in the tablelands districts.

The area sown, production and yield per acre of potatoes in each State during the years 1961–62 to 1965–66 and the averages for the three-year periods ended 1938–39, 1948–49 and 1958–59 are shown hereunder. A graph showing production since 1935–36 appears on page 996 of Year Book No. 49.

POTATOES: AREA, PRODUCTION AND YIELD PER ACRE, STATES AND TERRITORIES, 1936–37 TO 1965–66

Period	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
AREA (ACRES)									
Average for three years ended—									
1938–39	21,049	40,376	11,551	4,445	4,627	32,044	..	59	114,151
1948–49	20,440	53,862	10,795	6,084	6,753	38,643	..	103	136,680
1958–59	16,589	45,225	12,980	6,035	7,977	19,002	4	94	107,906
Year—									
1961–62	20,209	36,469	14,466	5,316	6,824	11,129	(a)	30	b 94,443
1962–63	27,420	43,024	16,994	5,918	6,499	13,839	6	42	113,742
1963–64	24,352	39,626	15,886	5,459	5,835	10,806	(a)	23	b 101,987
1964–65	20,530	32,931	14,005	5,247	5,797	9,393	(a)	16	b 87,919
1965–66	21,913	34,333	16,080	5,748	6,229	11,993	1	14	96,311
PRODUCTION (TONS)									
Average for three years ended—									
1938–39	52,158	137,583	17,191	20,342	23,678	109,285	..	143	360,380
1948–49	62,701	191,590	26,470	32,149	38,722	148,389	..	598	500,619
1958–59	68,533	245,937	50,989	48,072	50,024	92,367	5	391	556,318
Year—									
1961–62	83,301	196,032	70,675	48,479	55,700	71,560	(a)	234	b 525,981
1962–63	132,969	254,473	86,239	53,253	56,900	82,545	5	212	666,596
1963–64	98,308	200,384	90,201	51,195	55,402	66,420	(a)	122	b 562,032
1964–65	75,659	183,665	82,389	48,400	60,739	57,062	(a)	105	b 508,019
1965–66	104,623	240,786	97,744	56,471	62,865	76,400	4	83	638,976
YIELD PER ACRE (TONS)									
Average for three years ended—									
1938–39	2.48	3.41	1.49	4.58	5.12	3.41	..	2.42	3.16
1948–49	3.07	3.56	2.45	5.28	5.73	3.84	..	5.81	3.66
1958–59	4.13	5.44	3.93	7.97	6.27	4.86	1.25	4.16	5.16
Year—									
1961–62	4.12	5.38	4.89	9.12	8.16	6.43	(a)	7.80	(b) 5.57
1962–63	4.85	5.91	5.07	9.00	8.76	5.96	0.83	5.05	5.86
1963–64	4.04	5.06	5.68	9.38	9.49	6.15	(a)	5.30	(b) 5.51
1964–65	3.69	5.58	5.88	9.22	10.48	6.07	(a)	6.56	(b) 5.78
1965–66	4.77	7.01	6.08	9.82	10.09	6.37	4.00	5.93	6.63

(a) Not available for publication. (b) Incomplete; excludes Northern Territory.

Potato marketing boards were established in all States except Tasmania under separate State legislation after Commonwealth control of potato marketing under war-time legislation ceased at the end of 1948. The life of the Queensland Board was not extended when its term ended in 1954. The New South Wales Board was voted out by growers in 1956, and the Victorian Board also ceased functioning in that year. The boards in South Australia and Western Australia are the only statutory boards still in operation.

Value of potato crop. The estimated gross value of the potato crop of each State for the 1965–66 season and the value per acre are shown in the following table.

POTATOES: VALUE OF CROP, STATES, 1965-66

		N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	Aust. (a)
Aggregate value	$'000	7,418	11,050	12,704	4,692	5,027	2,856	43,751
Value per acre	$	339	322	790	816	807	238	454

(a) Includes Northern Territory and Australian Capital Territory.

Consumption and exports of potatoes. The annual consumption of potatoes in Australia during each of the three years 1963–64 to 1965–66 amounted to 508,100 tons, 465,300 tons and 575,100 tons respectively or 103.4 lb, 92.8 lb and 112.6 lb respectively per head of population. These figures exclude the quantities used for seed, which averaged about 47,000 tons annually over this period. Details showing exports and imports for the years 1961–62 to 1965–66 are given in the following table.

POTATOES: EXPORTS AND IMPORTS, AUSTRALIA
1961-62 TO 1965-66

Year	Exports		Imports	
	Quantity (tons)	Value ($'000 f.o.b.)	Quantity (tons)	Value ($'000 f.o.b.)
1961–62	4,121	320	3,233	218
1962–63	15,819	850	..	..
1963–64	12,722	643	..	..
1964–65	4,715	427	5,404	343
1965–66	10,064	626	7,208	455

Western Australia has emerged in recent years as the principal exporting State, accounting for about 75 per cent of the Australian total in 1965–66. Its principal markets are Malaysia and Singapore. New Zealand is the principal source of imports.

Onions

Area, production and yield per acre. Australia's onion supply comes chiefly from Victoria and Queensland. The Victorian crop consists almost entirely of brown onions, and the bulk of the crop is grown in a small section of the Western Division of the State, where the volcanic ash soils have been found to be particularly suitable for onion growing on a commercial scale. Most of Queensland's onion production is grown in the Lockyer Valley and also consists mainly of brown varieties. Details of the area, production and yield per acre are given in the following table for the years 1961–62 to 1965–66 together with averages for the three-year periods ended 1938–39, 1948–49 and 1958–59. A graph showing production since 1935–36 appears on page 996 of Year Book No. 49.

ONIONS: AREA, PRODUCTION AND YIELD PER ACRE, STATES AND A.C.T., 1936–37 TO 1965–66

Period	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	A.C.T.	Aust.
AREA (ACRES)								
Average for three years ended—								
1938–39	126	5,634	1,187	521	122	8	6	7,604
1948–49	433	6,245	2,234	534	468	26	4	9,944
1958–59	491	4,614	3,655	635	413	29	9	9,846
Year—								
1961–62	490	4,456	3,173	753	479	60	(a)	(b) 9,412
1962–63	800	4,634	3,796	944	509	79	(a)	(b)10,765
1963–64	682	3,756	3,317	930	446	91	(a)	(b) 9,222
1964–65	803	3,825	3,422	1,146	428	83	(a)	(b) 9,707
1965–66	999	2,955	2,748	1,148	331	69	(a)	(b) 8,250
PRODUCTION (TONS)								
Average for three years ended—								
1938–39	324	34,039	3,040	3,904	915	42	21	42,285
1948–49	1,703	41,156	10,489	5,032	3,831	153	24	62,388
1958–59	2,496	31,982	15,505	5,625	4,599	132	71	60,410
Year—								
1961–62	3,082	23,784	17,921	6,915	6,290	327	(a)	(b)58,323
1962–63	5,185	26,175	21,184	8,531	6,622	515	(a)	(b)68,219
1963–64	4,998	17,946	20,412	8,736	6,814	372	(a)	(b)59,278
1964–65	6,378	22,963	22,853	11,061	5,981	465	(a)	(b)69,701
1965–66	8,764	17,115	17,728	10,069	3,948	500	(a)	(b)58,124
YIELD PER ACRE (TONS)								
Average for three years ended—								
1938–39	2.57	6.04	2.56	7.49	7.50	5.25	3.50	5.56
1948–49	3.93	6.59	4.70	9.42	8.19	5.88	6.00	6.27
1958–59	5.08	6.93	4.24	8.86	11.14	4.55	7.89	6.14
Year—								
1961–62	6.29	5.34	5.65	9.18	13.13	5.45	(a)	(b) 6.20
1962–63	6.48	5.65	5.58	9.04	13.01	6.52	(a)	(b) 6.34
1963–64	7.33	4.78	6.15	9.39	15.28	4.09	(a)	(b) 6.43
1964–65	7.94	6.00	6.68	9.65	13.97	5.60	(a)	(b) 7.18
1965–66	8.77	5.79	6.45	8.77	11.93	7.25	(a)	(b) 7.04

(a) Not available for publication. (b) Includes a small production in Northern Territory, but excludes Australian Capital Territory.

Value of onion crop. The estimated gross value of the onion crop and the value per acre are shown in the following table for the 1965–66 season.

ONIONS: VALUE OF CROP, STATES, 1965-66

		N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	Aust.
Aggregate value	$'000	745	1,814	2,588	1,067	393	60	6,667
Value per acre	$	746	614	942	929	1,187	870	808

Consumption and exports of onions. The consumption of onions in Australia during 1965–66 was 66,300 tons or 13.0 lb per head of population. Onions are the only root crop, other than potatoes, in which any considerable overseas trade is carried on by Australia. In 1965–66 exports amounted to 1,609 tons, valued at $171,844, and were shipped mainly to Papua and New Guinea, New Caledonia and Singapore. The quantity of exports in 1964-65 was 2,247 tons, valued at $177,270. Imports of onions amounted to 1,538 tons, valued at $136,000, in 1965–66, and 815 tons, valued at $74,112, in 1964–65. The principal country from which onions were imported was New Zealand.

Fruit

The varieties of fruit grown differ in various parts of the States, ranging from pineapples, papaws and mangoes in the tropics to strawberries, raspberries and currants in the colder parts of the temperate zone. In New South Wales citrus fruit (oranges, lemons, etc.) and bananas are the principal crops, although apples, peaches, plums, pears, and cherries are grown extensively. The principal varieties grown in Victoria are apples, pears, peaches, oranges, and apricots. In Queensland apples, pineapples, bananas, oranges, mandarins, peaches, and plums are the varieties most largely cultivated. In South Australia, in addition to oranges, apples, peaches, apricots, and pears, almonds and olives are grown extensively. In Western Australia apples, oranges, plums, and pears are the chief varieties. In Tasmania apples occupy over three-quarters of the fruit-growing area, but small fruit, such as currants, raspberries and gooseberries, is grown extensively, the balance of the area being mainly taken up with pears and apricots.

Overseas marketing of fruits

The *Apple and Pear Organization Act* 1938–1966 provides for the establishment of an Australian Apple and Pear Board comprising representatives of growers, exporters, employees, and the Commonwealth Government. A representative in London has also been appointed by the Board. An export levy to meet the expenses of the Board is provided for in the *Apple and Pear Export Charges Act* 1938–1966. The function of the Board is the organisation and control of exports of fresh apples and pears, and it has the power to regulate shipments, determine export quotas, allocate consignments from each State, and recommend the licensing of exporters. The Board contributes to apple and pear publicity activities overseas.

In January 1964 the *Canned Fruits Marketing Act* 1963–1966 replaced the *Canned Fruits Export Control Act* 1926–1959 under which the overseas marketing of canned fruit was initially organised (*see* Year Book No. 49, page 1050). The Australian Canned Fruits Board, which is constituted under the Act, determines the terms and conditions for overseas sales. The Board exercises this control through a system of export licences. The Board, whose membership was increased from five to eleven members and which was granted greater powers under the new Act, comprises representatives of the Commonwealth Government (one), canners of deciduous fruit (six), growers of deciduous fruit (three), and pineapple interests (one). The Board maintains a London office. The *Canned Fruits Export Charges Act* 1926–1966 provides for a levy on exports to meet the Board's expenses, which include contributions to overseas publicity connected with the canned fruit industry. In 1963 an excise duty was imposed by the *Canned Fruits Excise Act* 1963 on canned deciduous fruit entered for domestic consumption, and the proceeds of the duty are made available to the Board to assist in the promotion of overseas sales of canned deciduous fruit.

In 1959 the Australian Canned Fruit Sales Promotion Committee was established to promote the sale of canned deciduous fruit on the home market and overseas. The operations of the Committee are financed by a levy on fruit accepted by the canneries for the production of canned fruit. The Committee comprises representatives of growers and processers of canning fruit and a representative of the Commonwealth Government.

Area and production of fruit

The area under fruit in Australia has been increasing steadily in recent years, and new record levels have been reached each year since 1960–61. The following tables set out the area under fruit and production in the several States.

FRUIT: AREA, STATES AND TERRITORIES, 1961-62 TO 1965-66

(Acres)

Year	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
1961–62 . .	94,246	72,712	41,872	38,548	24,487	21,859	136	65	293,925
1962–63 . .	98,032	75,855	43,242	40,444	25,204	21,943	136	55	304,911
1963–64 . .	98,670	76,796	44,681	41,686	25,670	22,134	149	54	309,840
1964–65 . .	97,221	75,509	45,918	43,012	26,425	22,375	130	56	310,646
1965–66 . .	97,212	75,001	47,715	43,986	26,715	22,426	110	42	313,207

FRUIT: AREA AND PRODUCTION, STATES AND TERRITORIES, 1965-66

Fruit	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
AREA, BEARING AND NOT BEARING (ACRES)									
Apples	19,062	22,247	13,144	5,943	16,041	18,389	..	39	94,865
Apricots	2,034	3,272	504	4,846	305	466	..	..	11,427
Bananas	20,682	..	5,407	..	446	..	20	..	26,555
Cherries	3,023	2,025	13	575	45	58	..	..	5,739
Citrus—									
Oranges	28,595	7,115	3,679	17,405	4,687	..	36	..	61,517
Mandarins	2,525	601	2,479	853	550	..	2	..	7,010
Lemons and limes	2,512	1,123	422	656	602	..	3	..	5,318
Other	690	302	96	554	125	..	3	..	1,770
Nuts	164	290	754	3,629	87	..	26	..	4,950
Peaches	7,896	14,551	1,806	4,776	956	51	..	(a)	(b)30,036
Pears	3,132	16,887	1,160	1,977	1,144	1,641	..	(a)	(b)25,941
Pineapples	173	..	12,753	..	..	..	12	..	12,938
Plums	1,835	1,576	1,428	352	1,083	70	..	..	6,344
Prunes	3,173	263	..	682	7	5	..	..	4,130
Small fruit	30	966	180	156	9	1,719	..	..	3,060
Other fruit	1,686	3,783	3,890	1,582	628	27	8	3	11,607
Total	97,212	75,001	47,715	43,986	26,715	22,426	110	42	313,207
PRODUCTION ('000 BUSHELS)									
Apples	2,924	4,206	1,375	1,308	1,603	8,364	..	3	19,783
Apricots	324	546	27	827	29	26	..	..	1,778
Bananas	3,743	..	751	..	199	..	2	..	4,694
Cherries	195	140	1	54	1	4	..	..	396
Citrus—									
Oranges	4,446	1,012	721	2,633	323	..	1	..	9,137
Mandarins	174	41	230	49	24	..	..	..	519
Lemons and limes	422	121	92	43	118	..	1	..	795
Peaches	1,304	2,603	175	1,303	121	3	..	(c)	(b) 5,508
Pears	576	5,453	107	509	190	650	..	(c)	(b) 7,485
Pineapples	29	..	4,894	..	..	..	1	..	4,924
Plums	171	154	122	34	103	13	..	..	597
Prunes	271	20	..	62	..	1	..	..	355

(a) Not available for publication; included with Other fruit. (b) Incomplete; excludes the Australian Capital Territory. (c) Not available for publication.

Principal fruit crops

The area and production of the principal fruit crops and the gross value of production during the seasons 1961–62 to 1965–66 are shown hereunder.

PRINCIPAL FRUIT CROPS: AREA, PRODUCTION AND GROSS VALUE OF PRODUCTION, AUSTRALIA, 1961-62 TO 1965-66

Year	Apples	Apricots	Bananas	Oranges	Peaches	Pears	Plums and prunes
AREA, BEARING AND NOT BEARING (ACRES)							
1961–62	87,571	11,461	29,180	53,623	29,627	25,338	10,839
1962–63	91,380	11,847	30,392	57,301	30,226	25,945	10,828
1963–64	92,859	11,890	29,709	59,211	30,237	25,870	10,963
1964–65	94,870	11,274	26,762	60,497	30,387	26,079	10,515
1965–66	94,865	11,427	26,555	61,517	30,036	25,941	10,474

PRINCIPAL FRUIT CROPS: AREA, PRODUCTION AND GROSS VALUE OF PRODUCTION, AUSTRALIA, 1961–62 TO 1965–66—*continued*

Year	Apples	Apricots	Bananas	Oranges	Peaches	Pears	Plums and prunes
			PRODUCTION ('000 BUSHELS)				
1961–62 . .	17,127	1,869	4,876	8,168	3,962	6,567	961
1962–63 . .	18,349	1,913	4,832	9,307	4,003	5,667	1,043
1963–64 . .	19,285	1,610	5,324	8,735	4,366	6,916	1,039
1964–65 . .	18,897	1,968	5,028	10,836	5,078	5,920	1,068
1965–66 . .	19,783	1,778	4,694	9,137	5,508	7,485	952
			GROSS VALUE OF PRODUCTION ($'000)				
1961–62 . .	40,006	5,754	17,262	19,194	9,534	14,408	3,322
1962–63 . .	42,006	5,296	18,354	19,752	9,548	12,760	3,226
1963–64 . .	44,862	4,802	16,442	20,834	10,084	14,900	4,036
1964–65 . .	46,577	5,508	18,585	23,547	12,676	14,753	4,544
1965–66 . .	47,631	5,119	20,409	22,037	13,795	17,674	3,419

Production and consumption of jams and jellies and preserved fruit

In Australia considerable quantities of fruit are used in the production of jams and jellies and for preserving. During 1965–66 output of jams, conserves, fruit spreads, etc. amounted to 97,149,000 lb, while output of preserved fruit amounted to 579,619,000 lb. Of the latter figure, pears accounted for 156,706,000 lb, peaches 217,549,000 lb, and pineapples 62,310,000 lb.

In 1965–66, 8,015,973 cwt of fruit was recorded as used in factories classified to the sub-classes Oils, vegetable; Jam, fruit and vegetable canning; Condiments, coffee, spices; Aerated waters and cordials; and Dehydrated fruit and vegetables. Details of the estimated consumption of fruit and fruit products per head of population for a series of years ending 1965–66 are shown in the chapter Miscellaneous.

Imports and exports of fruit and fruit products

The imports of fresh fruit into Australia are negligible, while those of dried fruit consist mainly of dates obtained almost entirely from Iraq and Iran. A considerable export trade in both fresh and dried fruit is carried on by Australia with overseas countries. The values of the shipments in 1965–66 amounted to $37,819,000 and $28,439,000 respectively. Apples constitute the bulk of the fresh fruit exported, although exports of pears and citrus fruit are considerable. Particulars of the Australian export trade in fresh and frozen fruit for each of the years 1961–62 to 1965–66 are shown in the following table.

FRESH AND FROZEN FRUIT: EXPORTS, AUSTRALIA, 1961-62 TO 1965-66

Year	Apples		Pears		Citrus		Total value(*a*)
	Quantity	Value	Quantity	Value	Quantity	Value	
	'000 bus	$'000 f.o.b.	'000 bus	$'000 f.o.b.	'000 bus	$'000 f.o.b.	$A'000 f.o.b.
1961–62 . .	7,083	18,792	1,639	5,150	673	2,172	26,726
1962–63 . .	7,206	23,290	1,071	3,500	862	2,566	29,968
1963–64 . .	8,212	24,036	1,666	5,294	961	2,986	33,156
1964–65 . .	7,051	20,989	1,461	5,297	1,082	3,382	30,543
1965–66 . .	8,363	25,863	2,089	7,464	1,210	3,685	37,819

(*a*) Includes exports of all other fresh and frozen fruit.

The quantity and value of overseas imports and exports of dried fruit, other than raisins and currants, for the years 1961–62 to 1965–66 are shown below.

DRIED TREE FRUIT(*a*): IMPORTS AND EXPORTS, AUSTRALIA
1961-62 TO 1965-66

Year	Imports(*b*)		Exports	
	Quantity	Value	Quantity	Value
	'000 lb	$'000 f.o.b.	'000 lb	$'000 f.o.b.
1961–62	8,266	628	5,951	1,564
1962–63	8,939	592	6,603	1,903
1963–64	10,262	604	8,479	1,988
1964–65	8,454	601	9,414	1,808
1965–66	8,145	557	11,907	2,450

(*a*) Excludes sultanas, raisins and currants dealt with separately under Vineyards (*see* below). (*b*) Dates and figs only.

Exports of jam and jellies in 1965–66 were 10,346,000 lb, valued at $1,504,000, compared with 11,006,000 lb, valued at $1,677,000 in 1964–65. Imports of jams and jellies in 1965–66 were 1,304,000 lb, valued at $268,000, compared with 1,234,000 lb, valued at $251,000 in 1964–65.

Large quantities of canned or bottled fruit are normally exported from Australia, the quantity recorded in 1965–66 being 138,082 tons valued at $37,763,000. Exports in 1965–66 were made up principally of peaches (56,413 tons), pears (49,446 tons), fruit salad (11,359 tons), pineapples (7,516 tons), and apricots (5,266 tons). In addition, the exports of pulped fruits during 1965–66 amounted to 1,027 tons valued at $364,102.

The total value of canned or bottled fruit (including fruit juices) imported into Australia during 1965–66 was $812,000. The value of exports of fruit juices in 1965–66 was $886,000.

Vineyards

Grapes require a warm to hot climate and a predominantly winter rainfall. Freedom from late spring frosts is essential. They are grown for wine-making, drying and, to a minor extent, for table use. In Australia wine is produced very largely from irrigated crops, as are dried fruits. Some of the better known wine producing areas are the Murray Valley (South Australia and Victoria), Barossa Valley and Southern Vales Areas (South Australia), the Murrumbidgee Irrigation Area and the Hunter Valley (New South Wales), the Mildura, Rutherglen and Stawell districts of Victoria, and the Swan Valley (Western Australia). Nearly all the dried fruit is produced along the River Murray and its tributaries, with small localised areas in the other States.

Area of vineyards

The area under vineyards in the 1965–66 season in Victoria and South Australia constituted 77 per cent of the total area of vineyards. The total area of vines in the several States during each of the years 1961–62 to 1965–66 and the averages for the three-year periods ended 1938–39, 1948–49 and 1958–59 are shown in the following table.

VINEYARDS: AREA, STATES, 1936-37 TO 1965-66

(Acres)

Period	N.S.W.	Vic.	Qld	S.A.	W.A.	Aust.
Average for three years ended—						
1938–39	16,824	42,071	2,670	57,185	6,197	124,947
1948–49	16,482	44,114	3,099	58,971	9,965	132,631
1958–59	17,210	44,823	2,926	57,199	8,967	131,125
Year—						
1961–62	17,607	45,105	3,203	57,836	9,017	132,768
1962–63	17,704	45,662	3,237	58,266	8,685	133,554
1963–64	18,715	46,501	3,276	58,679	8,629	135,800
1964–65	20,464	47,996	3,299	58,857	8,310	138,926
1965–66—						
Drying	8,392	39,984	..	13,005	3,191	64,572
Table	3,081	3,258	2,974	299	1,416	11,028
Wine	9,819	5,375	294	45,427	3,608	64,523
Total	**21,292**	**48,617**	**3,268**	**58,730**	**8,215**	**140,122**

Wine industry

Australia produces wine of every type and also brandy. In recent years there has been a distinct trend toward greater consumption and production of unfortified or table wines. Until 1957–58 production of these wines (which include burgundy, claret, riesling, sauterne, and sparkling wines) was less than half that of the fortified varieties (sherries, ports, etc.). By 1965–66 production of table wines reached a volume only 5 per cent smaller than that of fortified varieties.

The Wine Overseas Marketing Act 1929–1966 was introduced to place the overseas marketing of wine on an orderly basis. The Australian Wine Board, consisting of representatives from wineries and distilleries, grape-growers and the Commonwealth Government, supervises the sale and distribution of Australian wine exported and recommends conditions under which export licences should be issued. The Board also engages in wine publicity and trade promotion activities both in Australia and overseas. In London the Board maintains an Australian Wine Centre, which is a medium for promoting interest in Australian wines and brandy. It is also a retail shop for the sale of these products. *The Wine Grapes Charges Act* 1929–1966 provides for the imposition of a levy on all grapes used in Australia for the manufacture of wine, brandy and spirit used for fortifying wine. The proceeds of the levy are used to meet the Board's projects in Australia and overseas and to defray the administrative expenses of the Board, which has no other source of income.

Production and consumption of wine and brandy

In 1965–66 the total production of wine (beverage and distillation) in Australia was 34.0 million gallons, while total consumption of beverage wine was 15.3 million gallons (1.34 gallons per head of population). Similar particulars for 1964–65 are 38.5 million gallons and 13.8 million gallons (1.23 gallons per head of population) respectively.

The quantities of wine and brandy produced in the several States during the 1961–62 to 1965–66 seasons, together with the averages for the three-year periods ended 1938–39, 1948–49 and 1958–59, are shown in the following table.

WINE: PRODUCTION(*a*), STATES, 1936-37 TO 1965-66
('000 gallons)

Period	N.S.W.	Vic.	Qld	S.A.	W.A.	Aust.
Average for three years ended—						
1938–39	2,712	1,359	31	14,021	396	18,519
1948–49	4,178	3,040	31	25,906	689	33,844
1958–59	3,974	2,435	36	25,190	743	32,378
Year—						
1961–62	6,442	3,605	36	30,831	822	41,736
1962–63	5,858	2,433	28	20,785	789	29,893
1963–64	6,030	3,705	33	27,102	666	37,536
1964–65	6,404	3,458	24	28,022	613	38,520
1965–66	6,439	2,982	24	23,884	627	33,956

(*a*) Net factory and farm production of beverage and distillation wine excluding the liquid gallonage of spirits added in wine fortifying.

BRANDY: PRODUCTION, SOUTH AUSTRALIA AND AUSTRALIA, 1936–37 TO 1965–66
(Proof gallons)

Period	South Australia	Australia(*a*)
Average for three years ended—		
1938–39	446,251	505,474
1948–49	648,641	714,688
1958–59	1,009,040	1,149,032
Year—		
1961–62	1,042,580	1,177,943
1962–63	994,420	1,128,997
1963–64	1,052,850	1,219,968
1964–65	1,183,351	1,400,100
1965–66	1,167,309	1,371,217

(*a*) Includes New South Wales and Victoria, for which separate details are not available for publication.

Exports and imports of wine and brandy

Principal markets for exports of Australian wine are the United Kingdom, Canada and New Zealand. During 1965–66 these countries received 1,251,368 gallons, 384,026 gallons and 81,222 gallons respectively. Exports of Australian-produced wine for the five years ended 1965–66 are shown in the following table.

WINE: EXPORTS, AUSTRALIA, 1961–62 TO 1965–66

Year	Quantity (gallons)			Value ($f.o.b.)		
	Sparkling	Other	Total	Sparkling	Other	Total
1961–62	5,145	1,664,984	1,670,129	34,200	2,737,860	2,772,060
1962–63	17,245	1,596,887	1,614,132	92,444	2,657,052	2,749,496
1963–64	10,373	1,527,666	1,538,037	62,118	2,682,108	2,744,226
1964–65	16,035	1,977,329	1,993,364	96,056	3,427,426	3,523,482
1965–66	34,888	1,932,374	1,967,262	170,859	3,384,696	3,555,555

Imports of wine for 1965–66 amounted to 145,861 gallons valued at $647,000, compared with 149,818 gallons valued at $618,000 in the previous year. During 1965–66 Italy supplied 70,034 gallons valued at $224,000, France 33,626 gallons valued at $251,000 and the Federal Republic of Germany 12,741 gallons valued at $71,000.

Exports of Australian-produced brandy in 1965–66 amounted to 117,434 proof gallons, valued at $559,000. Imports of brandy, mainly from France, amounted to 77,476 proof gallons, valued at $476,000.

Dried vine fruit industries

The dry period from November to March in the lower Murray valley makes this an ideal area for dried vine fruit. Harvesting for drying takes place at the end of summer. The sun-drying process is often accelerated by using a dip of cold potash.

The *Dried Fruits Export Control Act* 1924–1966 was passed to organise overseas marketing of Australian dried vine fruit. The Australian Dried Fruits Control Board, consisting of growers' representatives, members with commercial experience in marketing dried fruits and a Government representative, controls the sale and distribution of dried fruit exports, recommends the licensing of exporters and contributes to dried vine fruit publicity activity overseas. In conjunction with its London office, the Board has improved dried fruit marketing overseas by its system of appraisement, regulation of shipments and advertising. The *Dried Fruits Export Charges Act* 1924–1965 provides for a levy on exports of dried fruit to defray costs and expenses incurred by the Board.

For details of the bulk purchase agreements between the Governments of the United Kingdom and Australia which operated during the period 1946–53 *see* Year Book No. 40, page 888. From 1 December 1953 exports to the United Kingdom have been on a trader to trader basis.

In June 1963 Australian, Greek and Turkish dried vine fruit interests concluded an agreement to maintain minimum prices for sultanas on world markets. The agreement, which aims at international price stability, is periodically reviewed. A permanent committee of the contracting parties was established in London for the purpose of supervising the working of the agreement, and a sub-committee of the permanent committee was established in Hamburg in 1964.

The Dried Vine Fruits Stabilization Scheme was introduced under the *Dried Vine Fruits Stabilization Act* 1964–1966 to stabilise seasonal returns to growers of currants, sultanas and raisins. Its main features are as follows.

- Growers are guaranteed an average return from seasonal sales of currants, sultanas and raisins equal to the average cost of production of each variety less $10.00 a ton.
- The maximum quantities for which returns are guaranteed each season are 13,500 tons of currants, 75,000 tons of sultanas and 11,000 tons of raisins.
- Growers are required to contribute to separate varietal stabilisation funds when the average return to the industry from seasonal sales of a variety exceeds cost of production by more than $10.00 a ton, with a limit on such contributions of $20.00 a ton.
- When the quantity received for packing in any season does not reach 8,000 tons of currants, 50,000 tons of sultanas or 6,000 tons of raisins, growers are not required to contribute to the stabilisation fund for the variety concerned.
- Contributions are to be made by the Commonwealth to raise average returns to the guaranteed price when there is insufficient industry money in a stabilisation fund for this purpose.
- Limits are set to the accumulation of money in the stabilisation funds. These are $1,000,000 in the case of both the currant and raisin stabilisation funds, and $4,000,000 in the case of the sultana stabilisation fund.
- Where these limits are exceeded during the operation of the scheme, the excess will be used first to reimburse the Government for any contribution it may have made to a fund; any balance will be repaid to growers on a first-in first-out basis.
- The scheme is to operate for five years. At the end of the fifth year any credit balance in the stabilisation funds will be used, in the first instance, to reimburse the Government for unrepaid contributions (if any). If the scheme is not renewed any remaining money will be returned to growers.

Growers' contributions for the scheme are collected under the *Dried Vine Fruits Contributory Charges Act* 1964–1966 and the *Dried Vine Fruits Contributory Charges (Collection) Act* 1964–1966.

The production of dried vine fruit during each of the seasons 1961–62 to 1965–66 and the averages for the three-year periods ended 1938–39, 1948–49 and 1958–59 are shown in the following table.

DRIED VINE FRUIT: PRODUCTION, STATES, 1936-37 TO 1965-66
(Tons)

Period	N.S.W.		Vic.		S.A.		W.A.		Australia	
	Raisins (a)	Currants	Raisins (a)	Currants	Raisins (a)	Currants	Raisins (a)	Currants	Raisins (a)	Currants
Average for three years ended—										
1938-39	5,464	1,163	39,810	8,953	13,215	9,009	723	2,179	59,212	21,304
1948-49	5,429	994	40,027	7,380	8,811	5,243	580	3,179	54,847	16,796
1958-59	10,300	705	53,178	4,294	11,115	4,432	118	1,746	74,711	11,177
Year—										
1961-62	13,089	410	64,862	2,714	10,674	2,742	66	1,941	88,691	7,807
1962-63	8,560	463	44,059	2,536	11,007	2,607	51	1,225	63,677	6,831
1963-64	13,563	709	66,138	3,934	13,159	4,533	121	2,166	92,981	11,342
1964-65	12,841	632	66,153	4,477	16,325	5,044	75	2,364	95,394	12,517
1965-66	11,480	449	59,418	3,127	11,915	3,153	116	1,306	82,929	8,035

(a) Includes sultanas and lexias.

The following table shows the exports of dried vine fruit during each of the years 1961-62 to 1965-66.

DRIED VINE FRUIT(a): EXPORTS, AUSTRALIA, 1961-62 TO 1965-66

Year	Raisins, sultanas and lexias		Currants		Total	
	Quantity	Value	Quantity	Value	Quantity	Value
	tons	$'000 f.o.b.	tons	$'000 f.o.b.	tons	$'000 f.o.b.
1961-62	60,169	17,910	4,564	1,240	64,733	19,150
1962-63	56,696	16,058	4,208	1,141	60,904	17,199
1963-64	57,451	17,442	5,512	1,601	62,963	19,043
1964-65	63,197	20,324	6,532	1,968	69,729	22,292
1965-66	74,704	24,070	6,102	1,918	80,805	25,988

(a) Excludes quantities exported as mincemeat.

The chief countries importing Australian dried vine fruit are the United Kingdom, Canada, New Zealand, the Federal Republic of Germany, and Ireland. The quantities exported to these countries in 1965-66 were 34,382 tons, 20,316 tons, 7,685 tons, 7,063 tons, and 1,931 tons respectively.

Table grapes

Grapes for table use are grown in all States except Tasmania, but the area of this type was only about 8 per cent of the productive area of vines in 1965-66. The quantities of table grapes produced during the season 1965-66 in each State are shown on page 897.

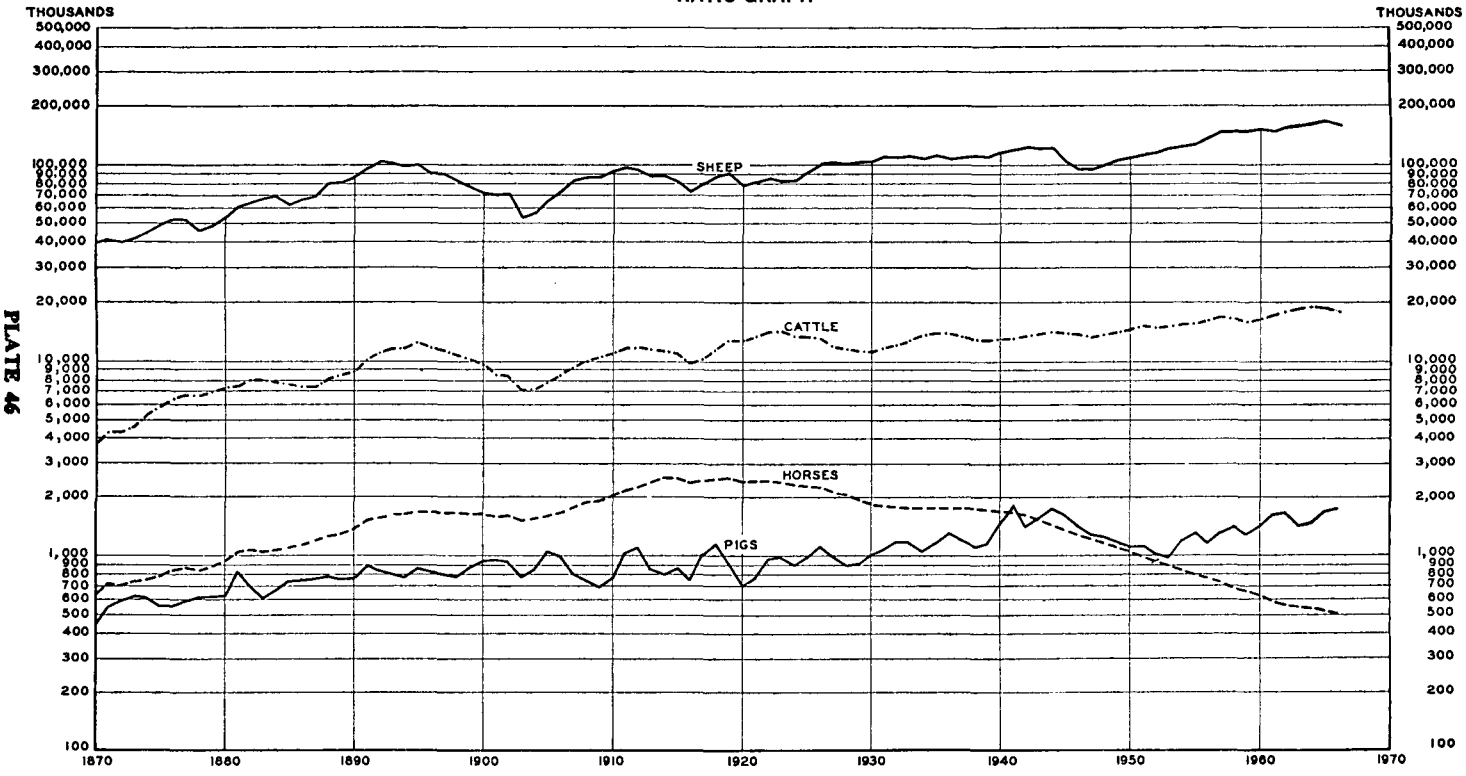
PASTORAL PRODUCTION

Livestock numbers

A detailed account of the various enumerations of livestock in Australia made prior to 1860 was given on page 748 of Year Book No. 35. Since 1860 annual enumerations have been made, based, with few exceptions, on actual collections made through the agency of the State police or by post. Particulars concerning the numbers of each of the principal kinds of livestock in Australia, at decennial intervals from 1860 to 1960, and from 1962 onwards in single years, are given in the following table, and are shown continuously since 1870 on the graph on plate 46 opposite.

LIVESTOCK: AUSTRALIA, 1870 TO 1966

RATIO GRAPH



NOTE:- VERTICAL SCALE IS LOGARITHMIC, AND THE CURVES RISE AND FALL ACCORDING TO RATE OF INCREASE OR DECREASE; ACTUAL NUMBERS ARE INDICATED BY SCALE.

PLATE 46

LIVESTOCK: AUSTRALIA, 1860 TO 1966

('000)

Year	Horses	Cattle	Sheep	Pigs	Year	Horses	Cattle	Sheep	Pigs
1860 .	432	3,958	20,135	351	1940 .	1,699	13,080	119,305	1,455
1870 .	717	4,276	41,594	543	1950 .	1,057	14,640	112,891	1,123
1880 .	1,069	7,527	62,184	816	1960 .	640	16,503	155,174	1,424
1890 .	1,522	10,300	97,881	891	1962 .	562	18,033	157,712	1,652
1900 .	1,610	8,640	70,603	950	1963 .	547	18,549	158,626	1,440
1910 .	2,166	11,745	98,066	1,026	1964 .	536	19,055	164,981	1,468
1920 .	2,416	13,500	81,796	764	1965 .	520	18,816	170,622	1,660
1930 .	1,793	11,721	110,568	1,072	1966 .	n.a.	17,936	157,563	1,747

While livestock numbers (particularly sheep) have increased substantially since 1860, marked fluctuations have taken place during the period, mainly on account of widespread droughts which have from time to time left their impressions on the pastoral history of Australia. These occurred in 1868, 1877, 1883–84, 1892, 1893, 1895, 1901–02, 1912, 1914, 1918, 1919, 1922–23, 1925–26, 1927–28, 1929–30, 1940–41, 1944–45 to 1946–47, and 1965–66. The years in which the numbers of livestock attained their peaks are as follows: horses, 1919 (2,527,000); cattle, 1964 (19,055,000); sheep, 1965 (170,622,000); and pigs, 1941 (1,797,000).

The distribution throughout Australia of sheep, beef cattle, dairy cattle, and pigs at 31 March 1963 is shown in the maps on pages 1049 and 1050 and facing pages 1082 and 1083 of Year Book No. 50.

The numbers of horses, cattle, sheep, and pigs in each State and Territory are shown later in this chapter. As explained on page 954, since 1964 farmers are no longer asked to classify their herds as either 'beef cattle' or 'dairy cattle', detailed statistics of cattle from 1964 onwards are not comparable with those for earlier years.

Value of pastoral production

Values of pastoral production are shown for 1965–66 and earlier years in the following tables. Further details of the source of the information and an explanation of the terms used in this compilation will be found in the chapter Miscellaneous. Maintenance costs and depreciation have not been deducted; consequently the net values are inflated to the extent of these amounts.

GROSS, LOCAL AND NET VALUES OF PASTORAL PRODUCTION, STATES AND TERRITORIES, 1965-66

($'000)

State or Territory	Gross production valued at principal markets	Marketing costs	Local value of production	Value of materials used in process of production	Net value of production(a)
New South Wales . . .	468,443	37,492	430,951	(b) 74,481	356,470
Victoria	413,558	42,429	371,130	24,900	346,230
Queensland	256,027	21,593	234,434	35,536	198,898
South Australia . . .	152,224	9,086	143,138	19,381	123,757
Western Australia . . .	157,249	10,934	146,315	16,543	129,773
Tasmania	37,350	2,302	35,048	12,729	22,319
Northern Territory . .	11,887	2,145	9,742	n.a.	9,742
Australian Capital Territory .	1,597	130	1,467	120	1,347
Australia	**1,498,335**	**126,111**	**1,372,225**	**183,690**	**1,188,536**

(a) No deduction has been made for depreciation and maintenance. (b) No allowance has been made for costs of power, power kerosene, petrol and other oils.

NET VALUE OF PASTORAL PRODUCTION(*a*): STATES AND TERRITORIES
1961-62 TO 1965-66

Year	N.S.W. (*b*)	Vic.	Qld	S.A.	W.A.	Tas.	Aust.(*c*)
			NET VALUE ($'000)				
1961–62	366,004	231,056	172,898	91,256	82,656	11,708	962,676
1962–63	403,660	265,126	200,522	103,990	82,580	15,084	1,078,698
1963–64	503,090	323,696	235,774	125,978	123,544	19,566	1,340,578
1964–65	451,368	309,668	220,988	110,054	101,069	21,040	1,221,300
1965–66	356,470	346,230	198,898	123,757	129,773	22,319	1,188,536
			NET VALUE PER HEAD OF POPULATION ($)				
1961–62	92.65	78.16	112.97	93.41	110.89	33.15	90.79
1962–63	100.47	88.05	129.09	104.43	107.73	42.12	99.87
1963–64	123.35	105.37	148.83	123.47	156.89	53.95	121.76
1964–65	109.09	98.79	136.82	104.96	125.50	57.45	108.79
1965–66	84.80	108.47	120.73	114.82	157.30	60.42	103.86

(*a*) No deduction has been made for depreciation and maintenance. (*b*) No allowance has been made for costs of power, power kerosene, petrol and other oils. (*c*) Includes Northern Territory and Australian Capital Territory.

Indexes of quantum and price of pastoral production, 1961-62 to 1965-66

The quantum indexes shown in the following table relate to gross output of farm products valued at constant prices. The quantities of each farm product produced each year have been re-valued at the unit gross value for the period 1936–37 to 1938–39. The price indexes relate to average 'prices' of farm products realised in the principal markets of Australia. Average quantities of each product marketed in the period 1946–47 to 1950–51 have been used as fixed weights. For further details of the methods of calculating these indexes and of the weights used *see* the chapter Miscellaneous.

INDEXES OF QUANTUM(*a*) AND PRICE OF PASTORAL PRODUCTION
AUSTRALIA, 1961-62 TO 1965-66

(*Base: Average* 3 *years ended June* 1939 = 100)

	1961–62	1962–63	1963–64	1964–65	1965–66
Quantum(*a*) produced—					
Wool	174	170	183	183	169
Other products	144	154	158	158	157
Total, pastoral	*160*	*163*	*172*	*172*	*163*
Per head of population	104	104	107	105	98
Price—					
Wool	412	449	531	437	458
Other products	433	451	480	496	567
Total, pastoral	*421*	*450*	*511*	*460*	*501*

(*a*) Index of value at constant prices, i.e. quantities revalued at average unit values of base years 1936–37 to 1938–39.

Sheep

Distribution throughout Australia

With the exception of a short period in the early eighteen-sixties, when the flocks of Victoria outnumbered those of New South Wales, the latter State has occupied the premier position in sheep-raising, depasturing nearly one-half of the sheep of Australia (43 per cent over the five years ended March 1966). In Western Australia, sheep numbers have shown a marked increase in recent years, having doubled between 1952 and 1966.

A map showing the distribution of sheep in Australia at 31 March 1963 appears on page 1049 of Year Book No. 50. Graphs showing the number of sheep in Australia from 1870 onwards appear on plates 46 and 47 of this Year Book (pages 949 and 961).

SHEEP: NUMBERS IN STATES AND TERRITORIES, 1937 TO 1966

('000)

Period	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Average for three years ended—									
1939 . .	51,202	17,845	21,889	8,916	8,972	2,460	23	251	111,558
1949 . .	46,525	17,900	16,442	8,793	10,368	2,060	24	227	102,339
1959 . .	67,006	26,615	22,537	15,285	15,609	3,259	25	265	150,601
At 31 March—									
1962 . .	69,498	27,533	22,125	16,415	18,314	3,531	10	286	157,712
1963 . .	70,021	27,472	22,811	15,737	18 727	3,570	9	279	158,626
1964 . .	71,764	28,413	24,337	16,403	20,165	3,600	10	289	164,981
1965 . .	72,396	30,437	24,016	17,289	22,392	3,793	9	290	170,622
1966 . .	61,396	30,968	18,384	17,993	24,427	4,127	9	258	157,563

Drought conditions in 1965-66 resulted in heavy losses of sheep in New South Wales and Queensland, and brought about a reduction of 8 per cent in the Australian total at 31 March 1966, compared with the record numbers of the previous year. The percentage distribution in the several States in 1966 was: New South Wales, 39; Victoria, 19; Queensland, 12; South Australia, 11; Western Australia, 16; and Tasmania, 3.

Movement in sheep numbers

SHEEP AND LAMBS: ANALYSIS OF MOVEMENT IN NUMBERS, AUSTRALIA 1961-62 TO 1965-66

('000)

Year ended 31 March	Numbers at beginning of season	Lambs marked	Net exports	Sheep and lambs slaughtered (*a*)	Estimated deaths on farms (*b*)	Numbers at close of season
1962 . .	152,679	45,596	181	33,317	7,065	157,712
1963 . .	157,712	45,146	247	33,944	10,041	158,626
1964 . .	158,626	47,818	312	33,240	7,911	164,981
1965 . .	164,981	47,608	307	33,549	8,111	170,622
1966 . .	170,622	40.330	273	33,580	19,536	157,563

(*a*) Includes an estimate for numbers boiled down. (*b*) Balance figure; excludes lambs which died before marking.

Comparisons of Australian flock numbers with those of certain other principal sheep producing countries are given on page 968.

Classification of sheep according to age, sex and breed

SHEEP, BY AGE AND SEX: AUSTRALIA, 1962 TO 1966

('000)

Description	1962	1963	1964	1965	1966
Rams, 1 year and over	1,956	1,979	1,986	2,047	2,002
Breeding ewes (including ewes intended for mating)	70,693	70,936	72,862	75,580	73,626
Other ewes, 1 year and over	8,729	8,878	8,631	8,952	7,397
Wethers, 1 year and over	43,021	44,267	46,203	49,284	45,649
Lambs and hoggets, under 1 year	33,313	32,566	35,299	34,759	28,890
Total, sheep and lambs	**157,712**	**158,626**	**164,981**	**170,622**	**157,563**

Particulars of the principal breeds of sheep at 31 March 1965 (details are collected on a triennial basis) are shown in the following table.

SHEEP, BY PRINCIPAL BREED: STATES AND TERRITORIES, 31 MARCH 1965

('000)

Breed	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Merino	56,232	14,148	23,655	14,581	20,533	351	9	245	129,754
Other recognised breeds	7,601	7,486	129	1,218	788	2,352	..	13	19,587
Merino comeback (*a*)	1,163	2,160	47	284	287	419	..	4	4,364
Crossbreds(*b*)	7,400	6,643	185	1,206	784	671	..	27	16,917
Total	**72,396**	**30,437**	**24,016**	**17,289**	**22,392**	**3,793**	**9**	**290**	**170,622**

(*a*) Merino comeback is the progeny of a crossbred Merino ewe and a Merino ram, i.e. finer than half-bred.
(*b*) Half-bred and coarser.

Exports and imports of sheep

The overseas exports of live sheep from Australia are of comparatively minor importance. On 27 November 1929 the export of stud Merino sheep was prohibited, except with the approval of the Minister for Primary Industry. Exports of sheep are now principally for slaughter overseas. Consignments for this purpose in recent years were made chiefly from Western Australia to Kuwait and Singapore. In 1965–66 the number of sheep exported was 290,960, valued at $2,513,000 (1964–65, 286,205, valued at $2,411,000). Since June 1958 an embargo has been imposed on the import of sheep in order to prevent the introduction of the disease 'blue-tongue'.

Cattle

Objects of cattle-raising in Australia

Cattle-raising is carried out in all the States, the main object in certain districts being the production of stock suitable for slaughtering purposes and in others the raising of profitable dairy herds. While dairy cattle are restricted mainly to coastal districts, beef cattle are more widely distributed, particularly in the eastern States, and are raised in areas unsuitable for dairy cattle, such as the tropical area of northern Queensland, the Northern Territory and the Kimberley district in the north of Western Australia.

Distribution throughout Australia

Although cattle numbers declined after 1957 because of drought conditions and heavy slaughterings, they began to rise again in 1960 and in 1964 reached a record level of 19,055,000. Again because of drought in the eastern States, this figure declined to 17,936,000 in 1966.

A graph showing the number of cattle in Australia from 1870 onwards appears on plate 46, page 949.

CATTLE: NUMBERS IN STATES AND TERRITORIES, 1937 TO 1966

('000)

Period	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Average for three years ended—									
1939	3,040	1,861	6,002	324	767	260	882	8	13,144
1949	3,122	2,153	5,971	443	830	244	1,006	9	13,778
1959	3,770	2,722	7,177	598	985	367	1,173	10	16,802
At 31 March—									
1962	4,399	3,156	7,098	659	1,218	425	1,064	14	18,033
1963	4,569	3,225	7,233	679	1,298	444	1,087	14	18,549
1964	4,789	3,301	7,402	694	1,299	450	1,105	15	19,055
1965	4,619	3,316	7,393	697	1,258	451	1,068	14	18,816
1966	4,153	3,397	6,888	690	1,271	492	1,032	13	17,936

Although the proportion was not as high as it has been in some previous years, Queensland was carrying 38 per cent of the cattle in Australia in 1966. The percentage in each State and Territory during that year was: New South Wales, 23; Victoria, 19; Queensland, 38; South Australia, 4; Western Australia, 7; Tasmania, 3; and Northern Territory, 6.

Maps showing the distribution of beef and dairy cattle in Australia appear on pages 1050 and 1082 of Year Book No. 50, and maps showing the distribution in earlier years were published in previous issues of the Year Book.

Classification of cattle

The wording and layout of the cattle section of the statistical forms used for the Agricultural, Dairying and Pastoral Census conducted at 31 March 1964 was changed from that used previously. Prior to 1964 farmers were asked to classify their herds as either 'beef cattle' or 'dairy cattle'. These two terms tended to confuse breed and purpose, and in those instances where vealer production was carried on in association with dairying, farmers were in doubt how to classify part or all of their herds. Since 31 March 1964 farmers have been asked to classify their cattle according to the two main purposes of (i) milk production and (ii) meat production, irrespective of breed, and to report separately the number of cows and heifers kept for their own domestic milk supply. Consequently detailed statistics of cattle from 1964 onwards are not comparable with earlier figures. However, four broad groupings of cattle are generally comparable with earlier years, and particulars for each year from 1962 to 1966 are shown below.

CATTLE: NUMBERS, AUSTRALIA, 1962 TO 1966

('000)

31 March—	Bulls one year and over	Cows and heifers one year and over	Calves under one year	Other	Total
1962	366	10,543	3,872	3,252	18,033
1963	379	10,936	4,079	3,155	18,549
1964	377	11,138	4,254	3,286	19,055
1965	369	11,130	4,068	3,248	18,816
1966	351	10,609	3,744	3,232	17,936

CATTLE, BY PURPOSE(a), AGE AND SEX: STATES AND TERRITORIES 31 MARCH 1966

('000)

Classification	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T. (b)	A.C.T.	Aust.
Bulls (1 year and over) used or intended for service—									
Dairy breeds	19	39	17	6	4	4	..	..	90
Beef breeds	64	32	105	10	21	5	24	..	261
Total bulls	*83*	*71*	*122*	*16*	*25*	*9*	*24*	..	*351*
Cattle used or intended for production of—									
Milk or cream for sale—									
Cows—In milk	523	886	469	93	43	148	..	1	2,908
Dry	152	305	158	62	67			..	
Heifers—Springing (within 3 months of calving)	195	320	168	21	24	42	..	..	823
Other (1 year and over)				25	28				
Calves (under 1 year)	134	325	104	38	32	47	..	..	681
Milk or cream for use on rural holdings—									
House cows and heifers	93	30	39	6	10	6	..	..	186
Total cattle, production of milk, etc.	*1,097*	*1,867*	*937*	*245*	*204*	*244*	*1*	*2*	*4,598*
Cattle for other purposes(c)—									
Cows and heifers (1 year and over)	1,590	694	2,925	233	540	102	603	6	6,692
Calves (under 1 year)(d)	833	474	1,131	123	240	94	164	4	3,063
Other (1 year and over), i.e. steers, bullocks, speyed cows, etc.	549	291	1,773	72	263	43	240	1	3,232
Total cattle, other purposes	*2,973*	*1,458*	*5,829*	*429*	*1,042*	*239*	*1,007*	*11*	*12,987*
Total cattle and calves for all purposes	4,153	3,397	6,888	690	1,271	492	1,032	13	17,936

(a) Collected according to this classification for the first time in 1964. *See* text on p. 954. (b) As at 30 June 1966. (c) Mainly for meat production. (d) Includes vealers, and bull calves intended for service.

CATTLE, BY PURPOSE(a), AGE AND SEX: AUSTRALIA, 31 MARCH 1964 TO 1966

('000)

Classification	1964	1965	1966
Bulls (1 year and over) used or intended for service—			
Dairy breeds	99	95	90
Beef breeds	278	274	261
Total bulls	*377*	*369*	*351*
Cattle used or intended for production of—			
Milk or cream for sale—			
Cows—In milk	3,078	3,012	2,908
Dry			
Heifers—Springing (within 3 months of calving)	821	843	823
Other (1 year and over)			
Calves (under 1 year)	718	690	681
Milk or cream for use on rural holdings—			
House cows and heifers	218	202	186
Total cattle, production of milk, etc.	*4,835*	*4,747*	*4,598*
Cattle for other purposes(b)—			
Cows and heifers (1 year and over)	7,021	7,073	6,692
Calves (under 1 year)(c)	3,536	3,378	3,063
Other (1 year and over), i.e. steers, bullocks, speyed cows, etc.	3,286	3,248	3,232
Total cattle, other purposes	*13,842*	*13,699*	*12,987*
Total cattle and calves for all purposes	**19,055**	**18,816**	**17,936**

(a) Collected according to this classification for the first time in 1964. *See* text on p. 954. (b) Mainly for meat production. (c) Includes vealers, and bull calves intended for service.

For beef cattle and dairy cattle numbers prior to 1964 *see* pages 1056 and 1078 respectively of Year Book No. 50.

Meat research schemes

In November 1965 the Commonwealth Parliament passed legislation providing for the extension of the cattle and beef research scheme to cover beef, mutton and lamb research. Details of the beef research scheme were set out on page 1050 of Year Book No. 51. Under the new legislation the Cattle and Beef Research Committee was re-constituted as the Meat Research Committee, its powers and functions being the same as the former Committee as widened to include mutton and lamb research. The Meat Research Committee consists of twelve members—seven meat producer representatives, the Chairman of the Australian Meat Board, one representative from the Universities engaged in meat research, the Commonwealth Scientific and Industrial Research Organization, the Australian Agricultural Council, and the Department of Primary Industry. The new Committee came into being in March 1966 and the Cattle and Beef Research Committee ceased to exist from that date.

The scheme is financed from the Livestock Slaughter Levy (*see* below). The Commonwealth makes a matching contribution on a $1 for $1 basis to meet expenditure on research. The research is conducted by existing bodies such as the universities, C.S.I.R.O. and State Departments of Agriculture.

The Minister for Primary Industry has approved a beef research programme of just over $2,000,000 for 1966–67. This is approximately the same amount as in the previous year. As yet no programme has been formulated for mutton and lamb research.

The Livestock Slaughter Levy

The *Livestock Slaughter Levy Act* 1964–1966 imposed a levy on all cattle (over 200 lb dressed weight), sheep and lambs slaughtered within Australia for human consumption. These levies, operative from 1 August 1964, replace the charge imposed on meat exports and also include the cattle slaughter levy for beef research purposes imposed in 1960. (*See* page 909 of Year Book No. 51 for details.) The proceeds of the levies under the Livestock Slaughter Levy Act are for the purposes of meat market development (including the financing of the operations of the Australian Meat Board) and for research into the technical, scientific and economic problems of the meat industry. The rates of levy are not to exceed 75 cents for cattle, of which a maximum of 20 cents is for beef research, and 7.5 cents for sheep or lambs, of which a maximum of 3.75 cents is for sheep or lamb research.

Exports and imports of cattle

In 1965–66 the number of cattle exported was 7,315, valued at $932,000 (1964–65, 9,425 valued at $835,000). The bulk of the animals at present being exported are sent to the Philippines for slaughtering, the number exported thereto in 1965–66 being 3,567 head valued at $240,000. Prior to June 1958 small numbers of cattle were imported, consisting mainly of valuable animals for stud purposes. Since that date an embargo has been imposed on the import of cattle in order to prevent the introduction of the disease 'blue-tongue'.

Comparison with other countries

The following table shows the number of cattle in Australia and in some of the principal cattle-raising countries of the world at the latest available date.

CATTLE: NUMBERS IN VARIOUS COUNTRIES

Source (for countries other than Australia): *World Agricultural Production and Trade*, United States Department of Agriculture

('000)

Country	Year and month	Number p
India(*a*)	1962 (May)	236,000
United States of America	1966 (January)	108,862
U.S.S.R.	1966 (January)	93,400
Brazil(*a*)	1965 (December)	90,692
China (mainland)(*a*)	1960 (December)	65,400
Argentina	1965 (June)	45,000
Pakistan(*a*)	1961 (Estimate)	30,300
Mexico	1966 (Spring)	24,000
Ethiopia	1963 (Estimate)	22,000
France	1965 (October)	20,640
Australia	**1966 (March)**	**17,936**
Colombia	1965 (October)	17,078
Turkey(*a*)	1965 (December)	14,419
Germany, Federal Republic of	1965 (December)	13,680
South Africa	1966 (June)	12,184

(*a*) Includes buffaloes.

Horses

The number of horses in Australia reached a peak of 2,527,000 in 1919. Since then it has declined, because of mechanisation of transport and farming, and the number recorded at 31 March 1965 (the latest year for which complete figures are available) was 520,000. Particulars of horses are no longer collected in all States annually. An Australian total will next be available in respect of the year 1967 and, thereafter, at triennial intervals only.

A graph showing the number of horses in Australia since 1870 appears on plate 46, page 949.

HORSES: NUMBERS IN STATES AND TERRITORIES, 1962 TO 1966

('000)

31 March—	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
1962. . .	168	61	217	25	40	9	41	1	562
1963. . .	166	58	212	25	39	8	38	1	547
1964. . .	163	56	206	(a) 25	39	8	38	1	(b) 536
1965. . .	158	56	201	(a) 24	37	7	36	1	(b) 520
1966. . .	151	n.a.	190	n.a.	35	n.a.	39	1	n.a.

(a) Estimated. (b) *See* South Australia.

Overseas trade in horses

Exports of Australian-bred horses in 1965–66 numbered 662, valued at $910,000, made up of horses for breeding (231 valued at $294,000), horses for racing (322 valued at $562,000, shipped principally to Singapore, Republic of Korea and New Zealand), and horses for other purposes (109 valued at $53,000). Horses imported into Australia in 1965–66 (560 valued at $1,773,000) were mainly from New Zealand and the United Kingdom.

Pastoral products: wool

With about one-sixth of the world's woolled sheep, Australia produces almost one-third of the world's wool and more than half the world's fine-quality merino wool. The bulk of the production is exported, mainly as greasy wool, although substantial amounts of scoured and carbonised wool, wool on sheep skins and small quantities of semi-manufactured wool are also shipped. The important position held by Australia among the principal sheep and wool producing countries of the world is shown in the table on page 968.

Wool marketing

Details of past wool marketing schemes and agreements, including the 1914–18 War Imperial Purchase Scheme, the British Australian Wool Realization Association Ltd, the 1939–45 War Acquisition Scheme, Joint Organization, and Minimum Reserve Price Plan, are given in previous issues of the Year Book.

More than ninety per cent of the Australian wool clip is disposed of at auction. (During both world wars, however, auction selling was suspended and replaced by bulk purchase schemes.) There are fourteen recognised wool-selling centres, namely Sydney, Goulburn, Newcastle, Albury, Melbourne, Geelong, Ballarat, Portland, Brisbane, Adelaide, Perth, Albany, Hobart, and Launceston. At these centres wool-selling brokers operate large stores where wool received from growers is held awaiting sale.

Each year a wool-selling programme is drawn up jointly by the selling brokers and wool-buyers on the basis of the expected clip. Selling dates and the quantities to be offered are then determined for each centre. Before each sale the selling brokers, who act as agents for the wool-growers, display a representative portion of the wool to be sold on show floors for buyers' inspection and valuation. Auction sales are attended by buyers purchasing on behalf of wool users in more than fifty countries.

Wool Marketing Committee of Inquiry

In 1961 the Commonwealth Government appointed an independent committee to inquire into the marketing and promotion of Australian wool and related matters (*see* Year Book No. 48, page 977, for further details). The Committee presented its report to the Government in 1962. Its most important recommendation was that wool promotion, research and testing should be brought under the control of a single body, which should also act as an advisory authority on wool marketing. This recommendation was implemented under the *Wool Industry Act* 1962–1966 which set up the Australian Wool Board.

Australian Wool Board

This Board consists of a chairman, six woolgrower representatives, three members with special qualifications, and a representative of the Commonwealth Government. The first chairman of the Board was appointed by the Minister for Primary Industry after consultation with the Australian Wool Industry Conference (*see* below), but subsequent chairmen are to be appointed on the nomination of the Board. The six woolgrower representatives are appointed by the Minister on the nomination of the Wool Industry Conference, and the three members with special qualifications are appointed from a panel of names submitted by the Conference. The Act provides that the latter members must be experienced in one of the following fields: wool marketing and manufacturing, research, finance, and commerce.

When the Board came into being on 1 May 1963 it took over the functions of the Australian Wool Bureau. On 1 July 1963 the Australian Wool Testing Authority became part of the Board, and on 1 January 1964 the Board took over the functions of the Wool Research Committee. Information on these three former instrumentalities appears in Year Book No. 48, pages 977–81.

Following the organisational changes carried out under the Wool Industry Act, the functions of the Board embrace the following activities.

Wool promotion in Australia and overseas by publicity and other means. Promotion overseas is carried out through the International Wool Secretariat, which is maintained jointly by the Wool Boards of Australia, New Zealand and South Africa.

Provision of a testing service for wool and wool products. This service is administered by a subsidiary board retaining the name Australian Wool Testing Authority.

Administration of wool research. The Board is responsible for preparing annual programmes of research expenditure which are subject to the approval of the Minister for Primary Industry. Two committees established by the Board, the Wool Production Research Advisory Committee and the Wool Textile Research Advisory Committee, assist in this task.

Investigation into all aspects of wool marketing on a continuing basis. The Wool Marketing Committee, an ancillary body appointed by the Board, assists in carrying out this function. The Board is required to report to the Australian Wool Industry Conference on its findings and advise it on measures which should be adopted to meet changing marketing conditions. However, the Board has no executive powers over marketing.

In July 1964 the Board, after an investigation by the Wool Marketing Committee, made recommendations to the Australian Wool Industry Conference for the introduction of a Reserve Price Plan for wool, which were put to woolgrowers in a referendum in December 1965. For details *see* Year Book No. 52, page 945.

Maintenance and administration of the wool stores which were entrusted to the Board by the Commonwealth Government. Further details concerning these stores appear in Year Book No. 48, page 978.

Other activities approved by the Minister for the benefit of the wool industry, including the operation of the Wool Statistical Service and the registration of wool classers. The Wool Statistical Service (described in more detail in Year Book No. 48, pages 977–8) provides comprehensive statistics on the Australian wool clip, while the registration of wool classers is designed to improve the standards of wool classing in Australia.

At present the main sources of finance for the various activities of the Board are a levy paid by woolgrowers and contributions by the Commonwealth Government.

The Australian Wool Industry Conference

This body was formed by woolgrowers in October 1962 to meet the need for an organisation with sufficient authority to speak on behalf of the woolgrowing industry as a whole. It is not a statutory body and consists of twenty-five members each from the Australian Woolgrowers' and Graziers' Council and the Australian Wool and Meat Producers' Federation, and, from October 1965, five members from the Australian Primary Producers' Union. The fifty-five member conference is presided over by an independent chairman.

The Conference makes recommendations to the Commonwealth Government on policy matters concerning the wool industry. Under the Wool Industry Act it is the responsibility of the Conference to nominate woolgrower representatives for appointment to the Australian Wool Board and to prepare panels of names from which the three Board members with special qualifications are selected. Under the Wool Tax Acts (*see* below) the Conference is also responsible for recommending to the Commonwealth Government what rates of levy should be paid by woolgrowers to finance the activities of the Wool Board.

Wool levy

Since 1936 a statutory levy has been collected from woolgrowers to finance wool promotion activities. The initial rate of 5c a bale was increased at the request of woolgrowers to 20c a bale in 1945 and 40c a bale in 1952, the latter rate continuing until 1960. Further details regarding the operation of this levy prior to 1957 appear in Year Book No. 48, page 978.

Under legislation passed in 1957 provision was also made for the payment by woolgrowers of a contribution for wool research which was fixed at 20c a bale. In 1960 the wool promotion levy was raised to 50c a bale, and the following year it was increased further to $1 a bale. The operation of this rate was subsequently extended for 1962–63 and 1963–64.

On 1 July 1964 the basis of collecting the woolgrowers' combined levy for wool promotion and research was changed from the existing unit charge per bale to a percentage of the gross sale value of the wool. The maximum rate was set at 2 per cent and provision was made for annual adjustments to the operative rate, not greater than that maximum, to yield the required amounts. At the same time the levy for wool promotion was increased from $1 a bale to the equivalent of $2.70 a bale, but the levy for research remained unchanged at the equivalent of 20c a bale. For 1964–65 the rate for the combined levy for wool promotion and research was set at $1\frac{7}{8}$ per cent and for 1965–66 and 1966–67 it was at the full rate of 2 per cent. In February 1967 the Australian Wool Industry Conference agreed that the collection of the levy on the basis of a percentage of the gross sale value of wool should continue for the three years commencing 1967–68. The 2 per cent maximum rate of levy is to be retained as are the provisions for annual adjustments to the operative rates.

The imposition and collection of the combined levy from woolgrowers is governed by six complementary Acts, the Wool Tax Acts (Nos. 1 to 5) 1964 and the *Wool Tax Administration Act* 1964–1966.

Commonwealth Government's contributions to wool research and promotion

In 1945 the Commonwealth Government commenced contributing on a statutory basis to wool research. Initially the contribution was at the rate of 20 cents a bale, but this was doubled in 1957 to 40 cents a bale. At this rate the Commonwealth Government contributed about $2,000,000 to wool research in 1965–66, and a similar sum is expected to be provided in 1966–67.

Prior to 1964–65 the Commonwealth Government had not contributed to wool promotion. However, following representations made by the Australian Wool Industry Conference, the Commonwealth Government undertook to provide assistance to the Australian Wool Board to finance its commitment to the vastly expanded wool promotion activities of the International Wool Secretariat. The five-year wool promotion programme, announced by the Secretariat, envisaged an increase in the Wool Board's annual contribution to overseas wool promotion campaigns from the then level of $5,000,000 to about $20,000,000.

In October 1963 the Commonwealth Government agreed to match on a $1 for $1 basis any increase in contributions by wool growers for wool promotion in excess of the levy of $1 a bale then in force. This arrangement operated from 1 July 1964 and was to be reviewed at the end of the period. In January 1964 the Wool Industry Conference agreed to increase the growers' levy to the equivalent of $2.70 a bale, which resulted in a Commonwealth commitment of $1.70 a bale. In aggregate this commitment required a Commonwealth contribution for promotion of about $8,500,000 a year, commencing in 1964–65.

In November 1966 the Commonwealth Government stated that during the three years commencing July 1967 it would match the total funds contributed by woolgrowers for wool promotion and research on a $1 for $1 basis up to a maximum of $14,000,000 a year for both promotion and research. This offer was formally accepted by the Wool Industry Conference in February 1967.

Wool production

Wool as shorn from the sheep contains an appreciable amount of grease, dirt and other extraneous matter, and is termed 'greasy wool'. The quantity of grease and other matter in a fleece differs not only between countries, but between districts in the same country. It fluctuates with the vagaries of the season, and with the breed and the condition of the sheep. To allow for this factor, the weight of greasy wool is sometimes given on a 'clean' basis, i.e. minus the estimated amount of impurities. The net wool fibre content of greasy wool, expressed as a percentage, is termed 'clean yield'.

From 1946–47 to 1952–53 the Australian Wool Realization Commission, and from 1953–54, the Wool Statistical Service, have assessed annually the clean yield of the Australian wool clip. During the period of assessment the clean yield showed a continuous rise up to 1951–52, when it reached 57.5 per cent. It has since fluctuated between 55.8 per cent and 57.7 per cent. It was 56.4 per cent in 1965–66.

Wool scoured, washed and carbonised in Australia before export, however, has a clean yield somewhat lower than for the whole clip, because the grade of greasy wool treated locally for export as scoured, washed or carbonised includes a large proportion of dirty and low-grade wool. In recent years it has been slightly over 50 per cent. The quantity of this wool exported during 1965–66 was about 11 per cent of the total raw wool exports (excluding wool exported on skins) in terms of greasy. For the clean yield of Australian scoured wools exported a standard factor of 93 per cent is taken.

The production of wool in the States and Territories varies broadly in accordance with the number of sheep depastured and with seasonal conditions which affect clip per head (*see* page 962). In general, however, South Australia obtains from its large-framed Merinos a much heavier fleece per sheep than the Australian average. In addition, as a result of better management (improved pastures, fodder conservation, better breeding, control of diseases, etc.), the long-term trend has been towards higher fleece weights, although the Australian average for sheep and lambs combined in 1965–66, at 8.54 lb, was the lowest since 1957–58 when it was 8.22 lb.

The following table shows details of total wool (i.e. shorn, dead and fellmongered, and exported on skins) produced by each of the States and Territories during the years 1961–62 to 1965–66 compared with averages for the three-year periods ended 1938–39, 1948–49 and 1958–59. A graph showing the production of wool in relation to sheep numbers from 1870 onwards appears on plate 47 opposite.

PRODUCTION OF WOOL (GREASY BASIS): STATES AND TERRITORIES, 1936–37 TO 1965–66

('000 lb)

Period	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Average for three years ended—									
1938–39	478,595	169,256	169,325	88,699	73,141	15,728	35	1,822	996,601
1948–49	439,363	200,229	151,679	108,126	95,031	16,272	305	1,927	1,012,932
1958–59	633,938	298,302	217,062	187,225	160,402	30,141	277	2,371	1,529,718
Year—									
1961–62	701,168	330,716	230,333	206,985	192,161	34,469	98	2,645	1,698,575
1962–63	693,734	316,705	233,638	207,344	184,123	34,561	100	2,343	1,672,548
1963–64	731,316	334,288	255,386	210,500	216,574	34,007	91	2,552	1,784,714
1964–65	706,061	361,530	251,426	215,736	207,035	39,671	89	2,475	1,784,023
1965–66	579,475	366,943	192,773	232,296	247,530	41,858	88	1,873	1,662,836

The bulk of the Australian wool production (about 91 per cent in recent years) is shorn from live sheep. The remainder is obtained by fellmongering (about 2 per cent) or is exported on skins (about 7 per cent). The following table shows details of total wool production according to method of obtaining wool, and also the gross value of wool produced. Gross value is based, for shorn wool, upon the average price realised for greasy wool sold at auction and, for skin wools, on prices recorded by fellmongers and skin exporters.

QUANTITY (GREASY BASIS) AND VALUE OF WOOL PRODUCED AUSTRALIA, 1936-37 TO 1965-66

Period	Shorn (incl. crutchings)	Dead and fell-mongered	Exported on skins	Total production	
				Quantity	Value
	'000 lb	'000 lb	'000 lb	'000 lb	$'000
Average for three years ended—					
1938–39	889,338	49,280	57,983	996,601	106,850
1948–49	902,007	50,660	60,265	1,012,932	305,072
1958–59	1,411,424	36,804	81,490	1,529,718	788,290
Year—					
1961–62	1,546,318	36,192	116,065	1,698,575	745,108
1962–63	1,515,932	32,854	123,762	1,672,548	800,524
1963–64	1,631,962	28,688	124,064	1,784,714	1,023,442
1964–65	1,629,412	26,865	127,746	1,784,023	840,552
1965–66	1,503,457	24,411	134,968	1,662,836	808,437

Average fleece weight

The average weights of sheep and lamb fleeces shorn in each of the States and Territories of Australia are shown in the following table for each season from 1961–62 to 1965–66.

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SHEEP NUMBERS AND WOOL PRODUCTION

AUSTRALIA, 1870 TO 1966

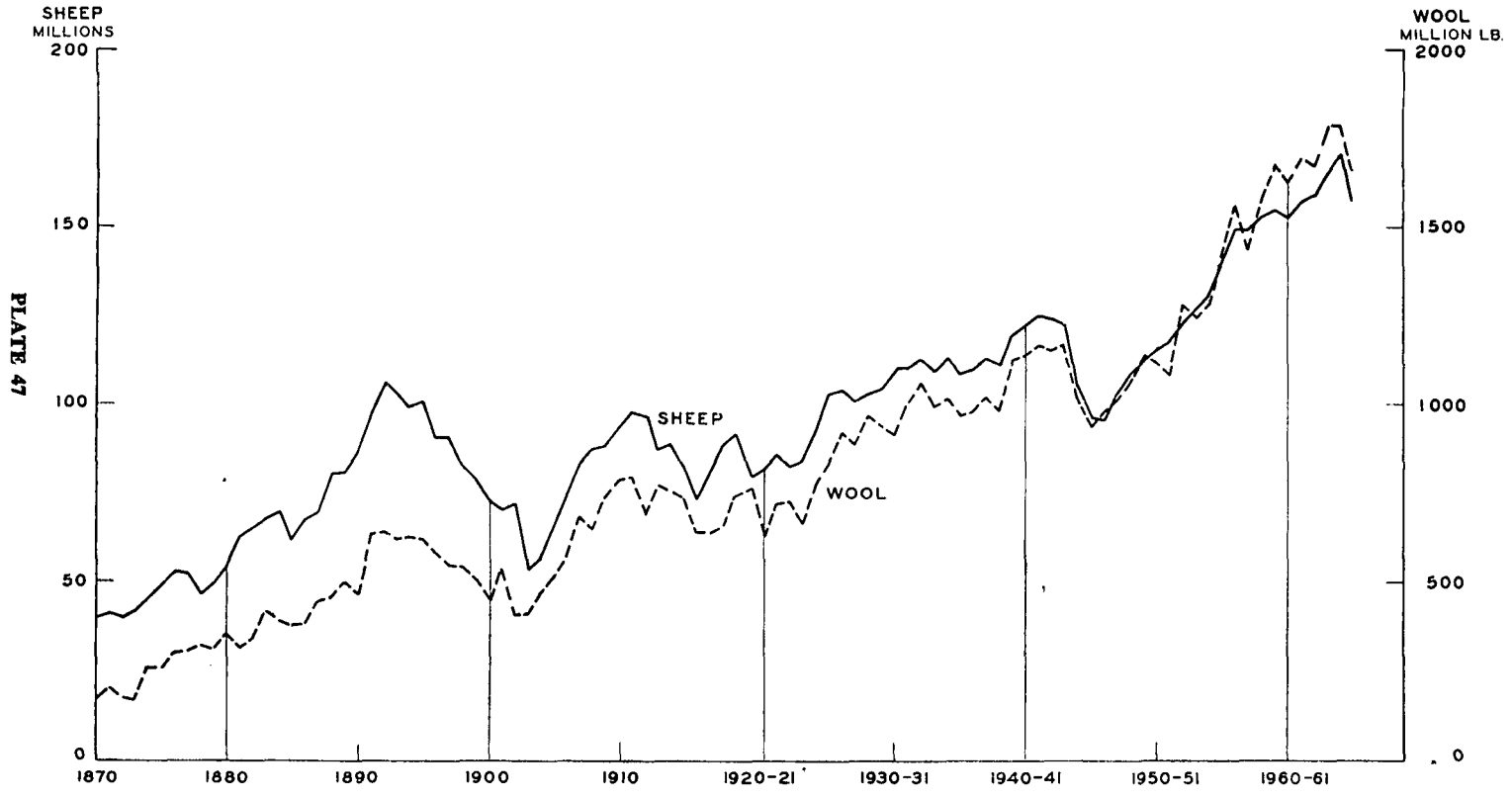


PLATE 47

AVERAGE WEIGHT OF FLEECES SHORN (SHEEP AND LAMBS) STATES AND TERRITORIES, 1961-62 TO 1965-66

(lb)

State or Territory	1961–62	1962–63	1963–64	1964–65	1965–66
SHEEP					
New South Wales	10.06	9.94	10.19	9.81	8.65
Victoria	10.17	9.59	10.09	10.08	9.63
Queensland	9.89	9.83	10.41	9.65	8.79
South Australia	12.86	12.29	12.89	12.49	12.72
Western Australia	10.90	10.09	11.46	10.06	10.74
Tasmania	9.39	9.44	9.14	10.64	10.34
Northern Territory	8.50	10.94	10.36	9.26	8.13
Australian Capital Territory	9.87	8.88	9.59	9.07	7.33
Australia	**10.41**	**10.11**	**10.60**	**10.15**	**9.63**
LAMBS					
New South Wales	3.30	3.34	3.39	3.34	2.99
Victoria	2.92	2.82	2.76	2.97	2.72
Queensland	3.89	3.85	3.99	3.78	3.56
South Australia	3.81	3.63	3.71	3.79	3.73
Western Australia	2.84	2.55	2.91	2.69	2.90
Tasmania	2.23	2.35	2.12	2.31	2.48
Northern Territory	2.33	5.00	4.34	3.88	3.00
Australian Capital Territory	1.66	1.80	1.61	1.93	1.82
Australia	**3.25**	**3.20**	**3.26**	**3.24**	**3.03**

Classification of wool according to quality

The following table provides a detailed analysis of wool sold at auction, according to quality, for the years 1961–62 to 1965–66. These data are compiled by the Wool Statistical Service on the basis of catalogues of auction sales. 'Quality' ('64's, 60's, 58's,' etc.) is a measure of the fineness and texture of wool for spinning purposes. Broadly, it means the maximum number of hanks of yarn, each of 560 yards length, which can be spun from 1 lb of combed wool. For instance, wool of 64's quality is of a fineness and texture which will produce 64 hanks, each of 560 yards, from 1 lb of tops (combed wool) of that particular wool.

CLASSIFICATION OF GREASY WOOL SOLD AT AUCTION(*a*): AUSTRALIA 1961-62 TO 1965-66

(Bales of approximately 300 lb)

Predominating quality	1961–62		1962–63		1963–64		1964–65		1965–66	
	Quantity	Per cent	Quantity	Per cent	Quantity	Per cent	Quantity	Per cent	Quantity	Per cent
70's and finer	115,434	2.4	138,238	3.0	132,620	2.7	145,267	2.9	149,305	3.3
64/70's	381,683	8.0	413,195	8.9	373,658	7.6	409,279	8.2	402,134	8.8
64's	572,549	12.1	582,315	12.5	567,559	11.6	620,453	12.5	576,499	12.7
64/60's	475,487	10.0	469,010	10.1	482,770	9.9	486,575	9.7	373,796	8.2
60/64's	1,048,912	22.1	1,043,674	22.4	1,149,957	23.4	1,108,668	22.2	896,070	19.7
60's and 60/58's	915,501	19.3	854,771	18.4	964,274	19.7	930,821	18.7	900,760	19.8
Total, 60's and finer	*3,509,566*	*73.9*	*3,501,203*	*75.3*	*3,670,838*	*74.9*	*3,701,063*	*74.2*	*3,298,564*	*72.5*
58's	578,588	12.2	527,493	11.3	566,904	11.6	586,708	11.8	591,790	13.0
56's	383,238	8.1	353,344	7.6	382,384	7.8	406,878	8.2	386,169	8.5
50's	146,657	3.1	135,256	2.9	141,638	2.9	153,079	3.1	133,574	2.9
Below 50's	49,875	1.1	45,631	1.0	45,675	0.9	51,534	1.0	44,887	1.0
Oddments	75,708	1.6	86,058	1.9	92,622	1.9	82,742	1.7	94,268	2.1
Grand total	**4,743,632**	**100.0**	**4,648,985**	**100.0**	**4,900,061**	**100.0**	**4,982,004**	**100.0**	**4,549,252**	**100.0**

(*a*) All greasy wool sold at auction except 'wool re-offered account buyer'.

Price and value

During 1965–66 the price of greasy wool sold in the selling centres of Australia averaged 50.1c per lb compared with the average price of 47.8c per lb in 1964–65 and 58.1c per lb in 1963–64. These prices are as compiled by the National Council of Wool Selling Brokers and represent the average price realised for all greasy wool, of whatever type or quality, marketed during the years indicated.

Fluctuation in Australian wool prices has a marked effect on the nation's rural and national income. In 1945–46 the gross value of wool production was $117,194,000, representing 17.4 per cent of the gross value of production of all rural industries, while in 1950–51, when prices reached a peak, wool was valued at $1,303,804,000 or 55.6 per cent of the total value of production for all rural industries. The value of wool production fluctuated considerably in subsequent years. In 1965–66 it was $808,437,000, 24.1 per cent of the gross value of production of rural industries.

ESTIMATED GROSS VALUE OF TOTAL WOOL PRODUCTION: STATES AND TERRITORIES, 1961-62 TO 1965-66(*a*)

($'000)

Season	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
1961–62	309,840	148,438	101,274	85,800	82,520	15,752	36	1,448	745,108
1962–63	332,340	158,012	115,462	92,514	82,988	17,772	40	1,396	800,524
1963–64	416,834	208,700	141,458	113,410	119,862	21,352	50	1,776	1,023,442
1964–65	336,675	176,041	117,218	94,328	95,804	19,051	39	1,396	840,552
1965–66	278,295	193,797	90,961	103,638	118,198	22,405	41	1,105	808,437

(*a*) Includes shorn, dead and fellmongered wool and wool exported on skins.

Stocks of wool

Stocks of raw wool held in Australia at 30 June 1966 amounted to 291.0 million lb (greasy basis), of which 66.3 million lb (41.6 million lb as greasy and 24.7 million lb as scoured and carbonised) was held by woollen mills, wool scourers and fellmongers, and 224.7 million lb, assumed to be all greasy, was held by brokers. Of the wool held by brokers, 62.9 million lb was unsold wool and 161.8 million lb was sold wool held awaiting shipment. These stocks exclude wool on skins, since this wool is not recorded as production until fellmongered in Australia or exported on skins.

Consumption of wool

Statistics of raw wool consumption published in recent years for the purposes of broad international comparisons are based on the quantities of scoured or carbonised wool used on the woollen and worsted systems (mill consumption), plus quantities used in such processes as felting. Consumption estimates compiled on this basis have obvious defects, as they disregard overseas trade in semi-processed wool (e.g. tops and yarns) as well as woollen goods. Estimates of raw wool used on the woollen and worsted systems and by felt manufacturers in Australia are shown in the following table for the years 1961–62 to 1965–66.

ESTIMATED CONSUMPTION OF RAW WOOL: AUSTRALIA, 1961-62 TO 1965-66

('000 lb)

Year	Greasy basis			Clean equivalent		
	Used on woollen and worsted systems	Used for felt manufacture (including hats)	Total	Used on woollen and worsted systems	Used for felt manufacture (including hats)	Total
1961–62	117,555	4,328	121,883	70,682	2,056	72,738
1962–63	120,238	3,868	124,106	72,295	1,837	74,132
1963–64	124,591	3,568	128,159	74,441	1,695	76,136
1964–65	116,179	2,826	119,005	71,206	1,342	72,548
1965–66	115,199	2,016	117,215	70,606	958	71,564

As considerable quantities of tops, noils and yarn are exported from Australia, the series on raw wool consumption shown above is over-stated to this extent. The series entitled 'Estimated consumption of processed wool in Australia' provides a more reliable indication of wool consumption in Australia, as allowance has been made for exports of wool in semi-processed form. This series is shown in the following table for the years 1961–62 to 1965–66. Briefly, the series measures consumption of wool in terms of yarn used in Australian mills and other factories to produce woollen cloth and other woollen goods, yarn used for hand knitting purposes, and scoured wool used for felt manufacture. No allowance has been made for overseas trade in woollen piece goods, clothing, etc., because of the obvious difficulties of estimating accurately the wool content of these products.

ESTIMATED CONSUMPTION OF PROCESSED WOOL: AUSTRALIA 1961-62 TO 1965-66

('000 lb)

Year	Greasy basis				Clean equivalent			
	Worsted yarn used (*a*)(*b*)	Woollen yarn used (*b*)	Scoured wool used for felt manufacture (including hats)	Total	Worsted yarn used (*a*)(*b*)	Woollen yarn used (*b*)	Scoured wool used for felt manufacture (including hats)	Total
1961–62	45,173	29,316	4,328	78,817	26,543	18,143	2,056	46,742
1962–63	45,967	31,835	3,868	81,670	27,135	19,753	1,837	48,725
1963–64	45,733	31,061	3,568	80,362	26,686	19,150	1,695	47,531
1964–65	46,179	33,958	2,826	82,963	27,910	21,224	1,342	50,476
1965–66	39,976	36,326	2,016	78,318	24,162	22,704	958	47,824

(*a*) Includes hand knitting yarns used. (*b*) Includes wool content of yarns containing a mixture of wool and other fibres.

Quantities of wool exported

Of the total shipments of greasy and slipe wool in 1965–66, 35 per cent went to Japan, 10 per cent to Italy, 10 per cent to the United Kingdom, 10 per cent to France and 7 per cent to the Federal Republic of Germany.

EXPORTS OF GREASY AND SLIPE WOOL: AUSTRALIA, 1961-62 TO 1965-66

('000 lb actual weight)

Country of consignment	1961–62	1962–63	1963–64	1964–65	1965–66
Japan	416,970	386,956	433,944	424,175	467,587
Italy	146,369	119,409	127,556	95,175	137,405
United Kingdom	207,660	204,412	229,308	192,961	133,696
France	138,483	131,769	138,798	122,283	130,903
Germany, Federal Republic of	66,773	74,474	86,350	85,944	91,006
Belgium-Luxembourg	108,699	98,572	101,699	106,391	88,802
United States of America	35,024	46,314	27,590	67,093	72,720
U.S.S.R.	40,753	49,445	45,595	50,681	29,542
Poland	33,711	21,662	22,600	22,983	28,441
Mexico	15,225	15,126	19,085	28,065	21,747
Other	120,468	130,829	150,276	140,648	122,490
Total	**1,330,135**	**1,278,968**	**1,382,801**	**1,336,399**	**1,324,339**

EXPORTS OF SCOURED AND WASHED AND CARBONISED WOOL
AUSTRALIA, 1961-62 TO 1965-66

('000 lb actual weight)

Country of consignment	1961–62	1962–63	1963–64	1964–65	1965–66
United States of America	20,564	25,469	23,063	27,834	27,671
United Kingdom	15,344	17,497	17,566	12,812	14,521
Italy	9,636	8,582	8,340	6,292	7,928
Germany, Federal Republic of	8,267	7,314	7,517	8,997	7,531
Japan	7,055	5,796	4,891	4,122	5,594
Iran	2,322	3,173	2,428	3,513	4,668
Canada	5,470	2,981	3,398	4,966	2,925
France	5,089	4,251	3,205	3,268	2,877
Hong Kong	60	459	1,435	792	2,439
China, Republic of (Formosa)	753	1,010	2,011	1,853	1,858
Belgium-Luxembourg	1,566	1,541	1,413	2,466	1,703
Other	23,178	23,840	12,950	10,538	9,048
Total	**99,304**	**101,913**	**88,217**	**87,453**	**88,763**

EXPORTS OF CARDED OR COMBED WOOL, NOILS AND WOOLWASTE
AUSTRALIA, 1961-62 TO 1965-66

('000 lb actual weight)

	1961–62	1962–63	1963–64	1964–65	1965–66
Carded or combed—Tops	21,438	21,631	25,932	19,232	22,909
Other		10	177	17	175
Noils	3,957	4,794	5,006	4,066	3,734
Waste—Soft wool	2,580	3,121	2,661	2,393	2,734
Hard wool	2,154	3,181	3,448	2,595	2,891

The following table shows the estimated greasy and clean weights of exports of raw and semi-processed wool for the years 1961–62 to 1965–66. As the figures in the following table are in terms of 'greasy' or 'clean' basis, they differ from those in the preceding tables which represent actual weight shipped.

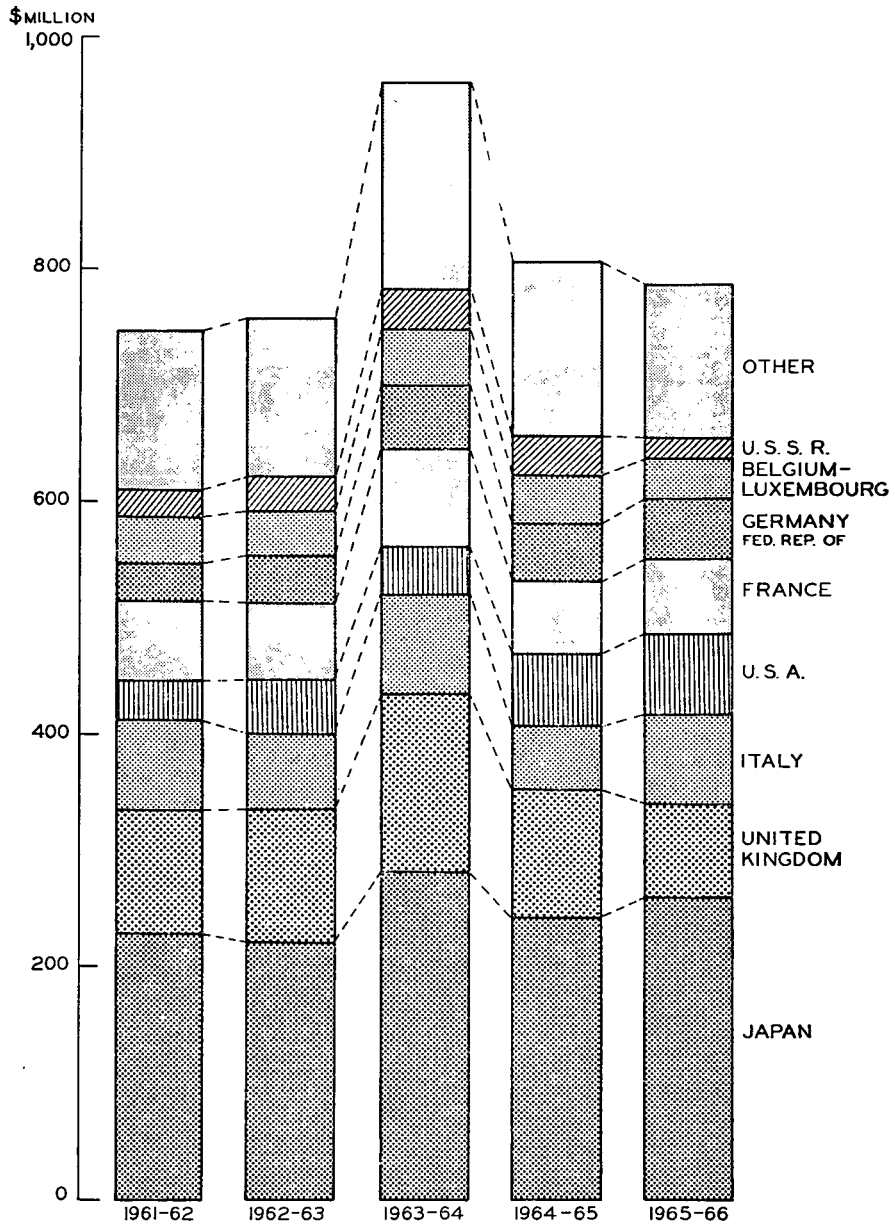
EXPORTS OF WOOL—GREASY AND CLEAN BASES: AUSTRALIA
1961-62 TO 1965-66

('000 lb)

	1961–62	1962–63	1963–64	1964–65	1965–66
GREASY BASIS					
Raw wool—					
Greasy and slipe	1,328,343	1,279,334	1,383,271	1,336,920	1,324,764
Scoured and washed and carbonised	184,249	191,208	162,272	160,779	163,162
Exported on skins	116,065	123,762	124,064	127,746	134,968
Total raw wool	*1,628,657*	*1,594,304*	*1,669,607*	*1,625,445*	*1,622,894*
Semi-processed wool—					
Tops	40,089	39,368	46,445	32,694	38,969
Yarn	425	436	707	354	530
Total raw and semi-processed wool	**1,669,171**	**1,634,108**	**1,716,759**	**1,658,493**	**1,662,393**

VALUE OF WOOL EXPORTS(a)

AUSTRALIA, 1961-62 TO 1965-66



(a) EXCLUDES WOOL EXPORTED ON SHEEPSKINS

PLATE 48

EXPORTS OF WOOL—GREASY AND CLEAN BASES: AUSTRALIA
1961–62 TO 1965–66—*continued*

('000 lb)

	1961–62	1962–63	1963–64	1964–65	1965–66
CLEAN EQUIVALENT					
Raw wool	936,749	912,148	969,007	935,755	926,819
Semi-processed wool	24,039	23,394	27,389	19,819	23,684
Total	**960,788**	**935,542**	**996,396**	**955,574**	**950,503**

Value of wool exported

The value of wool (other than wool on sheepskins) exported from Australia during 1965–66 was 30 per cent of the total value of exports of merchandise of Australian origin, while the proportion for the five years ended 1965–66 averaged 33 per cent. The value for the five years ended 1965–66, together with the principal countries to which wool was exported, is shown in the following table.

VALUE OF WOOL EXPORTS: AUSTRALIA(*a*), 1961–62 TO 1965–66

($'000)

Country of consignment	1961–62	1962–63	1963–64	1964–65	1965–66
Japan	229,132	222,234	282,172	242,549	259,731
United Kingdom	106,582	114,004	153,528	110,015	79,857
Italy	77,054	65,260	84,014	54,515	76,630
United States of America	33,732	45,904	41,240	62,233	68,749
France	64,902	66,538	83,134	61,799	64,990
Germany, Federal Republic of	34,916	40,940	55,830	50,179	51,174
Belgium-Luxembourg	40,600	37,906	48,268	42,664	34,059
U.S.S.R.	22,898	29,142	33,990	31,681	18,588
Other	135,238	136,784	178,704	150,215	131,066
Total	**745,054**	**758,712**	**960,880**	**805,850**	**784,844**

(*a*) Excludes wool exported on sheepskins.

World sheep numbers and wool production

The following table shows particulars of the woolled sheep numbers and total production of wool, in terms of greasy, in the principal wool-producing countries of the world, together with estimates of world production of merino, crossbred, and carpet type wool for the latest available years.

In 1965–66 Australia produced 29 per cent of the world total of all types of wool. Other principal wool producers were New Zealand with 12 per cent of the world total, Argentina, 8 per cent, South Africa, 6 per cent, and United States of America, 4 per cent. Production in the U.S.S.R., China and eastern European countries together amounted to 20 per cent.

Australia's wool clip is predominantly merino. New Zealand and Argentina produce mainly crossbred wool, while the clip of the U.S.S.R. is largely of the carpet type.

ESTIMATED WORLD WOOLLED SHEEP NUMBERS AND PRODUCTION OF WOOL, 1963-64 TO 1965-66

(*Source* for countries other than Australia: Reports published by the Commonwealth Secretariat, London)

Country	Sheep numbers (million)			Wool production (million lb—greasy basis)		
	1963–64	1964–65	1965–66 (*a*)	1963–64	1964–65	1965–66
Australia	165	171	158	1,785	1,784	1,663
New Zealand	51	54	57	617	623	695
Argentina	48	48	49	395	419	430
South Africa	36	37	38	303	296	326
United States of America	28	25	25	281	255	241
Uruguay	23	22	22	192	187	185
United Kingdom	30	30	30	127	127	129
U.S.S.R., China, Eastern Europe(*b*)	239	231	236	1,149	1,101	1,136
Other	310	312	312	884	893	908
World total	**930**	**930**	**927**	**5,733**	**5,685**	**5,713**
Type of wool—						
Apparel type—						
Merino				2,349	2,319	2,263
Crossbred				2,189	2,158	2,222
Carpet type				1,195	1,208	1,228

(*a*) Provisional. (*b*) This group comprises Albania, Bulgaria, China and Dependencies, Czechoslovakia, East Germany, Hungary, Outer Mongolia, Poland, Romania, Tibet, and U.S.S.R.

Principal importing countries and sources of supply

The following table, prepared from information published by the Commonwealth Secretariat, furnishes, in respect of the principal importing countries, details of their imports of wool for 1965 together with the chief sources of supply. The quantities imported refer to the actual weight of wool, without distinguishing between greasy and scoured, except in the case of the United States of America, where estimated clean content of raw wool is quoted.

PRINCIPAL WOOL IMPORTING COUNTRIES AND SOURCES OF SUPPLY, 1965

(*Source:* Information published by the Commonwealth Secretariat, London)

(Million lb)

Importing country	Quantity imported from— (*a*)					Total imports
	Australia	New Zealand	Argentina	South Africa	Other countries	
United Kingdom	182.5	135.3	45.0	45.7	149.8	558.3
Japan	453.6	38.4	16.6	33.6	4.5	546.7
France	145.3	94.8	21.7	50.8	16.2	328.8
Italy	117.9	33.5	23.8	32.0	56.5	263.7
Belgium	108.0	49.8	18.2	0.8	47.0	223.8
Germany, Federal Republic of	88.9	32.8	14.9	36.1	50.1	222.8
United States of America(*b*)	71.9	67.3	47.1	22.9	61.8	271.0

(*a*) Actual weight of greasy and scoured wool. (*b*) Imports are in terms of estimated clean content of greasy and scoured wool. Actual weight of total United States of America imports was 369.2 million lb.

As a considerable transit trade exists between European countries, it must not be assumed that the whole of the imports recorded by these countries is retained for their own consumption. The countries chiefly concerned with the transit trade are the United Kingdom and Belgium.

Pastoral products: meat

Australian Meat Board

The Australian Meat Board, which was re-constituted under the *Meat Industry Act* 1964–1966, is the body responsible for controlling the external marketing of Australian beef, mutton and lamb. Powers and membership of the Board prior to its re-constitution in 1964 are set out on page 801 of Year Book No. 40. The Board's primary function is to ensure that Australian meat exports are marketed in a manner which will safeguard the long-term interests of the Australian meat industry. It consists of representatives of producers, exporters and the Commonwealth Government, and an independent Chairman.

The Board regulates overseas marketing of Australian meat by means of an export licensing system. It has power of control over the kinds of meat that may be exported by licensed exporters to particular places, or to particular agents and representatives. The Board also has power to undertake measures to promote the sale and consumption of meat both in Australia and overseas, and it may purchase and sell meat in its own right for the purpose of market development. However, the exercise of this power is limited to activities aimed at meeting special marketing problems or circumstances which preclude the effective participation of private traders. The Board may also purchase and sell meat, with the approval of the Minister for Primary Industry, for the purpose of administering any international arrangements to which Australia may be a party. *See also* Livestock Slaughter Levy, page 956.

United Kingdom long-term purchase arrangements

Details of the long-term meat contracts with the United Kingdom from 1939 to 1952 and of the Fifteen Year Meat Agreement (1952–67) are given on page 710 of Year Book No. 41 and in earlier issues. In September 1953 the trade in meat between the United Kingdom and Australia reverted to private traders. The main features of the arrangements were given in Year Book No. 47, page 960. Details of minimum prices operating and deficiency payments received in recent years under private trading appear in Year Book No. 48 (page 973) and No. 50 (page 1068).

Lamb Guarantee Scheme

Since the 1962–63 lamb export season the Australian Meat Board has guaranteed exporters a minimum price on all lambs 36 lb and under shipped to the United Kingdom. For the 1962–63 and 1963–64 seasons these prices were set at 15c per lb f.o.b. for the period September to November and 13.8c per lb for the following three months, December to February. For the 1964–65 and 1965–66 lamb export seasons the corresponding prices were 15 8c per lb and 14.6c per lb. For the 1966–67 season the prices were set at 16.0c per lb and 14.5c per lb. The higher guaranteed price for the initial period is aimed at stimulating early shipments of lamb, because normally the most opportune time for selling Australian lamb in the United Kingdom market is early in the export season. Any commitment by the Board is payable from moneys accrued in the Lamb Deficiency Payments Account under the Fifteen Year Meat Agreement.

United States-Australia Meat Agreement

In February 1964 the Governments of Australia and the United States concluded an agreement for the regulation of beef, veal and mutton exports from Australia to the United States with the object of promoting the orderly development of the trade in these classes of meat between the two countries. The agreement sought to preserve approximately the current pattern of trade in beef and mutton and to permit Australia to obtain a reasonable share of the expected market growth. Under the agreement Australia undertook to limit its exports of beef, veal and mutton to the United States to 242,000 tons in 1964, 251,000 tons in 1965, and 260,000 tons in 1966. There is provision for this figure to be increased in succeeding years in accordance with the estimated rate of increase in the total United States meat market. The agreement is subject to review every three years.

In August 1964 the United States Congress passed a Bill providing for the imposition of quotas on imports of beef and veal, mutton and goatmeat from all sources, in 1965 and subsequent years, if imports of these items are estimated by the United States Department of Agriculture to equal or exceed 110 per cent of a basic quantity. The basic quantity, 323,840 tons, is approximately the average of imports from 1959 to 1963. This quantity may be increased or decreased in any future calendar year by a percentage equal to that by which the United States average annual commercial production of beef and veal, mutton and goatmeat has changed since the base period 1959-1963. For this purpose the level of domestic production is the average of estimated commercial production for the year in which quotas may be applied and the two

preceding years. An increase of 24.7 per cent in the basic quantity was set for 1967, providing for allowable imports of approximately 403,800 tons (397,300 tons in 1966) and an import ceiling, at which quotas would be established, of about 444,200 tons (437,000 tons in 1966). On the basis of the first official estimate of United States meat imports during 1967, the United States Secretary for Agriculture announced on 23 December 1966 that it would not be necessary to invoke meat import quotas for 1967. However, if a later quarterly estimate in 1967 indicated that the import ceiling would be equalled or exceeded then quotas could be imposed.

Cattle slaughtered

The numbers of cattle slaughtered during each of the years ended June 1962 to 1966 compared with averages for the three-year periods ended June 1939, 1949 and 1959, are shown in the following table.

CATTLE (INCLUDING CALVES) SLAUGHTERED
STATES AND TERRITORIES, 1936-37 TO 1965-66
('000)

Period	Slaughterings passed for human consumption									Total slaughterings including boiled down
	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.	
Average for three years ended—										
1938–39	1,169	881	1,178	163	131	49	5	3	3,579	3,628
1948–49	1,094	759	1,119	168	146	42	14	4	3,346	3,378
1958–59	1,745	1,313	1,689	274	216	116	24	11	5,388	5,463
Year—										
1961–62	1,609	1,311	1,584	201	241	135	25	8	5,115	5,167
1962–63	1,809	1,562	1,804	254	308	158	24	12	5,931	5,995
1963–64	1,930	1,760	1,857	279	373	176	50	12	6,437	6,484
1964–65	2,157	1,879	1,960	275	327	174	59	13	6,844	6,902
1965–66	1,780	1,829	1,888	277	315	154	69	11	6,323	6,371

Production of beef and veal

Details of the production of beef and veal during each of the years ended June 1962 to 1966, compared with averages for the three-year periods ended June 1939, 1949 and 1959, are shown in the following table.

PRODUCTION OF BEEF AND VEAL (CARCASS WEIGHT)
STATES AND TERRITORIES, 1936-37 TO 1965-66
('000 tons)

Period	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Average for three years ended—									
1938–39	181	123	199	26	28	10	1	1	569
1948–49	160	106	206	27	30	9	3	1	542
1958–59	248	176	305	41	41	19	5	2	838
Year—									
1961–62	234	176	278	30	47	20	5	2	791
1962–63	263	214	314	36	56	24	5	2	914
1963–64	286	228	327	40	66	26	10	2	985
1964–65	303	246	326	37	57	26	12	2	1,010
1965–66	245	239	314	37	58	23	15	2	931

Consumption of beef and veal

The highest post-war consumption of beef and veal (including canned beef and veal) was 132.7 lb per head in 1956–57. With the buoyant overseas market for beef and the high prices ruling in Australia during the following four years, consumption per head fell substantially, and in 1960–61 amounted to only 88.3 lb. In 1965–66 consumption per head was 97.2 lb, of which 93.2 lb was carcass meat and 4.0 lb was canned meat (in terms of carcass equivalent).

PRODUCTION AND DISPOSAL OF BEEF AND VEAL (CARCASS WEIGHT) AUSTRALIA, 1936-37 TO 1965-66

Period	Net change in stocks	Production	Exports (a)	For canning	Apparent consumption in Australia	
					Total	Per head per year
	'000 tons	'000 tons	'000 tons	'000 tons	'000 tons	lb
Average for three years ended—						
1938–39	n.a.	569	121	18	430	140.3
1948–49	+ 2	542	102	67	373	109.1
1958–59	+ 5	838	209	85	538	123.8
Year—						
1961–62	+ 6	791	299	44	442	93.4
1962–63	..	914	385	45	485	100.5
1963–64	+ 4	985	423	44	515	104.8
1964–65	+ 3	1,010	457	48	502	100.2
1965–66	..	931	412	43	476	93.2

(a) Includes carcass equivalent of boneless beef exported and all fresh and frozen meat shipped as ships' stores.

Exports of beef and veal

In 1965–66 chilled beef exports were 95,000 lb valued at $37,000, while frozen beef exports amounted to 593,255,000 lb valued at $189,725,000.

While beef and veal were previously shipped largely in carcass form, there has been in recent years a substantial increase in the amount of boneless beef exported. From 1958–59 to 1965–66 the quantity of boneless beef shipped exceeded that exported in carcass form. The trade in boneless beef has been developed principally with the United States of America. Since 1958–59 the United States has surpassed the United Kingdom as the principal market for Australian beef exports, the United Kingdom now occupying second place. The total value of beef and veal shipped to these two countries during 1965–66 was $114,481,000 and $54,619,000 respectively.

EXPORTS OF FROZEN AND CHILLED BEEF AND VEAL(a): AUSTRALIA 1961-62 TO 1965-66

Year	Exports of frozen and chilled beef		Exports of frozen veal		Exports of frozen and chilled beef and frozen veal	
	Quantity	Value	Quantity	Value	Quantity	Value
	'000 lb	$'000 f.o.b.	'000 lb	$'000 f.o.b.	'000 lb	$'000 f.o.b.
1961–62	444,762	116,172	5,834	1,508	450,596	117,680
1962–63	576,504	155,962	7,624	2,074	584,128	158,036
1963–64	620,613	173,731	9,489	2,791	630,102	176,522
1964–65	679,989	192,404	27,919	7,958	707,908	200,363
1965–66	593,350	189,762	19,260	5,714	612,610	195,477

(a) Actual weight shipped, not carcass equivalent.

Sheep slaughtered

The following table shows the numbers of sheep slaughtered during each of the years ended June 1962 to 1966, compared with averages for the three-year periods ended June 1939, 1949 and 1959.

SHEEP (INCLUDING LAMBS) SLAUGHTERED: STATES AND TERRITORIES
1936-37 TO 1965-66
('000)

Period	Slaughterings passed for human consumption									Total slaughterings including boiled down
	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.	
Average for three years ended—										
1938–39	6,520	7,891	1,088	1,762	1,216	364	..	25	18,866	18,925
1948–49	6,367	6,413	1,066	1,863	1,458	396	3	47	17,613	17,650
1958–59	7,857	9,058	1,429	2,917	2,059	775	3	71	24,169	24,278
Year—										
1961–62	11,526	12,467	2,417	3,140	2,489	1,160	3	86	33,288	33,373
1962–63	11,719	12,830	2,125	3,467	2,467	1,095	3	108	33,813	33,911
1963–64	11,934	12,628	2,407	2,996	2,137	1,127	3	117	33,349	33,440
1964–65	11,739	12,543	2,933	3,100	2,056	987	4	111	33,472	33,587
1965–66	11,067	13,332	2,769	3,474	2,535	1,164	2	92	34,435	34,571

Production of mutton and lamb

Details of the production of mutton and lamb in each State and Territory in the years 1961–62 to 1965–66, compared with averages for the three-year periods ended June 1939, 1949 and 1959, are shown in the following table.

PRODUCTION OF MUTTON AND LAMB (CARCASS WEIGHT)
STATES AND TERRITORIES, 1936-37 TO 1965-66
(Tons)

Period	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Average for three years ended—									
1938–39	103,884	136,927	20,121	30,574	20,928	6,129	2	413	318,978
1948–49	109,084	111,677	18,587	34,772	23,846	7,214	64	839	306,083
1958–59	135,256	164,580	25,845	50,415	35,373	14,077	77	1,240	426,863
Year—									
1961–62	196,844	229,722	40,339	55,390	42,697	20,229	65	1,427	586,713
1962–63	198,873	237,645	35,483	58,919	41,236	19,386	68	1,849	593,459
1963–64	202,057	231,769	40,209	52,864	36,690	20,079	72	1,986	585,726
1964–65	195,236	230,318	47,984	55,392	35,839	18,123	88	1,856	584,836
1965–66	184,523	240,697	45,515	60,738	44,695	21,097	46	1,517	598,828

Consumption of mutton and lamb

In 1959–60 consumption of mutton and lamb, at 103 lb per head of population, showed a rise of approximately 15 lb per head over the previous year and exceeded that of beef and veal for the first time on record. Subsequently, consumption of mutton and lamb combined has declined each year; since 1962–63 it has been below the consumption of beef and veal. The consumption in 1965–66 was 83.3 lb per head.

PRODUCTION AND DISPOSAL OF MUTTON AND LAMB (CARCASS WEIGHT): AUSTRALIA, 1936-37 TO 1965-66

Period	Net change in stocks ('000 tons)	Production ('000 tons)	Exports (a) ('000 tons)	For canning ('000 tons)	Apparent consumption in Australia: Total ('000 tons)	Apparent consumption in Australia: Per head per year (lb)
MUTTON						
Average for three years ended—						
1938–39	n.a.	201	17	..	184	60 0
1948–49	−1	177	15	8	154	45.1
1958–59	..	268	27	19	222	51.0
Year—						
1961–62	+1	368	83	23	262	55.3
1962–63	−2	363	107	8	249	51.7
1963–64	+1	361	112	9	238	48.4
1964–65	+4	361	116	10	232	46.3
1965–66	+4	390	141	9	236	46.3
LAMB						
Average for three years ended—						
1938–39	n.a.	118	72	..	46	15.0
1948–49	−2	130	45	..	86	25.2
1958–59	..	159	31	..	128	29.3
Year—						
1961–62	−1	219	18	..	203	42.8
1962–63	+1	231	27	..	203	42.1
1963–64	−1	225	21	..	205	41.7
1964–65	+1	224	26	..	197	39.3
1965–66	+3	209	18	..	189	37.0

(a) Includes carcass equivalent of boneless mutton exported.

Exports of frozen mutton and lamb

The quantities and values of exports of Australian frozen mutton and lamb in each year from 1961–62 to 1965–66 are shown in the following table.

EXPORTS OF FROZEN MUTTON AND LAMB(a): AUSTRALIA 1961-62 TO 1965-66

Year	Exports of frozen mutton: Quantity ('000 lb)	Exports of frozen mutton: Value ($'000 f.o.b.)	Exports of frozen lamb: Quantity ('000 lb)	Exports of frozen lamb: Value ($'000 f.o.b.)	Exports of frozen mutton and lamb: Quantity ('000 lb)	Exports of frozen mutton and lamb: Value ($'000 f.o.b.)
1961–62	109,113	16,312	37,399	5,248	146,512	21,560
1962–63	136,741	23,304	56,615	10,362	193,356	33,666
1963–64	149,918	24,752	41,606	7,718	191,524	32,470
1964–65	162,964	29,517	54,132	10,832	217,096	40,349
1965–66	176,424	37,242	35,574	8,176	211,998	45,417

(a) Actual weight shipped, not carcass equivalent.

In 1965–66 the principal buyers of Australian frozen mutton and lamb were the United States of America (62,973,000 lb, valued at $15,362,000); Japan (57,029,000 lb, valued at $10,471,000); Canada (28,180,000 lb, valued at $7,144,000); and the United Kingdom (27,338,000 lb, valued at $5,097,000).

Consumption of meat and meat products

The apparent consumption of meat (including cured and canned meat) and edible offal per head of population in Australia is shown in the table below for the years 1961–62 to 1965–66 in comparison with the averages for the three-year periods ended 1938–39, 1948–49 and 1958–59.

MEAT (INCLUDING CURED AND CANNED) AND EDIBLE OFFAL AVAILABLE FOR CONSUMPTION: AUSTRALIA, 1936-37 TO 1965-66

(lb per head per year)

Period	Beef and veal (a)	Mutton (a)	Lamb (a)	Pork (a)	Offal	Canned meat (b)	Bacon and ham (c)	Carcass equivalent of meat and meat products (d)
Average for three years ended—								
1938–39	140.3	60.0	15.0	8.5	8.4	2.1	10.2	250.9
1948–49	109.1	45.1	25.2	7.1	8.9	2.6	11.7	215.7
1958–59	123.8	51.0	29.3	10.1	11.4	4.1	7.1	242.4
Year—								
1961–62	93.4	55.3	42.8	13.6	11.6	3.8	7.0	232.3
1962–63	100.5	51.7	42.1	12.0	12.5	4.3	7.4	235.3
1963–64	104.8	48.4	41.7	11.5	12.9	4.3	7.3	235.7
1964–65	100.2	46.3	39.3	11.9	12.4	4.6	7.6	226.8
1965–66	93.2	46.3	37.0	13.5	11.4	4.6	7.6	217.8

(a) Carcass weight. (b) Canned weight. (c) Cured carcass weight. (d) Includes offal.

Other pastoral products

Tallow

Details of tallow consumption are collected from the principal factories using tallow. Recorded usage of inedible tallow in these factories (soap and candle, chemical, pharmaceutical and toilet preparations, and woolscouring works) for the five years 1961–62 to 1965–66 was as follows: 1961–62, 1,058,000 cwt; 1962–63, 1,090,000 cwt; 1963–64, 1,079,000 cwt; 1964–65, 1,158,000 cwt; 1965–66, 1,061,000 cwt. These figures are, however, deficient to the extent that no allowance has been made for small unrecorded amounts used in other types of establishments. Details of edible tallow consumed in factories are not available.

Particulars of exports of edible and inedible tallow of Australian origin are shown in the following table for the five years 1961–62 to 1965–66.

TALLOW: EXPORTS, AUSTRALIA, 1961-62 TO 1965-66

(cwt)

	1961–62	1962–63	1963–64	1964–65	1965–66
Edible	130,015	120,944	135,425	96,611	51,869
Inedible	1,853,161	2,229,230	1,976,000	1,846,543	1,243,584
Total	1,983,176	2,350,174	2,111,425	1,943,154	1,295,453

Overseas trade in hides and skins

The value of cattle and horse hides, sheep and other skins, and skin pieces sent overseas during 1965–66 amounted to $88,501,000, compared with a total of $79,534,000 in 1964–65 and $91,180,000 in 1963–64.

Of the total exports of sheepskins with wool during 1965–66, amounting to 197,901,000 lb valued at $63,042,000, 128,268,000 lb valued at $38,995,000 (62 per cent of total value) were shipped to France, 35,161,000 lb valued at $12,974,000 (21 per cent) to Italy, and 9,769,000 lb valued at $2,735,000 (4 per cent) to the United Kingdom. In the previous year France received 64 per cent (by value) of all sheepskins with wool exported, Italy 14 per cent and the United Kingdom 7 per cent. The exports of sheepskins with wool during each of the years 1961–62 to 1965–66 were as follows.

EXPORTS OF SHEEPSKINS WITH WOOL: AUSTRALIA 1961-62 TO 1965-66

	1961–62	1962–63	1963–64	1964–65	1965–66
Number . . '000	26,237	26,795	27,913	27,248	28,952
Value . . . $'000	48,444	55,484	73,696	59,621	63,042

In 1965–66 a total of 1,125,000 sheepskins without wool were exported, valued at $701,000. Of these, sheepskins without wool to the value of $194,000 (28 per cent) were shipped to France; $133,000 (19 per cent) to the United States of America and $72,000 (10 per cent) to the Netherlands.

The export trade in cattle hides and calfskins during 1965–66 was distributed among the main importing countries as follows: Japan $12,229,000; the Federal Republic of Germany, $1,812,000; and Italy, $1,114,000. The total quantity exported was 116,677,000 lb, valued at $20,736,000.

The exports of furred skins in 1965–66 were valued at $2,196,000, of which kangaroo and wallaby skins constituted $1,266,000 and rabbit and hare skins $818,000. In 1964–65 they accounted for $1,611,000 and $1,321,000 respectively, out of a total of $3,022,000. The skins were shipped principally to the United States of America, the United Kingdom, Italy, and the Federal Republic of Germany; the values shipped to each in 1965–66 being: United States of America, $1,656,000; United Kingdom, $281,000; Italy, $78,000; and Federal Republic of Germany, $65,000.

The quantity of cattle hides, including calfskins, imported into Australia during the year 1965–66 amounted to 2,374,000 lb, valued at $337,000. The chief sources of supply were Pakistan, New Zealand and the Pacific Islands.

OTHER RURAL INDUSTRIES: DAIRYING, POULTRY AND BEE-FARMING

The dairying industry

The introduction of cattle into Australia and the early history of the dairying industry are treated in some detail in earlier issues of the Year Book. Australian dairy cattle have shown steady improvement in quality, as demonstrated by yield, over the years. This is attributable to improved breeding, associated with herd recording, and better feeding, resulting from the use of improved pastures. Better farming methods, arising from the development of modern farm machinery and the application of the results of research, have also played a part in the increased yields.

The Australian dairying industry is conducted under conditions ranging from tropical to temperate and Mediterranean type climates, and nowhere is it necessary to house cattle in the winter months. Most Australian dairy cattle are fed only on pasture and pasture products, and this accounts for average yields being somewhat lower than in those countries where stock are fed heavily on concentrated feed. In general, dairy farming is confined to the coastal and near coastal regions where rainfall and topography are favourable. These conditions are found in parts of the eastern, southern and south-western coasts. Inland districts include the lower north-east of Victoria, the south-western slopes of New South Wales, the fertile Darling Downs in Queensland, and the irrigated districts of the Riverina in New South Wales and northern Victoria.

The manufacturing and processing sections of the industry are highly organised and are well advanced technologically. Certain techniques and equipment developed in Australia are being adopted overseas. Dairy experts of the various State agricultural departments give instruction in approved methods of production, and inspect animals, buildings and marketable produce, with the result that a high standard of cleanliness and technology prevails in the industry.

Marketing of dairy products

The export trade is regulated by the terms of the Commonwealth *Customs Act* 1901–1954 and the Commonwealth *Commerce (Trade Descriptions) Act* 1905–1966 and regulations thereunder. This legislation requires that the true trade descriptions, etc. be marked on all produce intended for export, while official inspection ensures the maintenance of purity and quality. Upon request of the exporter the goods are given a certificate by the inspector.

Details of the *Dairy Produce Export Control Act* 1924–1966 and of the Australian Dairy Produce Board constituted under it were given in earlier issues of the Year Book (*see* No. 48, pages 999–1000). The administrative expenses of the Australian Dairy Produce Board and other sundry expenditure were met from the proceeds of a levy imposed by the *Dairy Produce Export Charges Act* 1964 (*see* Year Book No. 51, page 1070). In 1965 this Act, together with the *Dairy Produce Levy Act*, 1958 was repealed by the *Butterfat Levy Act* 1965 (*see* page 977).

Equalisation schemes

Reference is made to the butter and cheese equalisation schemes in Year Book No. 48, pages 998–9. Particulars of the returns realised on local and overseas sales and of the average equalisation rate for the years ended June 1962 to 1967 are given on page 983 of this issue. Details are also given on page 982 of the wholesale prices of butter and cheese for home consumption as determined by the Commonwealth Dairy Produce Equalisation Committee Ltd.

An equalisation scheme for casein similar to that for butter and cheese has been operated since 1952 by the Commonwealth Dairy Produce Equalisation Committee Ltd. Average realisations per cwt under the scheme were $16.328 in 1961–62, $15.908 in 1962–63, $16.101 in 1963–64, $17.381 in 1964–65, and $24.50 in 1965–66. The interim equalisation value for 1966–67 has been fixed at $22.00 per cwt.

Commonwealth subsidies and stabilisation plans

Butter and cheese. Under the provisions of the various Dairy Industry Assistance Acts, the first of which was passed in 1942, the Commonwealth Government has provided subsidies on milk supplied for the manufacture of butter and cheese. Subsidies were paid on a seasonal basis prior to 1 April 1946, but from that date have been on a flat rate basis. Subsidies are distributed by the Commonwealth Dairy Produce Equalisation Committee Ltd, through factories, to milk producers by payments on butter and cheese manufactured. Details of the three five-year stabilisation plans which operated up to 30 June 1962 will be found in Year Book No. 49, page 1084. Information regarding the plan which operated during the five years ended 30 June 1967 appears in Year Book No. 52, page 961.

A new five-year stabilisation plan came into operation on 1 July 1967. All the features of the previous plan have been retained. The fixed bounty of $27,000,000 payable in each year of the plan on butter, cheese and butterfat products containing 40 per cent or more butterfat is continued.

The underwriting of final minimum equalised returns on butter and cheese, each year, is also continued. Returns to producers which have been underwritten at 33c per lb on commercial butter, each year, since the inception of the underwriting arrangement in 1958 have been raised to 34c per lb for the 1967–68 season.

Amounts realised on exports of butter and cheese in excess of the f.o.b. equivalent of the guaranteed return have been credited to the Dairying Industry Stabilisation Fund, which was established in July 1948 for the purpose of stabilising returns from exports. During 1951–52 the Stabilisation Fund met the deficiency in respect of all exports which did not earn sufficient to meet the basic return to the factory. From 1 July 1952 to 30 June 1957 it was available to the industry to be used, in whatever manner it considered desirable, to make good any deficiency in respect of all exports other than the 20 per cent provided for under the Commonwealth Government's Five-year Stabilisation Plan. The Act was amended in 1957 to enable the Board to use the fund for such other purposes as are approved by the Minister for Primary Industry. The amount standing to the credit of the Dairying Industry Stabilisation Fund at 30 June 1966 totalled approximately $4,353,000. The major portion of the fund represents capital and other investments in milk recombining plants now established by the Board in Bangkok, Singapore and Manila.

Processed milk products. Subsidy on milk supplied for the manufacture of processed milk products was also payable from 1942 until 30 June 1948, and again from 1 July 1949 to 30 June 1952. The Commonwealth Government provided, under the *Processed Milk Products Bounty Act* 1962, for the payment of a maximum amount of $700,000 as a bounty on exports of processed

milk products in 1962–63. The bounty is to continue under present legislation until 30 June 1972, the maximum amounts made available being $1,000,000 for 1963–64 and $800,000 for each subsequent year.

Whole milk. In addition to the subsidies referred to above, the Commonwealth Government subsidised the production of whole milk consumed directly from 1943–44 to 1948–49. Details of the amounts distributed during each year will be found in Year Book No. 38, page 1031.

Extension, research and promotion of the dairying industry

Dairy Industry Extension Grant. An annual grant of $500,000, to be expended by State Governments for the purpose of promoting improved farming practices in the dairying industry, was first made by the Commonwealth Government for the five years from 1 July 1948. This assistance was continued for further periods of five years from 1 July 1953 and from 1 July 1958 at the same rate. For the five years from 1 July 1963 the amount of the annual grant has been increased to $700,000.

Dairy industry research and sales promotion. At the request of the Australian Dairy Industry Council, legislation was enacted in 1958 to provide for a sales promotion campaign for butter and cheese in Australia and also for research into industry problems. The legislation provided for a statutory levy on the manufacture of butter and cheese (the Dairy Produce Levy) which was initially set at rates of 0.104c per lb for butter and 0.052c per lb for cheese, the proceeds being divided equally between research and sales promotion. The rates of levy operative from November 1959 were 0.156c per lb for butter and 0.078c per lb for cheese, of which two-thirds was allocated to sales promotion and one-third to research.

In August 1964 the legislation was amended to include butter powder, at the same rates as for butter, and butteroil and ghee at 0.065c per lb for research and 0.130c per lb for sales promotion. In 1965 the Dairy Produce Levy Act was repealed and replaced by the *Butterfat Levy Act* 1965 which provides for the amalgamation of the three levies into one levy on butterfat used in the manufacture of butter, cheese and related products. The maximum rate of levy in the Act is 60 cents per cwt of butterfat and the prescribed operative rate is 52 cents per cwt (22 cents for promotion, 20 cents for administration and overseas market development, and 10 cents for research).

The Commonwealth Government agreed to contribute one half of the costs incurred on approved projects included in the programme of research, with a maximum contribution of $1 for $1 against funds raised by way of levy and allocated to research. The sales promotion programme is financed solely by the levy. The following table lists the amounts of levies collected for research and sales promotion during the five years 1961–62 to 1965–66.

BUTTER FAT LEVY: AMOUNTS COLLECTED FOR RESEARCH AND SALES PROMOTION, 1961-62 TO 1965-66

($)

	1961–62 (*a*)	1962–63 (*a*)	1963–64 (*a*)	1964–65 (*a*)	1965–66
Research(*b*) . . .	260,000	263,500	264,200	262,800	310,200
Sales promotion . .	520,000	527,000	528,400	543,000	823,600
Total collected(*b*) .	**780,000**	**790,500**	**792,600**	**805,800**	**1,133,800**

(*a*) Collected under Dairy Produce Levy Act. (*b*) Excludes amounts contributed by the Commonwealth Government

The scheme is administered by the Australian Dairy Produce Board, which, in respect of research, is advised by a statutory committee, the Dairy Produce Research Committee.

Dairy cattle

For the reasons indicated earlier in this chapter (*see* page 954), farmers are no longer asked to classify their herds according to breed. Commencing with the 1964 census they have been asked instead to classify their cattle according to the two main purposes of (*a*) milk production and (*b*) meat production and to report separately the number of cows and heifers kept for their own domestic milk supply. Consequently the statistics shown in the following table are not comparable with those for earlier years.

DAIRY BREED BULLS, AND COWS AND HEIFERS USED OR INTENDED FOR PRODUCTION OF MILK OR CREAM: STATES AND TERRITORIES 31 MARCH 1964 TO 1966

31 March	Bulls, dairy breed (a)	Cows and heifers used or intended for production of milk or cream for sale				House cows and heifers (b)
		Cows		Heifers		
		In milk	Dry	1 year and over: Springing(c)	1 year and over: Other	Under one year
1964	99,270	3,078,075		821,286		717,895	218,098
1965	95,012	3,011,832		843,212		690,267	202,138
1966—							
New South Wales	19,007	523,356	152,126	194,998		134,147	92,773
Victoria	39,162	886,333	305,374	320,122		325,026	30,351
Queensland	16,887	468,871	157,792	167,686		103,754	39,291
South Australia	6,175	92,673	62,268	21,182	24,594	38,425	6,274
Western Australia	4,438	42,777	66,514	24,290	27,778	32,051	10,182
Tasmania	4,296	148,452		41,951		47,317	6,265
Northern Territory	12	349		96		82	25
Australian Capital Territory	32	1,105	382	190		231	428
Australia	**90,009**	**2,908,372**		**822,887**		**681,033**	**185,589**

(a) Used or intended for service; excludes bull calves (under 1 year). (b) Kept primarily for rural holdings' own milk supply. (c) Within three months of calving.

For particulars relating to dairy cattle numbers up to 1963 *see* page 1078 of Year Book No. 50.

A map showing the distribution of dairy cattle in Australia at 31 March 1963 appears facing page 1082 of Year Book No. 50.

Milking machines

MILKING MACHINES ON RURAL HOLDINGS: NUMBER OF UNITS(a) STATES AND TERRITORIES, 1962 TO 1966

31 March	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
1962	43,369	95,661	47,486	18,831	10,562	12,220	n.a.	99	(b)228,228
1963	43,089	97,372	46,674	18,836	10,514	12,701	n.a.	84	(b)229,270
1964	42,970	98,321	45,072	19,057	10,157	13,382	n.a.	83	(b)229,042
1965	42,209	101,994	44,074	19,135	10,055	13,806	23	93	231,389
1966	41,796	105,003	42,199	18,833	9,780	15,894	26	94	233,625

(a) The number of units indicates the number of cows that can be milked simultaneously, i.e. the cow capacity of installed milking machines. (b) Excludes the Northern Territory.

Production of milk

The quantity of milk produced by a dairy cow can be as high as 1,000 gallons a year, and varies greatly with breed, locality and season. For all dairy cows and for all seasons for Australia prior to 1916 production averaged considerably less than 300 gallons per annum. Largely owing to an improvement in the quality of the cattle and the increased application of scientific methods the 300-gallon average has been exceeded in each year since 1924. In the last five years an average of 462 gallons per cow per annum has been obtained. In 1965–66 the average yield was 483 gallons. The annual average yields per cow shown in the following table are obtained

by dividing the total production of whole milk for the year ended June by the mean of the number of cows in milk and dry and house cows at 31 March of that year and of the preceding year. They are, in effect, based on the approximate number of cows which were in milk during any part of the year. The average shown is, therefore, less than that for cows which were yielding during the greater part of the year, but it may be accepted as sufficiently reliable to show the general trend.

AVERAGE MILK PRODUCTION PER COW: STATES AND TERRITORIES 1936-37 TO 1965-66

(Gallons)

Period	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust. (a)
Average for three years ended—									
1938–39	315	439	298	442	353	349	n.a.	349	354
1948–49	310	506	267	565	370	419	n.a.	328	371
1958–59	322	522	267	513	406	537	n.a.	420	393
Year—									
1961–62	387	571	306	614	462	562	n.a.	471	452
1962–63	364	586	312	586	442	570	n.a.	479	452
1963–64(b)	368	587	307	587	448	577	230	557	456
1964–65(b)	347	613	306	614	490	589	248	547	467
1965–66(b)	378	616	316	602	508	578	234	524	483

(a) Excludes the Northern Territory before 1963–64. (b) May not be comparable with earlier years; *see* pages 977–8.

In the following table particulars of the production of whole milk in the various States and Territories are shown for the years 1961–62 to 1965–66 compared with the averages for the three years ended 1938–39, 1948–49 and 1958–59. Victoria is the principal milk-producing State, and in 1965–66 the output from that State, 751 million gallons, represented 49 per cent of total production. Output from New South Wales in 1965–66 was 301 million gallons (20 per cent of the total) and that of Queensland 221 million gallons (15 per cent). Production in the remaining States and Territories accounted for 16 per cent.

TOTAL PRODUCTION OF WHOLE MILK: STATES AND TERRITORIES 1936-37 TO 1965-66

('000 gallons)

Period	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.(a)
Average for three years ended—									
1938–39	319,003	403,152	275,898	68,429	42,358	32,803	n.a.	363	1,142,006
1948–49	280,460	445,517	252,469	92,587	49,004	32,638	n.a.	573	1,153,248
1958–59	307,514	578,529	240,446	84,185	54,218	65,032	n.a.	929	1,330,853
Year—									
1961–62	344,724	630,948	239,823	95,504	58,240	73,206	n.a.	1,117	1,443,562
1962–63	324,113	667,562	245,067	95,378	56,029	78,518	n.a.	1,090	1,467,757
1963–64	322,547	694,990	239,827	97,523	57,162	83,124	76	1,146	1,496,395
1964–65	291,931	745,896	230,289	102,330	61,883	87,343	98	1,094	1,520,864
1965–66	300,740	750,915	221,086	98,398	61,865	87,890	92	1,026	1,522,013

(a) Excludes the Northern Territory before 1963–64.

UTILISATION OF WHOLE MILK: STATES AND TERRITORIES, 1965–66

('000 gallons)

	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Milk used for—									
Butter	142,355	533,853	139,952	30,921	37,097	65,092	..	..	949,270
Cheese	8,897	55,299	17,472	35,659	2,656	6,592	..	..	126,575
Preserved milk products	14,835	62,359	63,662	..	883	16,206	..	..	93,189
Other purposes	134,654	99,404		31,818	21,229		92	1,026	352,979
Total	300,740	750,915	221,086	98,398	61,865	87,890	92	1,026	1,522,013

In 1965–66, 62.4 per cent of the total milk supply was used for butter, 8.3 per cent for cheese, 6.1 per cent for preserved milk products, and 23.2 per cent for other purposes.

PRODUCTION AND UTILISATION OF WHOLE MILK: AUSTRALIA
1936-37 TO 1965-66
('000 gallons)

Period	Total production	Quantity used for—			
		Butter (factory and farm)	Cheese (factory and farm)	Preserved milk products	Other purposes (*a*)
Average for three years ended—					
1938-39	1,142,006	891,742	54,934	33,226	162,104
1948-49	1,153,248	738,377	91,642	78,739	244,490
1958-59	1,330,853	865,347	90,561	79,687	295,258
Year—					
1961-62	1,443,562	919,301	122,340	78,028	323,893
1962-63	1,467,757	932,041	130,503	83,167	322,046
1963-64	1,496,395	940,787	130,431	92,235	332,942
1964-65(*b*)	1,520,864	938,796	135,733	96,973	349,362
1965-66(*b*)	1,522,013	949,270	126,575	93,189	352,979

(*a*) Principally fluid milk for domestic purposes. (*b*) Milk used for farm production of butter and cheese is included in 'Other purposes'.

Production of butter, cheese and preserved milk products

The establishment of large central butter factories, either on a co-operative or independent basis, has resulted in a considerable reduction in the cost of manufacture. The product is also of a more uniform quality, and whereas formerly the average quantity of milk used per pound of hand-made butter was about three gallons, factory butter requires only about two gallons. In addition, subsidy payments by the Commonwealth Government are made only on factory-produced butter. As a result the production of farm-made butter has declined to negligible proportions. A similar position exists in the cheese-making industry.

In 1965-66 factories in Australia engaged in the processing of milk into butter or cheese or the various preserved milk products numbered 337 and were distributed among the States as follows: New South Wales, 69; Victoria, 119; Queensland, 63; South Australia, 44; Western Australia, 19; and Tasmania, 23. More details regarding numbers of factories, output, etc., are given in the chapter Manufacturing Industry.

Factory production of butter in 1965-66 at 461,085,000 lb was 6,207,000 lb (1.4 per cent) more than the amount produced in 1964-65, and 6,876,000 (1.5 per cent) less than the record post-war production of 1955-56.

BUTTER PRODUCTION IN FACTORIES: STATES
1936-37 TO 1965-66
('000 lb)

Period	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	Aust.
Average for three years ended—							
1938-39	111,250	137,908	117,907	17,868	12,999	8,812	406,744
1948-49	70,323	131,522	94,624	20,223	14,856	10,044	341,591
1958-59	75,784	196,356	85,413	16,820	15,259	23,784	413,417
Year—							
1961-62	87,346	214,254	79,841	16,629	16,762	27,022	441,853
1962-63	80,568	227,207	81,661	16,395	15,596	29,338	450,765
1963-64	80,880	231,499	79,220	16,587	15,491	30,616	454,292
1964-65	67,081	248,506	73,546	17,215	17,387	31,143	454,878
1965-66	73,901	251,332	70,189	16,160	18,133	31,370	461,085

Factory production of cheese was 131,300,000 lb in 1965–66 which was 6,708,000 lb (4.9 per cent) less than the record of 138,008,000 lb in 1964–65.

CHEESE PRODUCTION IN FACTORIES: STATES
1936-37 TO 1965-66
('000 lb)

Period	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	Aust.
Average for three years ended—							
1938–39	7,347	16,141	11,357	15,380	957	3,190	54,371
1948–49	5,342	38,927	19,972	26,844	2,171	1,436	94,692
1958–59	9,784	39,440	15,331	25,128	2,524	750	92,958
Year—							
1961–62	13,806	53,579	20,101	32,835	3,056	1,355	124,732
1962–63	12,366	57,274	22,851	33,967	3,223	1,440	131,120
1963–64	12,142	56,397	21,263	34,236	3,373	2,994	130,405
1964–65	9,785	60,975	19,095	38,836	4,051	5,265	138,008
1965–66	9,786	58,158	17,773	36,281	2,713	6,590	131,300

Preserved milk products are manufactured mainly in Victoria, which produced 67 per cent of the total (in terms of whole milk equivalent) in 1965–66. New South Wales accounted for 16 per cent and the remaining States for 17 per cent.

PRODUCTION OF PRESERVED MILK PRODUCTS: AUSTRALIA
1961-62 TO 1965-66
('000 lb)

Product	1961–62	1962–63	1963–64	1964–65	1965–66
Condensed, concentrated and evaporated milk—					
Full cream—					
Sweetened(*a*)	63,299	75,533	95,744	102,479	73,985
Unsweetened(*b*)	65,694	64,409	71,964	89,390	88,482
Skim	13,168	19,203	25,712	21,936	21,350
Ice cream mixes—					
Liquid	8,228	8,612	11,896	10,810	15,198
Powder	1,360	1,341	973	773	551
Infants' and invalids' food(*c*)	38,137	38,465	44,105	45,179	45,280
Casein	30,356	36,236	37,360	39,768	50,712
Powdered milk—					
Full cream—					
Spray	42,211	37,829	40,069	41,561	42,888
Roller	3,115	1,874	2,109	2,108	2,172
Skim—					
Without added ingredients					
Spray	69,525	76,689	70,189	82,624	84,018
Roller	10,177	10,845	12,783	14,704	14,466
With added ingredients—					
Baker's powder	} 4,738	{ 4,808	4,854	5,264	5,577
Other		{ 1,834	4,303	5,231	8,281
Buttermilk or mixed skim and buttermilk—					
Spray	1,353	2,543	4,650	4,702	8,345
Roller	16,710	18,258	17,060	16,183	17,921
Total powdered milk	*147,829*	*154,680*	*156,017*	*172,378*	*183,667*

(*a*) Includes 'coffee and milk'. (*b*) Irrespective of butterfat content. (*c*) Includes malted milk and milk sugar (lactose).

Wholesale prices of butter and cheese in Australia

Details of prices operating in each of the States since 1 July 1956 are shown in the following table. The prices included are those determined by the Commonwealth Dairy Produce Equalisation Committee Ltd for choicest grade bulk butter and cheese.

WHOLESALE PRICES OF BUTTER AND CHEESE: AUSTRALIA 1956 TO 1966

($ per cwt)

Date from which prices became effective	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.
Butter—						
1 July 1956	46.67	46.67	46.55	46.43	46.67	46.67
1 July 1958	48.53	48.53	48.42	48.42	48.53	48.53
1 July 1960	50.17	50.17	50.05	50.17	50.17	50.17
19 June 1964	51.80	51.80	51.80	51.80	51.80	51.80
14 February 1966	52.08	52.08	52.08	52.08	52.08	52.08
Cheese—						
1 July 1956	28.23	28.23	28.23	28.12	28.23	28.23
1 July 1958	29.17	29.17	29.17	29.17	29.17	29.17
1 July 1960	29.63	29.63	29.63	29.63	29.63	29.63
19 June 1964	30.57	30.57	30.57	30.57	30.57	30.57
14 February 1966	30.80	30.80	30.80	30.80	30.80	30.80

Local consumption of butter and cheese

Following the cessation of butter rationing after the 1939–45 War, consumption per head rose to 31.2 lb in 1951–52. However, in later years it gradually declined, and in 1965–66 it reached its lowest level since the war. At 21.8 lb per head it was 3.5 per cent below the level of 1964–65. Consumption of cheese per head has been rising steadily in recent years, reaching 8.0 lb in 1965–66.

PRODUCTION AND DISPOSAL OF BUTTER AND CHEESE AUSTRALIA, 1936-37 TO 1965-66

Period	Change in stocks (a)	Production (b)	Exports (c)	Apparent consumption in Australia	
				Total	Per head per year
	('000 tons)	('000 tons)	('000 tons)	('000 tons)	(lb)
BUTTER					
Average for three years ended—					
1938–39	n.a.	190.8	89.4	101.4	32.9
1948–49	−3.6	157.1	76.0	84.7	24.8
1958–59	−0.6	187.4	69.6	118.4	27.2
Year—					
1961–62	+4.8	198.6	80.1	113.8	24.0
1962–63	+7.1	202.4	80.6	114.7	23.8
1963–64	−2.3	203.8	91.0	115.1	23.4
1964–65	−6.9	203.1	96.8	113.2	22.6
1965–66 p	+9.2	205.8	85.1	111.6	21.8
CHEESE					
Average for three years ended—					
1938–39	n.a.	24.9	11.5	13.4	4.4
1948–49	−0.8	42.3	24.3	18.8	5.5
1958–59	+2.8	41.6	13.8	25.0	5.7
Year—					
1961–62	+2.2	55.7	22.4	31.1	6.6
1962–63	+0.2	58.7	26.0	32.4	6.7
1963–64	−5.3	58.2	27.9	35.6	7.3
1964–65	−3.5	61.6	27.3	37.8	7.5
1965–66 p	−7.6	58.6	25.4	40.7	8.0

(a) Balance figure for 1946–47 and subsequent years; includes allowance for imports. (b) Factory production only for 1964–65 and 1965–66. (c) Includes ships' stores; figures for butter include ghee and butter concentrate expressed as butter.

Average returns from butter and cheese sold

The table below shows rates realised on local, interstate and overseas sales and the average equalisation and subsidy rates in operation for the years ended June 1962 to 1967.

BUTTER AND CHEESE: RATES REALISED ON SALES, AVERAGE EQUALISATION RATES AND RATES OF COMMONWEALTH SUBSIDY UNDER DAIRYING INDUSTRY ACTS, 1961–62 TO 1966–67

(*Source:* Commonwealth Dairy Produce Equalisation Committee Ltd)

($ per cwt)

Year	Rates realised on sales				Average equalisation rate	Rate of subsidy	Rate of overall return to manufacturer
	Intrastate	Interstate	Manufacturing	Overseas			
Butter—							
1961–62	48.39	46.67	31.52	29.10	39.84	6.26	46.10
1962–63	48.49	46.49	31.62	32.67	41.15	6.15	47.30
1963–64	48.65	47.03	31.40	33.82	41.73	6.10	47.83
1964–65	50.08	48.18	31.63	34.08	42.25	6.09	48.33
1965–66	..	..	..	..	(*a*) 40.10	6.01	(*a*) 46.11
1966–67	..	..	..	..	(*a*) 36.80	5.67	(*a*) 42.47
Cheese—							
1961–62		(*b*) 28.39		18.95	24.12	2.44	26.56
1962–63		(*b*) 28.39		20.28	24.22	2.33	26.56
1963–64		(*b*) 28.54		21.13	25.51	2.36	27.87
1964–65		(*b*) 29.32		22.11	26.00	2.23	28.23
1965–66		..		..	(*a*) 25.85	2.36	(*a*) 28.21
1966–67		..		..	(*a*) 24.78	2.02	(*a*) 26.80

(*a*) Interim rates. (*b*) As cheddar.

The distribution between factory and farm of the overall return to manufacturers for butter is shown in the following table.

COMMERCIAL BUTTER: AVERAGE OVERALL RETURNS AUSTRALIA, 1961–62 TO 1966–67

(*Source:* Commonwealth Dairy Produce Equalisation Committee Ltd)

(Cents per lb)

Year	Average overall returns on commercial butter		
	Rate of overall return to manufacturer	Estimated manufacturing cost	Return to dairy farmer
1961–62	41.160	4.449	36.711
1962–63	42.234	4.449	37.785
1963–64	42.705	4.449	38.256
1964–65	43.154	4.449	38.705
1965–66	(*a*) 41.171	4.449	36.722
1966–67	(*a*) 37.916	4.583	(*a*) 33.333

(*a*) Interim rates.

Overseas trade in dairy products

The production of butter and cheese in Australia is considerably in excess of local requirements, and consequently a substantial surplus is available for export overseas. In normal circumstances the extent of this surplus is chiefly dependent upon seasonal conditions.

Exports of butter in 1965–66 amounted to 167.6 million lb, compared with 202.2 million lb in 1964–65. Exports of cheese in these years were 55.8 million lb and 60.9 million lb respectively. As in previous years, the principal importing country for Australian butter and cheese was the United Kingdom. In 1965–66, 82 per cent of butter and 36 per cent of cheese exported was consigned to the United Kingdom.

All butter and cheese exported comes under the provisions of the Exports (Dairy Produce) Regulations and is subject to supervision, inspection and examination by officers appointed for that purpose. These commodities are graded according to quality, which has been fixed by regulation as follows: flavour and aroma, 50 points; texture, 30 points; and condition, 20 points. Butter and cheese graded at 93 to 100 points is of choicest quality; at 90 to 92 points, first quality; at 86 to 89 points, second quality; and at 80 to 85 points, pastry or cooking quality or, in the case of cheese, third quality.

In the following table particulars are given of the relative proportions of butter and cheese graded for export according to quality. Further details, which include actual quantities by States, are to be found in *Rural Industries*, 1964–65, Bulletin No. 3.

BULK BUTTER AND CHEESE GRADED FOR EXPORT AUSTRALIA, 1963-64 TO 1965-66

(Per cent)

Grade	Butter			Cheese		
	1963–64	1964–65	1965–66	1963–64	1964–65	1965–66
Choicest	67.5	73.3	73 6	5.1	6.1	6.9
First quality	25 1	21 0	20 7	87.6	87.0	86.7
Second and third quality(*a*)	7.4	5.7	5.7	7.3	6.9	6.4
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(*a*) Includes rejected.

Exports of butter, cheese and other milk products of Australian origin are shown in the following table.

EXPORTS OF DAIRY PRODUCTS: AUSTRALIA, 1963-64 TO 1965-66

Product	Quantity ('000 lb)			Value ($'000 f.o.b.)		
	1963–64	1964–65	1965–66	1963–64	1964–65	1965–66
Butter	196,563	202,240	167,625	54,714	62,165	49,989
Cheese	62,333	60,929	55,777	13,518	14,197	13,470
Other milk products—						
Preserved, condensed, concentrated, etc.—						
Sweetened	69,554	78,070	44,661	9,174	10,362	5,650
Unsweetened	8,337	11,678	14,228	941	1,328	1,619
Ice cream mixes	214	186	211	56	47	51
Infants' and invalids' food (essentially of milk)(*a*)	17,924	16,523	13,301	5,142	4,752	3,811
Casein	37,582	36,624	43,342	5,388	6,145	10,183
Dried or powdered—						
Full cream	15,260	18,737	20,181	4,281	5,248	5,161
Skim	40,505	56,098	42,018	2,985	5,885	5,333

(*a*) Includes malted milk.

Pigs

At 31 March 1966, 1,747,000 pigs were recorded, representing an increase of 87,000 (5.2 per cent) on numbers a year earlier. The number of pigs in each State and Territory at 31 March for each of the years 1962 to 1966 compared with the averages for the three-year periods ended 31 March 1939, 1949 and 1959, are given in the following table.

PIGS: NUMBERS IN STATES AND TERRITORIES, 1937 TO 1966

Period	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Average for three years ended—									
1939	374,963	285,465	299,707	74,329	74,657	42,802	404	481	1,152,808
1949	366,267	261,922	375,191	101,934	91,862	43,184	424	554	1,241,338
1959	377,510	263,363	405,702	99,632	135,404	61,389	2,543	160	1,345,703
At 31 March—									
1962	471,579	325,120	432,609	170,133	174,182	75,754	2,762	184	1,652,323
1963	391,999	297,791	402,498	144,976	130,791	70,002	1,842	92	1,439,991
1964	391,300	322,051	388,144	153,415	128,140	82,534	1,806	121	1,467,511
1965	448,661	378,055	406,028	195,873	137,192	92,021	2,182	(a)	b1,660,012
1966	479,768	383,509	417,235	223,586	144,022	96,156	2,275	(a)	b1,746,551

(a) Not available for publication. (b) Incomplete, excludes Australian Capital Territory.

A long-term comparison of pig numbers is given in the division Pastoral Production of this chapter (*see* page 950). A map showing the distribution of pigs in Australia at 31 March 1963 faces page 1083 of Year Book No. 50 and a graph showing the number of pigs in Australia from 1870 onwards appears on plate 46 of this Year Book (*see* page 949).

The number of pigs slaughtered during each of the years 1961–62 to 1965–66, compared with the averages for the three-year periods ended 1938–39, 1948–49 and 1958–59, is shown in the following table.

PIGS SLAUGHTERED: STATES AND TERRITORIES, 1936-37 TO 1965-66

('000)

Period	Slaughterings passed for human consumption									Total slaughterings (including boiled down)
	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.	
Average for three years ended—										
1938–39	562	503	530	155	109	65	1		1,925	1,961
1948–49	440	371	448	154	138	54	1		1,606	1,615
1958–59	594	439	474	159	191	94	5		1,956	1,968
Year—										
1961–62	755	587	597	232	264	120	2	7	2.564	2,573
1962–63	688	528	604	234	237	115	2	7	2,416	2,424
1963–64	636	531	606	214	185	124	2	7	2,305	2,313
1964–65	674	599	623	241	182	135	3	5	2,461	2,468
1965–66	774	703	640	298	195	146	2	9	2,769	2,777

Production of pigmeat, bacon and ham

In the following table details of the production of pigmeat in each State are shown for the years 1961–62 to 1965–66, together with the averages for the three-year periods ended 1938–39, 1948–49 and 1958–59.

PRODUCTION OF PIGMEAT (CARCASS WEIGHT) STATES AND TERRITORIES, 1936–37 TO 1965–66

(Tons)

Period	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Average for three years ended—									
1938–39	25,558	24,569	23,522	7,538	4,322	2,893	5	43	(a)88,450
1948–49	27,182	22,308	22,856	8,993	8,500	2,916	24	3o	92.815
1958–59	28,272	23,097	23,180	8,778	9,624	4,156	84	209	97,400
Year—									
1961–62	32,677	27,406	29,802	11,558	13,180	5,428	86	326	120,463
1962–63	30,283	25,086	29,619	11,810	11,731	5,461	69	328	114,387
1963–64	28,717	25,306	29,919	11,163	9,852	5,927	73	326	111,283
1964–65	31,509	28,048	31,259	12,656	9,861	6,585	90	218	120,226
1965–66	35,343	33,195	31,394	15,223	10,444	7,023	93	428	133,143

(a) Excludes trimmings from baconer carcasses.

Production of bacon and ham amounted to 46,006 tons in 1965–66. This amount was 6.3 per cent above the amount of 43,264 tons produced in 1964–65. The record output of 56,246 tons was attained in 1944–45.

PRODUCTION OF BACON AND HAM (CURED CARCASS WEIGHT)(*a*)
STATES, 1936–37 TO 1965–66
(Tons)

Period	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	Australia
Average for three years ended—							
1938–39	10,396	7,556	8,759	2,940	1,838	1,022	32,511
1948–49	14,436	10,787	9,846	4,580	4,209	1,196	45,054
1958–59	11,132	8,302	10,294	3,275	2,987	1,078	37,068
Year—							
1961–62	11,145	9,102	12,221	2,757	3,512	1,131	39,868
1962–63	12,827	9,004	11,449	3,355	3,844	1,182	41,661
1963–64	13,503	8,629	10,843	3,605	3,792	1,166	41,538
1964–65	13,923	9,366	11,086	3,822	3,896	1,171	43,264
1965–66	14,989	9,357	12,342	4,106	4,150	1,062	46,006

(*a*) Pressed and canned bacon and ham have been converted to cured carcass weight for periods subsequent to 1948–49.

Consumption of pigmeat, bacon and ham

Apparent consumption of pigmeat per head in 1965–66 was 13.5 lb, compared with 11.9 lb per head in 1964–65. The 1961–62 level of 13.6 lb was the highest since the war. In recent years annual consumption of pigmeat per head has not fallen below 11 lb.

PRODUCTION AND DISPOSAL OF PIGMEAT (CARCASS WEIGHT)
AUSTRALIA, 1936-37 TO 1965-66

Period	Change in stocks (*a*)	Production	Exports	Curing and canning	Apparent consumption (as pork or smallgoods) in Australia	
					Total	Per head per year
	'000 tons	'000 tons	'000 tons	'000 tons	'000 tons	lb
Average for three years ended—						
1938–39	n.a.	88.5	13.7	48.6	26.2	8.5
1948–49	−1.2	92.8	6.3	63.4	24.3	7.1
1958–59	..	97.4	0.8	53.0	43.6	10.1
Year—						
1961–62	−0.7	120.5	0.9	55.8	64.4	13.6
1962–63	−1.8	114.4	0.2	58.0	57.9	12.0
1963–64	−3.1	111.3	0.2	57.5	56.7	11.5
1964–65	−0.4	120.2	0.4	60.6	59.7	11.9
1965–66	..	133.1	0.5	63.7	69.0	13.5

(*a*) Includes allowance for imports.

PRODUCTION AND DISPOSAL OF BACON AND HAM (CURED CARCASS WEIGHT): AUSTRALIA, 1936-37 TO 1965-66

Period	Change in stocks	Production	Exports	Canning	Apparent consumption in Australia	
					Total	Per head per year
	'000 tons	'000 tons	'000 tons	'000 tons	'000 tons	lb
Average for three years ended—						
1938–39	n.a.	32.5	1.0	..	31.5	10.2
1948–49	..	45.1	3.1	2.1	39.9	11.7
1958–59	+0.1	37.1	0.5	6.0	30.5	7.1
Year—						
1961–62	..	39.9	0.1	6.8	32.9	7.0
1962–63	−0.1	41.7	0.1	5.7	35.9	7.4
1963–64	−0.1	41.5	0.1	5.5	36.1	7.3
1964–65	..	43.3	0.1	5.2	37.9	7.6
1965–66	+0.2	46.0	0.2	6.6	39.0	7.6

Exports of pigs and pig products

Total quantities and values of exports of pigs and pig products of Australian origin for the years 1963–64 to 1965–66 are given in the following table.

EXPORTS OF PIGS AND PIG PRODUCTS: AUSTRALIA, 1963-64 TO 1965-66

		Quantity			Value ($'000 f.o.b.)		
		1963–64	1964–65	1965–66	1963–64	1964–65	1965–66
Bacon and ham (including canned)	'000 lb	186	379	487	120	259	334
Lard	'000 lb	95	231	157	22	32	27
Frozen pork	'000 lb	370	818	1,064	133	324	436
Pigs, live	number	547	n.a.	n.a.	80	n.a.	n.a.

The poultry industry

Originally the poultry industry was conducted in conjunction with other branches of rural activity, mainly dairying, but it is now a specialised and distinct industry. It is from this source that the bulk of the commercial production is obtained. Practically all farm households keep poultry for the purpose of supplying their own domestic requirements, and some supplies from this source are also marketed. In addition, some private homes in both rural and suburban areas keep small numbers of fowls in back-yard runs to help satisfy domestic needs. Because of the incompleteness of data available on poultry throughout Australia, details of poultry numbers are not published.

Stabilisation scheme for the egg industry

A Commonwealth industry stabilisation scheme for the egg industry has been in operation since 1 July 1965. The principal features of the scheme are embodied in three Commonwealth Acts—*Poultry Industry Levy Act* 1965–1966, *Poultry Industry Levy Collection Act* 1965–1966, and *Poultry Industry Assistance Act* 1965–1966.

The scheme provides for the imposition of a levy on hens over six months of age kept for commercial purposes. The money obtained from the levy is used to meet trading losses on surplus eggs. Previously, returns to producers were equalised by State Egg Boards, who imposed an equalisation deduction to cover deficits which resulted from sales to overseas markets.

In determining the rate of the hen levy, the Minister for Primary Industry is required to take into consideration any recommendations by the Council of Egg Marketing Authorities of Australia (which consists of all members of the State Egg Marketing Boards) and is precluded from prescribing a rate in excess of such recommendations. The initial rate of levy was set at about 2.71c per hen per fortnight (the equivalent of $0.70 per bird per year). This rate was increased to 2.80c on 23 February 1966. Following upon recommendations by the Council of Egg Marketing Authorities of Australia, the Minister for Primary Industry approved an increase in the levy to 3.50c per fortnight operative from 13 July 1966. As from 19 April 1967 the levy was increased to 5.00c per fortnight for the remainder of the financial year 1966 67. This had the effect of raising the total levy for the year to the maximum permitted under the legislation of $1.00 per hen per year.

Exemptions from payment are granted on the first 20 hens in each flock and also on a substantial proportion of broiler breeder hens. The eggs produced by broiler breeder hens which are not used for hatching determine the proportion of those hens on which the levy becomes payable in accordance with a formula incorporated in the legislation.

By agreement with the Commonwealth, the State Egg Boards collect the levy from individual producers and remit the total amount to the Commonwealth. The Commonwealth Government pays into the Poultry Industry Trust Fund amounts equal to the receipts obtained from the hen levy. These amounts totalled $6,427,000 in 1965–66. Payments from the Fund are made to the State Governments for financial assistance to the poultry industry, and are authorised by the Minister for Primary Industry, after consideration has been given to the recommendations by the Council of Egg Marketing Authorities of Australia. Payments from the Trust Fund totalled $5,540,000 in 1965–66.

Research

The *Poultry Industry Assistance Act* 1965–1966 permits expenditure from the Poultry Industry Trust Fund to be made for research. The Commonwealth Government has agreed to match expenditure from this Fund on a $1 for $1 basis with a limit to its contribution of $100,000. There is no restriction on the amount which may be expended from the Fund for research purposes.

Research projects are recommended by the Council of Egg Marketing Authorities of Australia for approval by the Minister for Primary Industry. Expenditure may be approved for scientific technical or economic research, the publication of reports thereon, the training of persons for research, and the dissemination of information and advice on scientific, technical or economic matters.

Marketing of eggs

Details of the annual contracts entered into between the United Kingdom and Australian Governments up to 1952–53 and of the results of trading under free market conditions in the four years following appear in previous issues of the Year Book.

Australian exports of shell eggs in 1965–66 amounted to 3,935,000 dozen compared with 3,327,000 dozen in 1964–65. The main outlets for Australian eggs in 1965–66 were the United Kingdom (1,040,000 dozen), Kuwait (925,000 dozen), Federation of South Arabia (446,000 dozen), Federal Republic of Germany (239,000 dozen), and Qatar (201,000 dozen).

The United Kingdom provides the major export market for egg pulp. Australian exports of pulp to that country were approximately 15,215,000 lb in 1964–65 and 7,400,000 lb in 1965–66. In 1965–66 the United Kingdom absorbed the bulk of the exports of dried eggs (233,000 lb) also.

Details of the *Egg Export Control Act* 1947 were given in earlier issues of the Year Book (*see* No. 47, page 997).

Recorded production of eggs and egg products

Available statistics of the production and disposal of eggs in Australia are restricted to those recorded by the Australian Egg Board and the Egg Marketing Board of New South Wales. Details of production as recorded by these authorities are shown in the following table.

SHELL EGGS: PRODUCTION(*a*) RECORDED BY EGG BOARDS STATES, 1961-62 TO 1965-66

('000 dozen)

State	1961–62	1962–63	1963–64	1964–65	1965–66
New South Wales(*b*)	61,657	54,609	56,713	62,918	65,240
Victoria	29,939	26,794	24,992	28,016	29,925
Queensland	10,176	11,290	12,459	14,182	17,062
South Australia	11,388	9,816	8,731	9,354	11,218
Western Australia	7,558	7,796	8,331	9,620	9,295
Tasmania	n.a.	n.a.	n.a.	n.a.	n.a.
Total(*c*)	**120,718**	**110,305**	**111,226**	**124,089**	**132,740**

(*a*) Receipts from consignors and sales by producer agents. (*b*) Includes Australian Capital Territory. (*c*) Excludes Tasmania.

Particulars of the production of whole egg pulp as recorded by the Egg Marketing Board for the State of New South Wales and by the Australian Egg Board for the other States are shown in the following table.

LIQUID WHOLE EGG PULP: PRODUCTION RECORDED BY EGG BOARDS STATES, 1961–62 TO 1965–66

('000 lb)

State	1961–62	1962–63	1963–64	1964–65	1965–66
New South Wales	20,916	11,500	9,272	18,463	12,539
Victoria	12,000	7,684	3,216	5,456	3,283
Queensland	3,321	3,864	3,922	5,731	5,443
South Australia	3,374	2,836	3,001	2,639	4,148
Western Australia	620	533	835	1,450	977
Tasmania	n.a.	n.a.	n.a.	n.a.	n.a.
Total(*a*)	**40,231**	**26,417**	**20,246**	**33,739**	**26,390**

(*a*) Excludes Tasmania.

In addition to liquid whole egg, production was also recorded of liquid egg whites and liquid egg yolks. Output in 1965–66 amounted to 3,877,000 lb and 2,663,000 lb, respectively, compared with 2,866,000 lb and 2,135,000 lb, respectively, in the previous year. These figures exclude small quantities produced in Tasmania for which details are not available.

Consumption of eggs and egg products

Because of the operations of producers in areas outside the control of the Egg Boards and the extent of 'back-yard' poultry-keeping, for which no statistics are collected, figures relating to total egg production must be accepted with some reserve. The production shown in the following table, together with details of exports and consumption, is based upon the records of Egg Boards of production from areas under their control, plus estimates of production from uncontrolled areas and from 'back-yard' poultry-keepers.

ESTIMATED PRODUCTION AND DISPOSAL OF EGGS IN SHELL AUSTRALIA, 1936–37 TO 1965–66

Period	Change in stocks	Estimated total production	Exports (*a*)	For drying and pulping(*b*)	Apparent consumption in Australia	
					Total	Per head per year
Average three years ended—	mill. doz	mill. doz	mill. doz	mill. doz	mill. doz	dozen
1938–39	−0.1	152.7	13.0	5.5	134.3	19.5
1948–49	+0.1	204.7	17.7	39.1	147.8	19.3
1958–59	+0.1	189.9	9.6	23.0	157.2	16.1
Year—						
1961–62	−0.2	215.8	5.8	35.5	174.7	16.5
1962–63	−0.3	207.2	4.6	23.9	179.0	16.6
1963–64	+1.2	210.1	4.3	21.0	183.6	16.7
1964–65	+0.1	225.0	4.2	31.9	188.8	16.8
1965–66	−0.1	227.3	4.7	27.2	195.5	17.1

(*a*) Includes ships' stores. (*b*) Includes wastage.

Details of the annual consumption of shell eggs, liquid whole egg and total shell egg equivalent per head of population are shown in the following table.

SUPPLIES OF EGGS AND EGG PRODUCTS AVAILABLE FOR CONSUMPTION: AUSTRALIA 1936–37 TO 1965–66

(Per head per year)

Period	Eggs in shell	Liquid whole egg and egg powder (*a*)	Total	
			Number	Weight(*b*)
Average for three years ended—	number	number		lb
1938–39	235	8	243	26.6
1948–49	232	23	255	27.9
1958–59	194	12	206	22.5
Year—				
1961–62	198	14	211	(*c*) 26.4
1962–63	199	11	210	(*c*) 26.3
1963–64	200	14	214	(*c*) 26.7
1964–65	202	13	216	(*c*) 26.9
1965–66	205	13	218	(*c*) 27.3

(*a*) In terms of number of eggs in shell. (*b*) The average weight of an egg in Australia was taken as 1.75 oz for years prior to 1960–61. From 1960–61 the average weight has been taken as 2 oz. (*c*) Not comparable with years prior to 1960–61. *see* footnote (*b*)

Overseas trade in poultry products

Details of the exports of poultry products in each of the years 1963–64 to 1965–66 are shown on page 991.

EXPORTS OF POULTRY PRODUCTS: AUSTRALIA
1963–64 TO 1965–66

		Quantity			Value ($'000 f.o.b.)		
		1963–64	1964–65	1965–66	1963–64	1964–65	1965–66
Eggs in shell	'000 doz	3,599	3,327	3,935	1,153	921	1,124
Eggs not in shell—							
In liquid form(*a*)	'000 lb	9,493	17,119	14,484	2,228	3,840	3,280
Dry	'000 lb	421	158	257	168	123	189
Frozen poultry	'000 lb	501	792	857	226	331	350
Poultry, live(*b*)	number	1,027,871	735,911	323,601	258	184	79

(*a*) Includes frozen pulp. (*b*) Includes day-old chicks.

Imports of canned poultry in 1965–66 amounted to 526,000 lb, valued at $138,000, compared with 226,000 lb, valued at $63,000, in 1964–65.

The bee-farming industry

Production of honey and bees-wax

Although practised as a separate industry, bee-farming is also carried on in conjunction with other branches of farming. It is a feature of the industry that it consists mainly of itinerant apiarists operating on a large scale with mobile equipment. Some of these apiarists move as far afield as from Victoria to Queensland in an endeavour to provide a continuous supply of nectar from flora suitable for their bees. The returns of honey from productive hives during 1965–66 show an average of 128.9 lb per hive, and the average quantity of wax was 1.7 lb per productive hive.

BEEHIVES, HONEY AND BEES-WAX: STATES AND A.C.T., 1965-66

State or Territory	Beehives(*a*)			Honey produced		Bees-wax produced	
	Productive	Unproductive	Total	Quantity	Gross value	Quantity	Gross value
	'000	'000	'000	'000 lb	$'000	'000 lb	$'000
New South Wales	92	75	167	7,343	953	95	46
Victoria	82	19	101	9,608	1,403	115	55
Queensland	22	20	41	1,472	145	25	11
South Australia	66	9	75	9,929	858	136	53
Western Australia	42	9	51	10,923	650	138	52
Tasmania	7	3	9	630	86	8	7
Australian Capital Territory	1	1	1	80	8	1	..
Australia	**310**	**135**	**446**	**39,985**	**4,103**	**519**	**224**

(*a*) At 30 June 1966.

The production of honey and bees-wax fluctuates considerably and is determined mainly by the flow of nectar from flora, particularly the eucalypts, which varies greatly from year to year.

HONEY AND BEES-WAX PRODUCTION: STATES AND A.C.T. 1936-37 TO 1965-66

('000 lb)

Period	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	A.C.T.	Aust.
HONEY								
Average for three years ended—								
1938–39	3,005	3,107	700	2,874	1,299	200	3	11,188
1948–49	14,934	8,232	2,185	8,292	2,831	206	34	36,714
1958–59	12,853	7,239	2,071	5,924	6,548	398	44	35,077
Year—								
1961–62	15,326	10,314	1,281	8,405	7,982	279	64	43,651
1962–63	14,087	4,818	2,941	4,147	6,099	547	40	32,679
1963–64	15,135	9,460	2,053	9,722	8,510	632	135	45,647
1964–65	13,701	9,180	3,794	6,527	8,066	715	97	42,080
1965–66	7,343	9,608	1,472	9,929	10,923	630	80	39,985
BEES-WAX								
Average for three years ended—								
1938–39	49	39	11	38	23	2	.	162
1948–49	174	86	36	110	34	3	..	443
1958–59	163	81	31	94	81	5	..	455
Year—								
1961–62	208	135	22	123	94	4	1	587
1962–63	177	64	44	56	79	6	..	426
1963–64	194	110	32	134	103	6	2	581
1964–65	185	105	52	90	106	10	1	549
1965–66	95	115	25	136	138	8	1	519

Honey levy

A levy is imposed on domestic sales of honey for the purpose of financing the operations of the Australian Honey Board. The current rate of levy, which became effective on 14 February 1966, is four-tenths of a cent per lb, but under the provisions of the *Honey Levy Act* 1962–66, it can be increased by regulation to a maximum of one cent per lb. The proceeds of this levy may be expended on the regulation of Australian exports of honey and on associated promotional and research activities. In 1963–64, 1964–65 and 1965–66 collections amounted to $81,000, $104,000 and $101,000 respectively.

Overseas trade in bee products

The principal importer of Australian honey in 1965–66 was the United Kingdom, importing 13,229,000 lb, valued at $1,203,000.

Bees-wax was exported mainly to the United Kingdom and the Federal Republic of Germany in 1965–66.

EXPORTS OF HONEY AND BEES-WAX: AUSTRALIA, 1963-64 TO 1965-66

		Quantity			Value ($'000 f.o.b.)		
		1963–64	1964–65	1965–66	1963–64	1964–65	1965–66
Honey	'000 lb	18,859	13,710	16,234	2,764	1,431	1,646
Bees-wax	lb	161,347	257,828	238,198	71	111	104

Value of dairy, poultry and bee production and indexes of price and quantum of production

Value of dairy, poultry and bee production, 1961-62 to 1965-66

The following table shows the gross value of dairy, poultry and bee products recorded at the principal markets in Australia.

GROSS VALUE OF DAIRY, POULTRY AND BEE PRODUCTION: AUSTRALIA
1961-62 TO 1965-66
($'000)

	1961-62	1962-63	1963-64	1964-65	1965-66
DAIRYING					
Whole milk used for—					
Butter(*a*)	135,824	147,076	152,750	157,989	154,862
Cheese(*a*)	22,682	25,116	27,456	30,119	25,603
Preserved milk products	19,282	19,088	21,132	23,806	24,197
Other purposes	131,946	132,010	138,522	145,310	149,589
Subsidy paid on whole milk for—					
Butter	24,494	24,500	24,500	24,500	24,500
Cheese	2,506	2,500	2,500	2,500	2,500
Total, whole milk (including subsidy)	*336,734*	*350,290*	*366,860*	*384,224*	*381,250*
Pigs slaughtered	53,906	62,606	65,998	75,408	77,284
Dairy cattle slaughtered	21,832	26,482	30,664	45,624	49,438
Total, dairying	**412,472**	**439,378**	**463,522**	**505,256**	507,973
POULTRY					
Total, poultry	**121,722**	**123,630**	**138,182**	**137,425**	**154,603**
BEE-FARMING					
Honey	3,754	3,296	5,778	4,866	4,103
Bees-wax	260	184	250	253	224
Total, bee-farming	**4,014**	**3,480**	**6,028**	**5,119**	(*b*) **4,323**

(*a*) Excludes Commonwealth subsidy which is shown separately. (*b*) Discrepancy in addition due to wording.

Values of dairy, poultry and bee-farming production for 1965-66 and earlier years are shown in the following tables. Further information on values, including definitions of the terms used, is given in the chapter Miscellaneous.

GROSS, LOCAL AND NET VALUE OF DAIRY, POULTRY AND BEE PRODUCTION STATES AND TERRITORIES, 1965-66

($'000)

State or Territory	Gross production valued at principal markets	Marketing costs	Local value of production	Value of materials used in process of production	Net value of production(a)
New South Wales	224,228	31,540	192,688	(b) 59,956	132,732
Victoria	242,116	13,065	229,050	64,268	164,782
Queensland	87,877	6,363	81,515	28,102	53,413
South Australia	48,774	2,201	46,573	19,017	27,556
Western Australia	32,899	1,945	30,954	14,028	16,926
Tasmania	29,806	1,638	28,168	8,426	19,741
Northern Territory	310	2	308	n.a.	308
Australian Capital Territory	889	78	811	266	545
Australia	**666,899**	**56,832**	**610,067**	**194,063**	**416,003**

(a) No deduction has been made for depreciation and maintenance. (b) No allowance has been made for costs of power, power kerosene, petrol and other oils.

NET VALUE OF DAIRY, POULTRY AND BEE PRODUCTION(a) STATES AND TERRITORIES, 1961-62 TO 1965-66

Year	N.S.W. (b)	Vic.	Qld	S.A.	W.A.	Tas.	Aust. (c)
			NET VALUE ($'000)				
1961–62	117,804	112,752	47,126	22,320	10,444	14,708	325,964
1962–63	124,912	135,426	52,932	21,498	11,332	16,334	363,184
1963–64	131,838	152,640	57,018	23,604	12,714	18,116	396,870
1964–65	135,235	161,371	55,550	27,080	14,709	20,760	415,771
1965–66	132,732	164,782	53,413	27,556	16,926	19,741	416,003
			NET VALUE PER HEAD OF POPULATION($)				
1961–62	29.82	38.14	30.79	22.85	14.01	41.65	30.74
1962–63	31.09	44.98	34.08	21.59	14.78	45.61	33.63
1963–64	32.35	49.69	35.99	23.13	16.15	49.95	36.05
1964–65	32.68	51.48	34.39	25.83	18.26	56.69	37.04
1965–66	31.57	51.63	32.42	25.57	20.52	53.44	36.35

(a) No deduction has been made for depreciation and maintenance. (b) No deduction has been made for costs of power, power kerosene, petrol and other oils. (c) Includes Northern Territory and Australian Capital Territory.

Indexes of quantum and price of dairy, poultry and bee production

For details of the methods of calculating these indexes and of the weights used *see* the chapter Miscellaneous.

INDEXES OF QUANTUM(*a*) AND PRICE OF DAIRY, POULTRY AND BEE PRODUCTION: AUSTRALIA, 1961-62 TO 1965-66

(*Base: Average 3 years ended June* 1939 = 100)

	1961–62	1962–63	1963–64	1964–65	1965–66
Quantum(*a*) of production—					
Milk	125	129	131	132	133
Other products	135	130	133	143	147
Total, dairy, poultry and bee	*128*	*129*	*131*	*136*	*138*
Per head of population	83	82	82	83	83
Price—					
Milk	373	380	382	403	395
Other products	371	410	452	472	491
Total, dairy, poultry and bee	*373*	*388*	*402*	*423*	*422*

(*a*) Indexes of value at constant prices, i.e. quantities revalued at average unit values of base years 1936–37 to 1938–39.