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 and general rural activity in Australia;
Agricultural production;
Pastoral production; and
Other rural industries, which includes the dairying, pig, poultry and bee-farming industries.

For greater detail on the subjects dealt with in this chapter *see* the annual bulletins *Rural Industries* (10.29), *Value of Production* (10.24) (10.25) (10.26) (10.27), and *Manufacturing Commodities* (12.7) (regarding butter, cheese, etc., factories) issued by this Bureau. Current information on commodities produced is obtainable in the *Quarterly Summary of Australian Statistics* (1.3), *Monthly Review of Business Statistics* (1.4), *Monthly Bulletin of Production Statistics* (12.14), and *Digest of Current Economic Statistics* (monthly) (1.5). The series of bulletins *Classification of Rural Holdings by Size and Type of Activity* (10.28) (*see* page 737) 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 *Apparent Consumption of Foodstuffs and Nutrients* (10.10) 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 Primary Production (excluding Mining) and Indexes of Price and Quantum of Farm Production* (annual) (10.27), *Value of Primary Production (excluding Mining) (Preliminary Statement)* (annual) (10.25), *Gross Value of Primary Production (excluding Mining) (Preliminary Estimates)* (annual) (10.24), *Farm Machinery on Rural Holdings* (annual) (10.7), *New Tractors: Receipts, Sales and Stocks* (quarterly) (12.18), and *New Agricultural Machinery* (quarterly) (12.1).

Agricultural production. *Rural Land Use and Crop Production* (annual) (10.30), *Agricultural Statistics (Preliminary Statement)* (annual) (10.2), *The Wheat Industry* (four a year) (10.35) (10.36) (10.52) (10.53), *The Fruit Growing Industry* (annual) (10.11), and *Fruit Statistics (Preliminary Statement)* (annual) (10.12), *Principal Crop Statistics: Australia, Preliminary Estimates* (annual) (10.50).

Pastoral production. *Livestock Statistics* (annual) (10.15), *Livestock Numbers* (annual) (10.14), *The Meat Industry* (monthly) (10.16), *Wool Production* (annual) (10.39), and *Wool Production and Utilisation* (annual) (10.38).

Other rural production. *The Dairying Industry* (monthly (10.6) and annual (10.5)), *Chicken Hatchings and Poultry Slaughterings* (monthly) (10.44), *Production Summaries No. 36—Preserved Milk Products* and *No. 55—Butter and Cheese* (monthly) (12.16), and *Bee Farming* (annual) (10.3).

Detailed particulars of the early development of various aspects of Australian rural industry are given in previous issues of the Year Book up to No. 53 (*see*, for example No. 53, pages 885, 888, 891–2).

Rural debt. For estimated figures of rural debt to specified lenders for the years 1966–67 to 1970–71 *see* page 517 of this Year Book.

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

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, 1967 TO 1971

('000 acres)

Year	*N.S.W.(a)*	*Vic.(a)*	*Qld(b)*	*S.A.(a)*	*W.A.(a)*	*Tas.(a)*	*N.T.(a)*	*Total(c)*
1967	15,875	(*b*)8,921	27,240	22,878	80,491	4,938	60,974	221,317
1968	15,872	(*b*)8,952	27,833	22,919	80,658	5,327	60,988	222,549
1969	15,849	n.a.	28,209	22,919	80,772	6,313	61,124	n.a.
1970	15,793	(*d*)7,787	28,466	22,925	84,018	6,374	62,217	227,580
1971	15,747	(*d*)7,790	28,636	22,939	90,333	6,240	62,348	234,033

(*a*) At 30 June. (*b*) At 31 December. (*c*) Excludes the Australian Capital Territory. (*d*) Excludes areas set aside for roads.

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

New South Wales. For travelling stock, 4,923,477 acres; forest reserves, 1,539,824 acres; water and camping reserves, 755,541 acres; mining reserves, 995,226 acres; recreation and parks, 732,489 acres; other reserves, 6,800,690 acres; total, 15,747,247 acres.

Victoria. Water reserves, 214,285 acres; forest and timber reserves, 5,805,616 acres; national parks, 506,531 acres; public parks and camping reserves, 120,316 acres; other reserves (excluding roads), 1,143,132 acres; total, 7,789,880 acres.

Queensland. For timber reserves, 1,736,838 acres; State forests and national parks, 10,206,459 acres; Aboriginal reserves, 7,005,672 acres; streets, surveyed roads and stock routes, 4,320,533 acres; general reserves, 5,366,152 acres; total, 28,635,654 acres.

South Australia. Total area of surveyed roads, railways and other reserves, 22,938,564 acres including 18,842,645 acres set apart as Aboriginal reserves.

Western Australia. For State forests, 4,476,608 acres; timber reserves, 169,648 acres; other reserves, 85,686,507 acres; total, 90,332,763 acres.

Tasmania. For forest reserves, 5,211,000 acres; national parks, 1,029,000 acres; total, 6,240,000 acres.

Northern Territory. For Aboriginal, defence and public requirements, 62,348,000 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 16 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; in Tasmania about one-third is leased or licensed, while about one-quarter of 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 Year Book No. 53.

AREAS OCCUPIED UNDER LEASE OR LICENCE OTHER THAN MINING AND FORESTRY: STATES AND TERRITORIES, 1967 TO 1971

('000 acres)

Year	N.S.W.(a)	Vic.(a)	Qld(b)	S.A.(a)	W.A.	Tas. (a)	N.T. (a)(c)	A.C.T. (a)(c)	Total
1967	111,300	(b)5,993	359,152	149,192	(a)244,715	915	194,543	262	1,066,072
1968	110,499	(b)5,636	353,163	149,530	(a)244,804	766	191,595	254	1,056,247
1969	112,250	n.a.	346,946	149,327	(a)245,240	699	192,966	251	n.a.
1970	111,501	(a)5,469	342,003	149,951	(a)247,010	698	197,033	251	1,053,916
1971	111,342	(a)5,535	339,024	149,651	(b)252,034	851	199,136	243	1,057,816

(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. At 30 June 1970, 9,129 farms had been allotted from a total area of 13,936,731 acres acquired and no further farms are to be provided.

Particulars of expenditure on war service land settlement, to 30 June 1968, are given in Year Book No. 55, pages 716–17.

Alienation and occupation of Crown lands

Detailed particulars of the alienation and occupation of Crown lands in the several States and Territories are given in previous issues of the Year Book up to No. 53 (*see* No. 53, pages 878–81).

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 1971.

ALIENATION AND OCCUPATION OF CROWN LANDS: STATES AND TERRITORIES, 1971

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)	61,996	31.3	3,904	2.0	112,926	57.0	19,211	9.7	198,037
Vic.(b)	33,299	59.2	384	0.7	5,535	9.8	17,028	30.3	56,246
Qld(c)	27,557	6.5	32,469	7.6	342,950	80.3	23,903	5.6	426,880
S.A.(b)	16,023	6.6	293	0.1	149,651	61.5	77,278	31.8	243,245
W.A.(c)	34,419	5.5	14,411	2.3	254,409	40.7	321,350	51.4	624,589
Tas.(b)	6,677	39.5	246	1.5	5,365	31.8	4,597	27.2	16,885
N.T.(b)	312	0.1	..	..	199,136	59.8	133,531	40.1	332,979
A.C.T.(b)(d)	84	14.0	9	1.6	243	40.5	264	43.9	601
Australia	**180,367**	**9.5**	**51,716**	**2.7**	**1,070,215**	**56.3**	**597,164**	**31.4**	**1,899,462**

(a) Occupied by Crown; reserved; unoccupied; unreserved. (b) At 30 June. (c) At 31 December. (d) 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 for the production of agricultural produce (including fruit and vegetables) or for the raising of livestock (including poultry) 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 only occasionally occupied.

RURAL HOLDINGS: NUMBER AND AREA, STATES AND TERRITORIES, 1966-67 TO 1970-71

Year	N.S.W.	Vic.(a)	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
NUMBER OF RURAL HOLDINGS									
1966–67	76,251	68,466	43,858	28,957	23,181	10,641	304	200	251,858
1967–68	76,225	72,802	43,694	29,058	23,116	10,631	305	196	256,027
1968–69	76,103	71,056	44,074	29,137	23,004	10,384	317	195	254,270
1969–70	75,908	69,498	43,829	29,035	22,937	10,159	322	193	251,881
1970–71	75,365	68,555	43,399	29,087	22,592	9,926	384	187	249,495
TOTAL AREA OF RURAL HOLDINGS ('000 acres)									
1966–67	171,652	38,653	379,977	161,510	274,765	6,507	170,018	350	1,203,431
1967–68	171,767	39,564	380,993	160,765	275,334	6,579	174,385	350	1,209,737
1968–69	171,020	39,182	378,956	162,109	276,174	6,591	177,942	346	1,212,320
1969–70	170,630	39,057	380,218	162,692	280,819	6,517	182,116	339	1,222,387
1970–71	171,068	38,945	382,253	162,584	283,107	6,501	184,943	337	1,229,739

(a) In 1967–68 the lists of land holdings used in the collection of agricultural and pastoral statistics in Victoria were reconciled with lists of rateable land of one acre or more in extent as recorded by municipalities for rating purposes.

Land utilisation of rural holdings

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

RURAL HOLDINGS: LAND UTILISATION, 1966-67 TO 1970-71
('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
1970–71—					
New South Wales	12,121	2,422	11,879	144,645	171,068
Victoria	4,519	2,300	21,093	11,032	38,945
Queensland	4,614	1,753	6,339	369,547	382,253
South Australia	6,220	1,000	6,254	149,111	162,584
Western Australia	9,468	1,463	17,254	254,922	283,107
Tasmania	210	57	2,061	4,17.	6,501
Northern Territory	7	..	197	184,739	184,943
Australian Capital Territory	6	..	96	235	337
Australia	**37,165**	**8,995**	**65,173**	**1,118,406**	**1,229,739**
1969–70	42,163	7,127	61,252	1,111,845	1,222,387
1968–69	43,778	9,525	56,693	1,102,324	1,212,320
1967–68	38,730	9,340	54,379	1,107,287	1,209,737
1966–67	37,084	9,784	51,474	1,105,089	1,203,431

(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 1968–69 Agricultural 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 have been published in a series of bulletins *Classification of Rural Holdings by Size and Type of Activity*, 1968–69. Similar information was published in a series of bulletins for the years 1959–60 and 1965–66. 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 and Victoria. 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 1971

Males engaged	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
Permanent—									
Owners, lessees or share-farmers	54,232	50,970	41,363	21,264	16,388	6,652	198	113	191,180
Relatives of owner, lessee or share-farmer, over 14 years of age, not receiving wages or salary	744	2,650	2,627	304	1,706	..	19	12	8,062
Employees, including managers and relatives working for wages or salary	24,821	11,926	14,865	6,674	6,598	3,082	1,559	142	69,667
Total permanent males	*79,797*	*65,546*	*58,855*	*28,242*	*24,692*	*9,734*	*1,776*	*267*	*268,909*
Temporary	25,452	16,728	14,936	8,196	(b)	4,703	457	28	(b)
Total males	**105,249**	**82,274**	**73,791**	**36,438**	(b)	**14,437**	**2,233**	**295**	(b)

(a) Details for females not available except for New South Wales and Victoria where 8,032 and 7,619 females respectively were engaged on rural holdings. (b) Not available for publication.

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 1970–71. Data for New South Wales, and hence Australia, are not available.

EMPLOYEES ON RURAL HOLDINGS: SALARIES AND WAGES PAID(*a*)
STATES AND TERRITORIES, 1970-71
($'000)

Employees	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
Males and females—									
Permanent	(*b*)	32,754	40,796	16,815	20,379	8,440	3,949	518	(*b*)
Temporary(*c*)	(*b*)	30,496	46,483	16,357	19,413	5,705	631	166	(*b*)
Total	(*b*)	**63,250**	**87,279**	**33,172**	**39,792**	**14,145**	**4,580**	**684**	(*b*)

(*a*) Includes value of keep. (*b*) Not available. (*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.

Persons residing permanently on holdings

Particulars of persons (of all ages) residing permanently on rural holdings in each State and Territory at 31 March 1971, and throughout Australia for a series of years, are as follows.

PERSONS (OF ALL AGES) RESIDING PERMANENTLY ON RURAL HOLDINGS
STATES AND TERRITORIES, 31 MARCH 1971

	N.S.W.	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.(a)*	*A.C.T.*	*Aust.*
Males	138,084	127,050	93,687	53,347	45,383	20,352	4,026	431	482,360
Females	121,828	113,144	78,819	47,529	38,163	18,277	2,970	373	421,103
Total	**259,912**	**240,194**	**172,506**	**100,876**	**83,546**	**38,629**	**6,996**	**804**	**903,463**

(*a*) Includes Aborigines.

PERSONS (OF ALL AGES) RESIDING PERMANENTLY ON RURAL HOLDINGS
AUSTRALIA, 31 MARCH 1967 TO 1971

	31 March				
	1967	*1968*	*1969*	*1970*	*1971*
Males	529,378	525,754	516,365	502,099	482,360
Females	457,507	455,050	447,809	435,948	421,103
Total	**986,885**	**980,804**	**964,174**	**938,047**	**903,463**

Farm machinery on rural holdings

The tables following show the principal types of farm machinery on rural holdings in the States and Territories at 31 March 1971. Additional information was published in the statistical bulletin *Farm Machinery on Rural Holdings, Australia, 31 March 1971*. A more detailed analysis of tractors on rural holdings according to type, horse-power, type of fuel used, and age of tractor was published in the statistical bulletin *Tractors on Rural Holdings—Australia, 31 March 1969*. Details of grain and seed harvesters on rural holdings at 31 March 1970, classified according to type of propulsion, width of cut, age and type of front were published in the statistical bulletin *Grain and Seed Harvesters on Rural Holdings, 31 March 1970*.

FARM MACHINERY ON RURAL HOLDINGS: STATES AND TERRITORIES, 31 MARCH 1971

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	7,822	6,710	2,524	3,206	1,518	1,196	54	29	23,059
Tractor-mounted or trailing type	7,764	5,663	5,029	2,236	1,616	906	34	16	23,264
Seeding and planting—									
Grain drills—									
Combine type	28,628	19,710	14,453	15,100	14,043	1,511	65	57	93,567
Other types	5,193	8,394	2,012	4,804	3,046	2,225	17	26	25,717
Maize and cotton planters(*a*)	8,489	811	8,635	(*b*)	128	(*b*)	17	3	(*c*)18,083
Fertiliser distributors and broadcasters—									
Rotary	18,625	25,285	7,355	8,191	9,315	4,229	64	70	73,134
Direct drop	6,561	4,052	10,531	1,476	668	1,654	15	26	24,983
Harvesting—									
Grain and seed headers and harvesters(*d*)—									
Self-propelled	4,972	1,648	3,137	2,216	1,727	142	19	10	13,871
Tractor drawn	15,262	11,641	4,343	8,992	9,018	599	29	20	49,904
Agricultural mowers—									
Reciprocating—									
Power-driven	19,116	28,479	8,745	9,511	6,776	4,942	46	83	77,698
Ground-driven	1,134	1,288	1,852	647	275	512	3	7	5,718
Rotary types	10,660	11,196	8,489	2,845	2,792	1,760	85	27	37,854
Hay rakes—									
Side delivery	14,196	17,976	5,821	6,755	5,208	2,614	49	47	52,666
Other (including buck and dump)	4,719	5,498	9,492	2,199	3,293	1,640	9	16	26,866
Pick-up baiers	12,069	14,692	3,581	5,404	4,329	2,019	43	50	42,187
Potato diggers	1,518	2,378	1,157	694	476	(*e*)944	(*b*)	(*b*)	(*c*)7,167
Forage harvesters	2,986	2,134	1,541	814	626	393	20	9	8,523
Peanut pickers	(*b*)	(*b*)	475	(*b*)	(*b*)	(*b*)	4	(*b*)	(*c*)479
Corn pickers	410	88	798	(*b*)	(*b*)	(*b*)	(*b*)	(*b*)	(*c*)1,296
Other—									
Tractors—									
Wheel	86,262	78,807	63,799	33,971	31,917	11,701	370	185	326,725
Crawler		3,071	8,465	3,052	3,741	1,238	138	8	
Hammer mills	9,078	6,434	8,461	3,372	2,524	691	25	18	30,603

(*a*) Number of units, i.e. number of rows that can be planted simultaneously. (*b*) Not collected. (*c*) Incomplete; *see* individual States. (*d*) Excludes reapers, binders, specialised clover harvesters and forage harvesters. (*e*) Includes 95 potato harvesters.

FARM MACHINERY ON RURAL HOLDINGS: AUSTRALIA 31 MARCH 1967 TO 1971

Machinery	*31 March— 1967*	*1968*	*1969*	*1970*	*1971*
Rotary hoes and rotary tillers—					
Self-contained power unit	27,788	27,174	25,722	24,549	23,059
Tractor-mounted or trailing type	17,881	20,333	21,581	20,837	23,264
Seeding and planting—					
Grain drills—					
Combine type	92,530	94,094	94,650	94,917	93,567
Other types	29,605	29,634	28,490	27,196	25,717
Maize and cotton planters	14,260	13,826	(*a*)18,495	(*a*)18,646	(*a*)18,083
Fertiliser distributors and broadcasters	93,064	95,853	97,119	98,434	98,117
Harvesting—					
Grain and seed headers and harvesters—					
Self-propelled	10,273	11,953	13,213	13,191	13,871
Tractor drawn	54,644	55,929	53,883	50,163	49,904
Pick-up balers	36,688	38,211	40,142	41,237	42,187
Forage harvesters	7,214	7,545	8,016	8,421	8,523
Other—					
Shearing machines (number of stands)	193,226	195,542	196,286	195,352	n.a.
Milking machines (number of units)	235,325	233,022	231,698	228,190	n.a.
Tractors—					
Wheel	314,670	323,982	299,297	329,969	326,725
Crawler			24,299		

(*a*) Definition changed in 1969 when informants were asked to report in terms of numbers of units, i.e. the number of rows that can be planted simultaneously. Figures not strictly comparable with earlier years.

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

The bulk of Australia's requirements of nitrogenous and phosphatic fertilisers is supplied by the domestic industry. Requirements of potassic fertilisers are primarily imported. Raw materials and manufactured fertilisers which are not available in Australia are imported as required.

As a result of widespread deficiency of phosphorus in Australian soils, phosphatic fertilisers account for a large proportion of usage both on crops and pastures. During 1970–71, 3,065,808 tons of superphosphate were manufactured in Australia; nitrogen, phosphorus, and potassium are used in the ratio 1:7:1 approximately.

Information regarding the area treated with artificial fertilisers and the quantity of artificial fertilisers (superphosphate, bonedust, nitrates, etc.) used in each State during the 1970–71 season is given in the following table.

AREA FERTILISED AND QUANTITY OF ARTIFICIAL FERTILISERS USED
STATES AND TERRITORIES, 1970-71

	Crops			*Pastures*			*Total*		
State or Territory	*Area fertilised*	*Super-phosphate used*	*Other artificial fertilisers used*	*Area fertilised*	*Super-phosphate used*	*Other artificial fertilisers used*	*Area fertilised*	*Super-phosphate used*	*Other artificial fertilisers used*
	'000 acres	tons	tons	'000 acres	tons	tons	'000 acres	tons	tons
New South Wales	6,293	265,127	87,818	8,018	454,666	20,617	14,311	719,793	108,435
Victoria	3,779	184,407	47,580	9,833	605,148	79,114	13,613	789,555	126,694
Queensland	1,193	54,445	191,480	382	33,767	10,178	1,576	88,212	201,658
South Australia	4,654	238,700	27,930	4,788	263,022	8,863	9,442	501,722	36,793
Western Australia	9,445	453,548	80,989	12,438	667,738	28,021	21,883	1,121,286	109,010
Tasmania	199	17,376	12,936	1,325	95,792	13,921	1,524	113,168	26,857
Northern Territory	4	249	228	95	5,126	40	99	5,375	268
Australian Capital Territory	3	179	83	34	1,693	151	38	1,872	234
Australia	**25,571**	**1,214,031**	**449,044**	**36,913**	**2,126,952**	**160,905**	**62,484**	**3,340,983**	**609,949**

Particulars of the quantity of artificial fertilisers used in each State and Territory during each of the seasons 1966–67 to 1970–71 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
1966-67 TO 1970-71

(Tons)

Year	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
1966–67	864,569	1,113,392	242,615	598,808	1,096,555	169,756	681	3,393	4,089,769
1967–68	893,469	1,068,605	263,460	599,877	1,219,968	172,195	4,629	2,695	4,224,898
1968–69	897,893	954,807	264,973	580,756	1,323,293	160,462	5,117	2,195	4,189,496
1969–70	903,334	1,007,216	292,376	590,261	1,416,936	153,649	5,414	2,785	4,371,971
1970–71	828,228	916,249	289,870	538,515	1,230,296	140,025	5,643	2,106	3,950,932

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

ARTIFICIAL FERTILISERS: IMPORTS INTO AUSTRALIA, 1966-67 TO 1970-71

Fertiliser	*1966–67*	*1967–68*	*1968–69*	*1969–70*	*1970–71*
	QUANTITY ('000 cwt)				
Ammonium fertilisers	1,973	2,893	2,193	637	318
Potassium fertilisers	2,398	2,602	2,699	2,663	3,066
Phosphate fertilisers	65,436	65,916	63,531	52,986	41,484
Sodium nitrate	99	161	103	100	105
Other	885	887	1,603	547	361
Total	**70,791**	**72,458**	**70,129**	**56,933**	**45,334**
	VALUE ($'000 f.o.b.)				
Ammonium fertilisers	4,161	5,016	3,813	1,815	1,014
Potassium fertilisers	3,875	3,771	3,458	3,584	4,859
Phosphate fertilisers	29,050	32,162	31,606	28,109	22,174
Sodium nitrate	249	390	255	327	295
Other	2,698	3,219	4,247	1,888	994
Total	**40,033**	**44,558**	**43,379**	**35,723**	**29,336**

Exports of fertilisers (manufactured locally) amounted to 293,000 cwt valued at $205,000 in 1970–71 compared with 249,000 cwt valued at $934,000 in 1969–70.

Aerial agriculture

Extensive use is 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 1970–71 the total was 11,320,000 acres. The following table shows details of area treated and materials used for each State for the five years ended 31 March 1971.

AERIAL AGRICULTURE, 1966-67 TO 1970-71

Year ended 31 March	*Area topdressed and seeded*	*Area sprayed*	*Total area treated(a)*	*Materials used*		*Total flying time*
				Super-phosphate	*Seed*	
	'000 acres	'000 acres	'000 acres	tons	'000 lb	hours
1971—						
New South Wales(b)	4,609	1,203	5,959	207,890	1,758	39,846
Victoria	1,534	237	1,864	90,859	174	15,294
Queensland(c)	446	436	1,012	(d)	366	(d)
South Australia	(d)	157	576	23,551	(d)	4,605
Western Australia	905	(d)	(d)	52,646	71	10,662
Tasmania	(d)	(d)	(d)	(d)	(d)	(d)
Australia	**8,165**	**2,778**	**11,320**	**410,773**	**2,450**	**83,692**
1970	10,270	3,723	14,868	550,952	2,854	10,2619
1969	9,474	4,580	14,416	436,589	4,125	99,639
1968	10,495	(d)	14,348	524,374	3,249	102,112
1967	11,646	3,192	15,237	596,628	2,407	108,688

(a) Includes other types of treatment (rabbit baiting, etc.). (b) Includes details for the Australian Capital Territory. (c) Includes details for the Northern Territory. (d) Not available for publication.

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 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 1970–71. 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 annual 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*. Details of weights and measures are also included after the Contents of this Year Book.

Progress, assistance and control

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 1961–62 to 1970–71. Plate 39 in this chapter shows the area of crops in Australia from 1900–01 onward (page 746).

AREA OF CROPS: STATES AND TERRITORIES, 1860-61 TO 1970-71
('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
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
1966–67	12,421	6,765	4,605	6,488	8,817	444	4	10	39,553
1967–68	12,985	6,250	4,928	6,430	9,138	423	6	7	40,168
1968–69	15,570	7,910	5,391	7,704	9,812	476	7	11	46,882
1969–70	14,623	6,599	5,744	6,935	9,905	413	9	9	44,236
1970–71	12,408	5,585	4,813	6,439	9,728	418	14	7	39,412

The Australian Agricultural Council

The influence of government and semi-government 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, Trade and Industry, Interior, and External 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, Interior, External 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. *See also* pages 546 and 551, Chapter 18, Public Finance. Examples of these follow.

The Rural Reconstruction Scheme provides finance to the States to help restore to economic viability those farms and farmers with capacity to maintain viability in the longer term. The forms of assistance comprise:

debt reconstruction to assist the farmer who, although having sound prospects of long term commercial viability, has used all his cash and credit resources and cannot meet his financial commitments; and

farm build-up to supplement the normal processes under which properties which are too small to be economic are amalgamated with an adjoining holding, or to assist a farmer with a property too small to be economic to purchase additional land to build up his property to at least economic size.

For those obliged to leave the industry limited assistance by way of a loan up to a maximum of $3,000 is available where such assistance is necessary to alleviate conditions of personal hardship. In addition, such persons may be eligible for retraining under the Rural Reconstruction Employment Training Scheme.

Originally, $100 million was to be made available to the States over a period of four years ending 30 June 1975. However, following a review of the scheme in March–April 1972 the Commonwealth undertook to provide the whole $100 million by 30 June 1973. The Commonwealth has also undertaken to cover at least the liabilities incurred through approvals for assistance in the later months of 1972–73 for reconstruction to be financed in 1973–74 up to a limit of $15 million. From the inception of the scheme until 30 April 1972, 9,372 applications for assistance had been received; 2,170 applications for debt reconstruction and 395 applications for farm build-up have been approved; and the value of assistance approved amounted to $66.1 million.

Five Year Dairy Industry Stabilisation Plan. 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 Stabilisation Plan which commenced 1 July 1967. Under special arrangements for the year 1970–71 a grant of $15,882,000 was made to the dairying industry for distribution as bounty on the production of butter and cheese, in addition to the existing bounty of $27,000,000. A grant of $3,379,000 was also made for 1970–71 as bounty on the export of skim powder milk, casein and other non-fat products (*see* page 818). For 1971–72 a special grant of $13,000,000 was made to bring the total bounty on butter and cheese production to $40,000,000 for the year but the export bounty of $3,379,000, which was a specific grant for one year only, was not renewed for 1971–72.

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 growers' contributions prove inadequate. The contribution by the Commonwealth to the Wheat Prices Stabilisation Fund is an example.

Commonwealth payments are made to assist in control and eradication of diseases and pests by the various States and to provide natural disaster relief assistance, where these are beyond the financial capacity of the States.

For details of the Emergency Financial Assistance for Woolgrowers and the Wool Deficiency Payments Scheme *see* page 803. Details of the Marginal Dairy Farms Reconstruction Scheme are given on page 817.

Research schemes

Over recent years, statutory research schemes financed by matching contributions from the Commonwealth and industry have been initiated in regard to tobacco, wool, wheat, dairy produce, meat, chicken meat, eggs, pigs, dried fruits and fish. On the basis of voluntary contributions from primary industries matched by the Commonwealth, schemes have been operative in relation to other research projects, e.g. on fruit fly, plague locusts, and pest management in pome fruit orchards; grape crop forecasting; and wine, honey, barley, banana and vegetable research.

Agricultural research

Each State Department of Agriculture has a number of research stations, investigating problems mainly of the regions in which they are located. In addition, a substantial amount of research and investigational work is carried out by these departments on farmers' properties. The work is supported by central laboratory and service facilities in capital cities, and increasingly also by research, analytical and diagnostic laboratories in the country areas. Research results are passed on to farmers through field days, meetings and publications, and through extension staff of the State Departments of Agriculture. In recent years, there has been increasing interest in economic interpretation of research results.

The Commonwealth Scientific and Industrial Research Organisation carries out research at field stations and laboratory facilities in many parts of Australia, and also undertakes developmental studies at national level. Its research programmes in the agricultural and livestock fields are generally designed to give information which is widely applicable in the Australian environment, and which may require further regional interpretation and adaptation in order that it may be of use to the farming industries. The universities also carry out agricultural research at laboratory and field levels, in addition to their teaching functions.

For details of agricultural training *see* Chapter 19, Education, Cultural Activities and Research.

Extension services

Agricultural extension services are provided by the States through their Departments of Agriculture, and in certain special fields by other State departments and authorities. Extension services also operate in the Northern Territory, Australian Capital Territory and Papua New Guinea.

All State Departments of Agriculture have university or agricultural college trained officers located in country areas. They carry out advisory and educational activities in the farming community, through contact with individual farmers, and through group and general publicity channels. In recent years several States have placed agricultural economists in country areas, strengthening the economic and farm management content of extension.

Support for the field extension staff is provided by information service groups, by applied research teams and industry and subject matter specialist groups and by diagnostic and analytical services. Some States have advisory staff specialising in agricultural mechanisation, and one State has begun to place extension method specialists in country areas.

Information services operated by Departments of Agriculture include agricultural journals, periodicals in various industry fields, pamphlets, newsletters, films, radio talks and television presentations. Group activities include discussion groups, field days, demonstrations, evening meetings and displays.

Since 1948 the Commonwealth has provided unmatched grants to the States to assist them in expanding their extension activities. In 1966, a programme of rapid expansion of this assistance beyond the existing provision of $1.4 million per annum was undertaken, with $21 million being made available during the subsequent five years. Provision for the five year period which began in 1971 amounts to $37 million. The Commonwealth Extension Services Grant is used mainly by State Departments of Agriculture, and its scope includes extension, regional research, information, economic services and training.

Extension type services are available from non-government sources. Some commercial firms and co-operatives provide extension or advisory services primarily for their clients. Over the past decade a new profession of farm management consultants has emerged, providing fee or contract services ranging from property assessment or supervision to detailed farm management and development plans. Farmers' needs and interests were demonstrated by an initial phase of grouping themselves together in farm management clubs to employ their own advisors.

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 1970–71 appears on plate 39, page 746.

AREA OF CROPS: STATES AND TERRITORIES, 1970-71

(Acres)

Crops	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
Cereals for grain—									
Barley—									
2-row	471,916	639,757	202,599	1,659,337	780,504	30,387	..	..	3,784,500
6-row	272,457	25,170	22,942	54,292	781,430	1,452	..	..	1,157,743
Maize	82,318	1,322	127,815	..	153	..	(*a*)	..	(*b*)211,608
Oats	1,001,625	986,511	60,381	481,673	1,283,855	23,336	..	581	3,837,962
Panicum millet and setaria	6,076	5,641	109,754	..	..	..	..	..	121,471
Rice	88,740	..	5,293	..	..	..	(*a*)	..	(*b*)94,033
Rye	19,490	12,337	(*a*)	48,651	20,043	68	..	..	(*b*)100,589
Sorghum	445,692	924	911,118	..	3,506	..	3,234	..	1,364,474
Wheat	5,475,088	1,879,044	825,076	1,982,518	5,834,513	11,067	..	1,198	16,008,504
Hay	760,590	1,266,159	161,395	484,955	468,965	211,660	4,895	3,080	3,361,699
Green feed	3,130,031	421,435	1,287,364	1,485,141	367,386	66,588	413	1,611	6,759,969
Other stock fodder	10,550	22,483	1,122	35,069	5,545	17,127	..	..	91,896
Grass seed—									
Lucerne	21,839	527	197	49,620	(*c*)	(*c*)	..	..	(*b*)72,183
Clover	15,165	3,719	..	4,111	38,540	2,378	..	..	63,913
Other	14,336	28,354	91,284	11,594	41,085	(*d*)2,713	3,210	140	192,716
Industrial crops—									
Broom millet	1,130	118	132	..	(*a*)	..	..	..	(*b*)1,380
Canary seed	3,026	2,071	15,627	793	399	..	..	..	21,916
Cotton	65,242	..	12,882	..	8,505	..	..	..	86,629
Flax for linseed	50,751	16,877	8,786	695	25,751	..	..	..	102,860
Hops	..	(*e*)897	..	..	(*a*)	(*f*)1,310	..	..	(*b*)2,207
Peanuts	390	..	94,304	..	(*a*)	..	58	..	(*b*)94,752
Safflower	49,012	12,530	5,073	420	1,349	..	..	..	68,384
Sugar cane—									
For crushing	22,263	..	522,655	..	..	..	..	..	544,918
Stand-over and cut for plants	20,350	..	116,992	..	..	..	..	..	137,342
Sunflower	133,552	3,513	49,634	..	36	..	..	..	186,735
Tobacco	3,042	10,481	13,411	..	..	..	..	..	26,934
Other	45,364	46,925	11,930	2,189	18,446	..	..	..	124,854
Vegetables for human consumption—									
Onions	2,047	2,593	3,218	2,229	301	316	(*g*)	6	(*b*)10,710
Potatoes	22,102	34,965	15,925	7,160	6,246	8,994	(*g*)	12	(*b*)95,404
Other	43,137	39,733	53,849	13,606	8,268	16,740	253	105	175,691
Vineyards—									
Bearing	21,402	45,859	3,344	55,328	6,059	..	..	..	131,992
Not bearing	6,390	5,074	502	13,004	649	..	..	..	25,619
Fruit—									
Bearing	77,367	55,232	40,836	35,588	19,544	16,908	66	24	245,565
Not bearing	15,800	11,382	13,916	9,714	4,247	3,945	54	14	59,072
Nurseries and cut flowers	1,464	2,915	694	378	260	126	..	10	5,847
All other crops	8,264	753	23,374	492	2,425	2,551	1,810	..	39,669
Total area	12,408,008	5,585,301	4,813,424	6,438,557	9,728,010	417,666	13,993	6,781	39,411,740

(*a*) Not available for publication. Included in All other crops. (*b*) Incomplete; *see* individual States. (*c*) Not available for publication. Included in Other grass seed. (*d*) Excludes area sown simultaneously to oats. (*e*) Includes 64 acres not bearing. (*f*) Includes 194 acres not bearing. (*g*) Not available for publication. Included in Other vegetables.

AREA OF CROPS: AUSTRALIA

1900-01 TO 1970-71

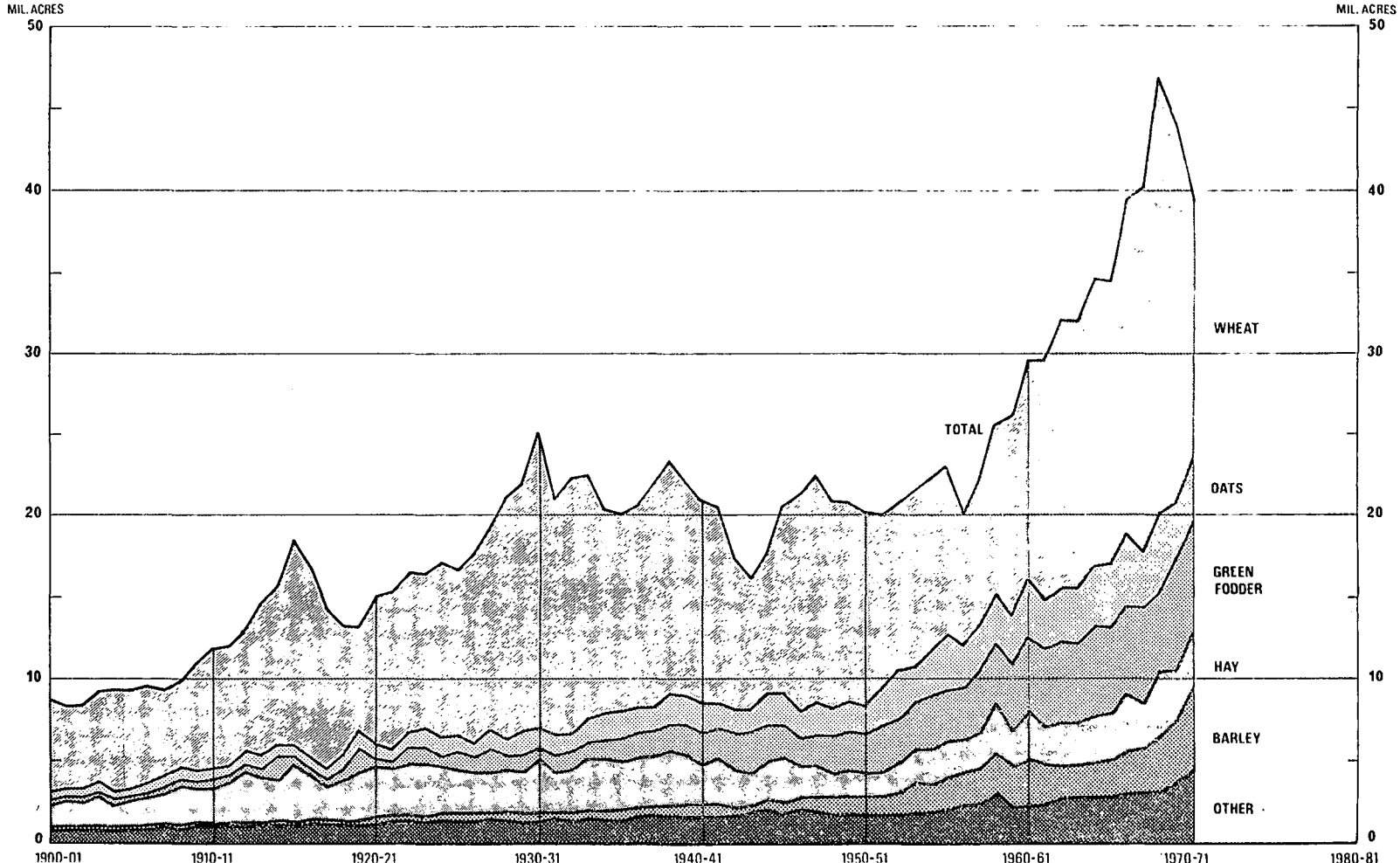


PLATE 39

AREA OF CROPS: AUSTRALIA, 1966-67 TO 1970-71

('000 acres)

Crop	*1966–67*	*1967–68*	*1968–69*	*1969–70*	*1970–71*
Cereals for grain—					
Barley—					
2-row	1,951	2,074	2,620	2,910	3,785
6-row	546	538	694	849	1,158
Maize	201	200	164	197	212
Oats	4,258	3,380	3,872	3,396	3,838
Rice	74	76	83	99	94
Sorghum	502	462	518	886	1,364
Wheat	20,823	22,441	26,799	23,440	16,009
Hay	3,496	2,800	3,955	3,192	3,362
Green feed	5,399	5,916	5,714	6,654	6,760
Grass seed	304	248	343	339	329
Industrial crops—					
Cotton	53	77	81	77	87
Flax for linseed	35	54	71	122	103
Hops	2	2	2	2	2
Peanuts	70	62	79	83	95
Safflower	95	105	46	27	68
Sugar cane	669	675	685	680	682
Tobacco	22	23	26	27	27
Vegetables for human consumption—					
Onions	10	10	11	10	11
Potatoes	99	106	113	107	95
Other	181	175	186	194	176
Vineyards	139	140	143	150	158
Fruit	313	311	310	309	305
All other crops	311	295	367	486	692
Total	**39,553**	**40,168**	**46,882**	**44,236**	**39,412**

Production and yield per acre of crops

PRODUCTION OF CROPS: STATES AND TERRITORIES, 1970-71

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	11,289	13,509	2,492	31,739	18,348	1,258	..	..	78,634
6-row	,,	7,648	529	212	999	15,574	55	..	..	25,016
Maize	,,	4,191	62	4,076	..	2	..	(*a*)	..	(*b*)8,331
Oats	,,	25,133	25,720	464	8,408	28.657	486	..	14	88,882
Panicum, millet and setaria	,,	120	139	1,867	..	..	..	..	..	2,127
Rice	,,	15,140	..	558	..	..	..	(*a*)	..	(*b*)15,698
Rye	,,	306	102	(*a*)	232	174	1	..	..	814
Sorghum	,,	17,876	32	29,614	..	95	..	56	..	47,673
Wheat	,,	110,604	36,901	4,401	29,028	108,650	283	..	28	289,895
Hay	'000 tons	1,355	2,455	376	743	662	441	6	6	6,044
Grass seed—										
Lucerne	cwt	16,975	668	160	48,903	(*a*)	(*a*)	..	..	(*b*)66,706
Clover	,,	39,078	6,554	..	9,676	71,358	1,705	..	..	128,371
Other	,,	21,327	63,274	62,246	22,403	157,585	9,021	6,446	325	342,627
Industrial crops—										
Broom millet—										
Fibre	cwt	5,334	715	403	..	(*a*)	..	..	..	(*b*)6,452
Grain	bus	3,934	205	..	..	..	..	..	..	4,139
Canary seed	,,	37,596	16,088	139,597	6,018	2,610	..	..	..	201,909
Cotton, unginned	'000 lb	85,122	..	19,191	..	27,700	..	..	..	132,013
Flax for linseed	tons	16,917	6,370	1,937	254	4,840	..	..	..	30,318
Hops (dry weight)	cwt	..	12,388	..	..	(*a*)	21,203	..	..	(*b*)33,591
Peanuts	,,	5,151	..	607,172	..	(*a*)	..	295	..	(*b*)612,618
Safflower	'000 bus	406	77	20	4	8	..	..	..	515
Sugar cane for crushing	'000 tons	1,160	..	16,206	..	..	..	..	..	17,366
Sunflower	cwt	849,817	31,155	279,377	..	15	..	..	..	1,160,364
Tobacco (dried leaf)	'000 lb	2,800	14,848	19,745	..	..	..	..	..	37,393
Vegetables for human consumption—										
Onions	tons	17,338	16,907	25,418	24,054	4,462	3,261	(*a*)	43	(*b*)84,177
Potatoes	,,	143,387	272,200	108,659	71,380	68,058	71,444	(*a*)	..	(*b*)735,173
Vineyards—										
Grapes—										
For drying	,,	42,848	159,501	..	14,805	3,206	..	..	..	220,360
For table	,,	6,881	10,826	4,261	1,042	1,921	..	..	..	24,931
For wine	,,	54,116	29,697	141	205,245	6,210	..	..	..	295,409

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

PRODUCTION OF PRINCIPAL CROPS: AUSTRALIA, 1966-67 TO 1970-71

Crop		*1966–67*	*1967–68*	*1968–69*	*1969–70*	*1970–71*
Cereals for grain—						
Barley—						
2-row	'000 bus	49,207	28,731	58,438	61,652	78,634
6-row	,,	12,381	8,067	14,149	13,249	25,016
Maize	,,	7,491	7,132	5,869	7,543	8,331
Oats	,,	107,106	39,628	94,250	68,723	88,882
Rice	,,	11,250	11,597	13,420	12,951	15,698
Sorghum	,,	11,713	10,582	10,820	20,114	47,673
Wheat	,,	466,610	277,289	543,950	387,512	289,895
Hay	'000 tons	6,371	3,812	7,328	5,728	6,044
Grass seed	cwt	488,477	317,303	513,164	472,859	537,704
Industrial crops—						
Cotton, unginned	'000 lb	120,360	214,736	223,423	186,443	132,013
Flax for linseed	tons	13,744	10,482	19.496	36,093	30,318
Hops (dry weight)	cwt	28,907	36,752	42,757	40,319	33,591
Peanuts	,,	827,151	606,159	334,601	840,851	612,618
Safflower	'000 bus	1,369	878	570	230	515
Sugar cane for crushing	'000 tons	16,685	16,756	18,413	15,535	17,366
Tobacco (dried leaf)	'000 lb	27,905	24,721	34,072	37,553	37,393
Vegetables for human consumption—						
Onions	'000 tons	84	58	86	84	91
Potatoes	,,	643	658	798	750	735
Vineyards—						
Grapes	,,	684	629	545	746	541
Wine made(*a*)	'000 gal	41,734	44,444	51,995	63,127	55,257
Dried vine fruits	'000 tons	107	85	55	93	59

(*a*) Beverage and distillation wine; includes farm wine in New South Wales and Queensland.

YIELD PER ACRE OF PRINCIPAL CROPS: AUSTRALIA, 1966-67 TO 1970-71

Crop		*1966–67*	*1967–68*	*1968–69*	*1969–70*	*1970–71*
Cereals for grain—						
Barley—						
2-row	bushels	25.2	13.9	22.3	21.2	20.8
6-row	,,	22.7	15.0	20.4	15.6	21.6
Maize	,,	37.2	35.6	35.7	38.3	39.4
Oats	,,	25.2	11.7	24.3	20.2	23.2
Rice	,,	152.6	152.7	161.2	130.5	166.9
Sorghum	,,	23.3	22.9	20.9	22.7	34.9
Wheat	,,	22.4	12.4	20.3	16.5	18.1
Hay	tons	1.82	1.36	1.85	1.80	1.80
Industrial crops—						
Cotton, unginned	lb	2,264	2,793	2,744	2,414	1,524
Flax for linseed	tons	0.40	0.19	0.28	0.30	0.29
Hops (dry weight)(*a*)	cwt	13.51	16.50	18.67	18.57	17.23
Peanuts	,,	11.86	9.82	4.26	10.13	6.47
Safflower	bushels	14.47	8.40	12.29	8.58	7.54
Sugar cane for crushing(*a*)	tons	29.93	30.30	32.39	29.54	31.87
Tobacco (dried leaf)	lb	1,247	1,076	1,323	1,408	1,388
Vegetables for human consumption—						
Onions	tons	8.27	5.94	7.62	8.17	8.54
Potatoes	,,	6.47	6.23	7.04	7.00	7.71
Vineyards—						
Grapes(*a*)	,,	5.37	4.92	4.28	5.80	4.10

(*a*) Per acre of productive crops.

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, 1966-67 TO 1970-71
($'000)

Crop	*1966–67*	*1967–68*	*1968–69*	*1969–70*	*1970–71*
Cereals for grain—					
Barley	73,743	42,222	70,531	65,982	110,789
Maize	10,395	9,463	8,639	10,532	10,393
Oats	83,384	34,205	58,763	33,351	54,283
Rice	12,445	12,831	14,358	14,533	13,720
Wheat	689,880	435,443	731,334	547,253	414,292
Hay	151,470	107,434	166,284	114,742	115,797
Green feed	24,805	30,234	32,577	35,369	29,743
Industrial crops—					
Cotton, unginned	12,468	19,675	20,753	18,979	14,015
Hops	2,531	3,211	3,788	3,588	3,133
Sugar cane	138,431	138,409	158,716	151,213	176,548
Tobacco (dried leaf)	29,782	27,919	38,528	38,930	42,528
Vegetables for human consumption—					
Onions	6,044	7,167	6,366	6,692	7,768
Potatoes	41,233	51,985	43,399	40,575	57,181
Other vegetables for human consumption	82,387	85,417	88,421	92,955	104,104
Grapes	50,173	47,750	44,602	58,712	46,363
Fruit and nuts	162,918	155,250	165,877	193,000	199,489
All other crops	67,183	60,197	64,124	85,265	123,834
Total	**1,639,273**	**1,268,812**	**1,717,057**	**1,511,662**	**1,530,793**

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

Values of agricultural production in the various States and Territories are shown for 1970–71 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, 1970-71
($'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	426,311	104,575	321,736	(*b*)36,774	284,962
Victoria	270,130	39,756	280,374	22,761	207,613
Queensland	364,269	41,791	322,478	60,495	261,982
South Australia	166,351	21,763	144,587	23,431	121,156
Western Australia	262,391	47,349	215,041	39,210	175,831
Tasmania	40,148	10,995	29,153	6,095	23,058
Northern Territory	690	n.a.	690	n.a.	690
Australian Capital Territory	503	25	478	22	456
Australia	**1,530,793**	**266,254**	**1,264,537**	**188,788**	**1,075,748**

(*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.

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 government and semi-government 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 Industry Stabilization Plan in 1948, is given in the Appendix to Year Book No. 37, pages 1295–9.

The Wheat Industry Stabilization Board ceased to function on 31 December 1948, and under the *Wheat Industry Stabilization Act* 1948 the Australian Wheat Board was reconstituted 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, 1963–66 and 1968–70 for the purpose of administering the second, third, fourth and fifth 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), No. 48, pages 903 and 904 (1958–59 to 1962–63) and No. 54, pages 868 and 869 (1963–64 to 1967–68).

Fifth Post-war Wheat Industry Stabilisation Plan. Following negotiations during 1968, the fifth post-war Wheat Industry Stabilisation Plan was enacted by the Commonwealth and States towards the end of 1968. 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 is to operate for five years. It commenced with the 1968–69 wheat crop and will end with the marketing of the 1972–73 crop.

The *Wheat Export Charge Act* 1968 repealed the *Wheat Export Charge Act* 1963 and provided for an export charge on wheat and wheat products for the seasons 1968–69 to 1972–73 inclusive. The charge which may be levied is the excess of the average export return over the sum of the guaranteed price (*see below*) and five cents per bushel with a maximum charge of fifteen cents per bushel. The ceiling on the Wheat Prices Stabilisation Fund, into which this charge is paid, has been raised from $60 million to $80 million. Any excess beyond this figure is returned to growers on a 'first in, first out' basis.

Payments from the Wheat Prices Stabilisation Fund will be paid to the Australian Wheat Board when required, for the purpose of building up the average export price for any season to the gauranteed price. When the average export realisations fall below the guaranteed price the deficiency is made up first by drawing upon the Stabilisation Fund in respect of up to 200 million bushels of wheat from each crop. If the Fund is exhausted, the necessary deficiency payments will be made from the Commonwealth Government's 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, grower's money in the Fund was 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 payment on the 1969–70 Pool this has involved an amount totalling $212 million.

The Commonwealth has guaranteed a price to growers applying to 200 million bushels of wheat exported from each crop during the period of the plan. The guaranteed price is subject to adjustment in each year of the plan in accordance with changes in price of cash costs, rail freights and handling

and storage charges. There will no longer be any adjustment for imputed costs such as interest on farmers' equity. The guaranteed price per bushel in the 1971–72 season is $1.518 f.o.b. vessel, an increase of 4.3 cents on that of the previous season.

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.

Amending legislation, with effect from December 1969, gave the Australian Wheat Board discretionary power to sell wheat in Australia for purposes other than human consumption at prices below that set for human consumption but not less than the guaranteed price.

The home consumption price for 1971–72, the fourth year of the fifth plan, has been established at $1.78 per bushel, bulk basis, f.o.r. ports for wheat for human consumption. Wheat for the manufacture of flour for industrial use is priced at $1.49. The basic price for wheat for stock feed is $1.60, however, any purchaser who undertakes to buy the whole of his wheat requirements for stock feed purposes from the Board throughout the year ending 30 November 1972 will be charged $1.49 per bushel. These prices include a loading of 1.2 cents per bushel to cover the cost of transporting wheat from the mainland to Tasmania. There is provision in the plan for annual adjustments to be made to the home consumption price by the same amount as the guaranteed price is adjusted. The above prices are 4 cents per bushel higher than in 1970–71, except for the basic price of stock feed which rose by 5 cents per bushel. The 1970–71 prices included a loading of 1.2 cents per bushel to meet freight charges on wheat shipped to Tasmania.

Wheat delivery quotas plan

In March 1969 the Australian Wheat Growers' Federation put forward proposals for the allotment of quotas on deliveries of wheat to the Australian Wheat Board. The Federation's proposals were mainly designed to bring marketable supplies of wheat more into line with available outlets, following the record 1968–69 harvest. The proposals became effective for the 1969–70 harvest. State governments have the responsibility, for Constitutional reasons, of implementing the quota plan within the States and each State has enacted the necessary enabling legislation. The period of operation of the legislation varies among the States.

Quotas are subject to annual review. Wheat in excess of a quota may be received from a grower if storage space is available but 'quota wheat' will receive preference as far as receival and subsequent sale by the Australian Wheat Board is concerned.

State quotas effective for the 1969–70 to 1971–72 seasons and those proposed by the Federation and agreed to by all parties for 1972–73 are given below:

Quota	1969–70 mil. bus	1970–71 mil. bus	1971–72 mil. bus	1972–73 mil. bus
Basic and shortfall—				
New South Wales	123	99	114	148
Victoria	65	52	57	67
Queensland	25	25	27	32
South Australia	45	36	40	46
Western Australia	86	83	76	95
Total	*344*	*295*	*314*	*388*
Additional—				
New South Wales—				
prime hard	7	12	12	7
durum	..	..	2	2
Queensland—				
prime hard	6	11	11	6
South Australia—				
southern hard	..	..	..	4
Total	*13*	*23*	*25*	*19*
Grand total	**357**	**318**	**339**	**407**

Deliveries made within the quotas established receive a first advance payment. This has been $1.10 per bushel for f.a.q. bulk wheat, f.o.r. ports basis for a number of years. The same arrangement will apply to 1972–73 season's quota wheat. In addition, the quota plan provides that wheat received which is declared by the Australian Wheat Board to have been sold and paid for within the season will be treated as quota wheat of the season and receive a first advance payment.

The States are responsible for determining the method of allocation of individual quotas within their respective boundaries. The bases of quota allocation vary from State to State, but in the main, quotas are based on a farm's average deliveries over a recent period.

Wheat standards

A description of the F.A.Q. (fair average quality) standard of wheat is given in issues of the Year Book up to No. 53 (*see*, for example No. 53 page 902). However, over recent years there has been an extension of the system and Australian wheat is now marketed under eleven main different and distinct classifications. Each reflects the climatic and growing charactistics of its region of origin and also the particular characteristics of the varieties of wheat cultivated.

For each classification, samples of wheat are obtained each year and are mixed to give a representative sample of that grade. From these samples, which are representative of all the wheat of a particular classification grown in that region, standards for each grade are established; the bushel weight is determined by the use of the Schopper 1-litre scale chondrometer. This standard is used as the basis for sales of each grade and varies from year to year and from State to State. The eleven main different classifications of wheat are:

Queensland prime hard
New South Wales prime hard
South Australian southern hard
Queensland F.A.Q.
New South Wales northern hard
New South Wales southern-western F.A.Q.
Victorian F.A.Q.
South Australian F.A.Q.
Western Australian F.A.Q.
Western Australian soft
Victoria soft

The several F.A.Q. grades, while possessing some characteristics in common, vary in protein content, milling characteristics, and dough qualities, and all are distinct grades. Similarly, the prime hard, hard and soft grades are individual grades segregated on the basis of specific quality characteristics.

Australia currently produces a full range of wheats for all purposes from high protein hard wheats to low protein soft wheats.

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.

WHEAT: TOTAL CAPACITY OF BULK HANDLING FACILITIES(*a*)
STATES, 30 NOVEMBER 1967 TO 1971

(*Source:* Bulk handling authorities in the various States. *see* above)

('000 bushels)

State	*1967*	*1968*	*1969*	*1970*	*1971*
New South Wales	(*b*)132,792	184,972	212,600	234,000	211,747
Victoria(*c*)	105,514	108,090	130,000	132,340	142,723
Queensland	24,987	30,600	34,800	36,200	41,500
South Australia	58,362	73,050	(*d*)95,486	(*d*)94,876	(*d*)93.896
Western Australia	144,487	159,677	183,787	203,000	215,000
Tasmania	1,060	1,060	1,060	1,060	1,060
Australia	**467,202**	**557,449**	**657,733**	**701,476**	**705,926**

(*a*) Includes terminals, sub-terminals, country installations, and temporary storage. (*b*) Storage at beginning of season. (*c*) Includes storage in southern New South Wales operated by the Victorian Grain Elevators Board. (*d*) Includes current contracts.

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) or previous issues. Details of the third, fourth and fifth International Wheat Agreements which covered the periods from 1 August 1956 to 31 July 1959, 1 August 1959 to 31 July 1962 and 1 August 1962 to 31 July 1968 were published in Year Books 43 (page 836), 48 (page 906) and 55 (page 836) respectively.

International Grains Arrangement

In August 1967 agreement was reached on a new International Grains Arrangement to operate for a period of three years from 1 July 1968. Details of the Arrangement were published in Year Book No. 55 (*see* page 836).

A new three year International Wheat Agreement came into effect on 1 July 1971. Like the International Grains Arrangement it covers a Wheat Trade Convention and a Food Aid Convention. The Wheat Trade Convention differs markedly from its 1968 predecessor in that it does not establish any maximum or minimum price provisions.

Research into the wheat industry

Details of research into the Wheat Industry were published in Year Book No. 55 and previous issues. To the end of June 1971, the Wheat Industry Research Council (set up by the Commonwealth Government) and the Wheat Industry Research Committees (set up in the wheat-growing States) had spent $16,970,000 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 1966–67 to 1970–71 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., 1966-67 TO 1970-71

State or Territory	*1966–67*	*1967–68*	*1968–69*	*1969–70*	*1970–71*
New South Wales	19,575	20,619	21,340	20,608	18,537
Victoria	11,202	11,056	11,722	11,618	9,669
Queensland	5,674	5,867	6,063	4,982	2,816
South Australia	9,419	8,905	9,884	9,529	8,548
Western Australia	8,897	8,746	8,964	8,922	8,677
Tasmania	194	159	239	203	403
Australian Capital Territory	25	20	27	16	9
Australia	**54,986**	**55,372**	**58,239**	**55,878**	**48,659**

There is in Australia a widespread combination of wheat growing with other rural activities. This is illustrated, for all States and for Australia, in respect of the 1968–69 season, in a series of statistical bulletins *Classification of Rural Holdings by Size and type of Activity*, 1968–69, Nos 1 to 7. These publications also contain details of numbers of rural holdings classified according to area of wheat for grain.

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 1970–71 were as follows: New South Wales, Heron (19.1), Timgalen (15.7), Olympic (10.9); Victoria, Insignia (35.0), Olympic (19.4), Heron (11.3); Queensland, Mendos (32.2), Timgalen (22.9), Gamut (15.6); South Australia, Heron (37.6), Insignia (including Insignia 49) (16.5); and Western Australia, Gamenya (54.5), Falcon (14.0), Insignia (9.2). A detailed table of wheat varieties sown appears in the annual bulletin *The Wheat Industry* (*see* No. 120, published in May 1972.)

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 superphosphate 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.

WHEAT FOR GRAIN: AREA, PRODUCTION AND YIELD PER ACRE STATES AND AUSTRALIAN CAPITAL TERRITORY, 1966-67 TO 1970-71

Year	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*A.C.T.*	*Aust.*
			AREA ('000 ACRES)					
1966–67	7,135	3,138	1,227	2,960	6,347	13	3	20,823
1967–68	8,215	3,224	1,477	2,864	6,647	12	2	22,441
1968–69	9,962	3,984	1,789	3,748	7,295	17	4	26,799
1969–70	8,623	3,298	1,504	3,210	6,788	15	3	23,440
1970–71	5,475	1,879	825	1,983	5,835	11	1	16,009
			PRODUCTION ('000 BUSHELS)(*a*)					
1966–67	202,501	70,896	35,730	53,816	103,195	385	87	466,610
1967–68	87,323	28,317	27,417	26,899	106,975	316	42	277,289
1968–69	215,119	90,728	42,000	83,160	112,450	410	84	543,950
1969–70	162,786	83,544	14,898	59,159	66,700	353	73	387,512
1970–71	110,604	36,901	4,401	29,028	108,650	283	28	289,895
			YIELD PER ACRE (BUSHELS)(*a*)					
1966–67	28.4	22.6	29.1	18.2	16.3	30.2	32.5	22.4
1967–68	10.6	8.8	18.6	9.4	16.1	26.3	17.8	12.4
1968–69	21.6	22.8	23.5	22.2	15.4	23.6	20.1	20.3
1969–70	18.9	25.3	9.9	18.4	9.8	23.9	27.0	16.5
1970–71	20.2	19.6	5.3	14.6	18.6	25.5	23.4	18.1

(*a*) 60 lb per bushel.

A graph showing the area sown to wheat for grain in Australia since 1900–01 appears on plate 39 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 833.

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, Western Australia and Victoria. Tasmania imports wheat from the mainland to satisfy its needs, though it exports flour made from local wheat which is particularly suitable for biscuits. The production of wheat and the yield per acre from 1935–36 is shown in Plate 40, page 755.


WHEAT FOR GRAIN: AUSTRALIA
1935-36 TO 1970-71
PRODUCTION
MILLION BUSHELS
600
500
400
300
200
100
0
1935-36
1945-46
1955-56
1965-66
YIELD PER ACRE
BUSHELS
25
20
15
10
5
0

PLATE 40

Price of wheat

The prices charged, per bushel, by the Australian Wheat Board for wheat sold for human consumption in Australia and for wheat sold as stock feed were as follows: year ended 30 November 1968, $1.66; 1969, $1.71; 1970, $1.725; 1971, $1.74 for wheat to millers, and $1.45 to $1.55 for wheat sold for stock feed; 1972, $1.78 for wheat to millers and $1.49 to $1.60 for wheat for stock feed. These prices include a loading to meet freight charges incurred on wheat shipped to Tasmania (1.5 cents in 1967 and 1968; 1.0 cents in 1969, 1.6 cents in 1970; 1.5 cents in 1971 and 1.2 cents in 1972).

The Wheat Board's monthly basic export selling prices for f.a.q. bulk wheat f.o.b. basis fell in the following ranges; season ended 30 June 1967, $1.51 to $1.60; 1968, $1.41 to $1.49; 1969, $1.38 to $1.43; 1970, $1.28 to $1.39.

International Wheat Agreements, 1949–53 to 1962–68. As indicated on page 753 full details of the five International Wheat Agreements covering the years 1949–53, 1953–56, 1956–59, 1959–62 and 1962–68 have been given in previous issues of the Year Book.

International Grains Agreement. In August 1967 agreement was reached on a new International Grains Arrangement to operate for a period of three years from 1 July 1968. The new arrangement consisted of two legal instruments, the Wheat Trade Convention and the Food Aid Convention. For further details *see* Year Book No. 57, page 758.

International Wheat Agreement, 1971. The new International Wheat Agreement came into force in 1 July 1971. It has a life of three years. The form of the 1967 International Grains Arrangement has been continued and the new Agreement comprises two separate legal instruments, namely the Wheat Trade Convention and the Food Aid Convention.

The new Wheat Trade Convention ensures that the machinery for consultation and co-operation on wheat marketing existing under earlier Agreements will be maintained. The administrative body, the International Wheat Council, continues in existence. The Convention provides for the continuation of the full reporting and recording of all commercial and concessional transactions in wheat and flour.

The 1971 Wheat Trade Convention differs in an important aspect from earlier agreements in that it contains no specific pricing provisions, but the agreement specifically provides that when prices and related rights and obligations are judged capable of successful negotiation, the International Wheat Council shall arrange a further conference with the objective of bringing them into effect. In addition, a newly established Advisory Sub-Committee on Market Conditions will keep the wheat market under continuous review. This Sub-Committee will report to the Executive Committee of the Council if it considers that a situation of market instability has arisen, or threatens to arise. The Executive Committee will then review the situation and try to find mutually acceptable solutions.

With the entry of U.S.S.R. and Brazil, which were not members of the 1967 International Grains Agreement, all major wheat trading nations except the Republic of China (mainland) participate in the Wheat Trade Convention.

The new Food Aid Convention is basically unchanged from the previous arrangement. Under this Convention a number of developed countries, importers and exporters alike, will continue to provide developing countries with food aid in the form of grains or flour for human consumption. Australia's contribution will remain unchanged at 225,000 tons annually (8,267,000 bushels of wheat). Since the new convention has fewer members and total annual contributions have fallen from 4,259,000 metric tons to 3,974,000 metric tons, Australia's share has risen marginally to some 5.6 per cent.

Several minor changes have been incorporated in the new Food Aid Convention. A new clause provides that in exceptional cases, and on request, limited quantities of rice may be included in the programme. Also, sales on credit terms of 20 years or more will be eligible to be counted against aid commitments provided that maximum use is made of the other eligible forms of aid such as grants and sales for non-transferable local currency.

Value of the wheat crop

The estimated gross value of the wheat crop in each State and in Australia during the season 1970–71 and the value per acre are shown below.

WHEAT FOR GRAIN: VALUE OF CROP(*a*), STATES, 1970-71

		N.S.W.	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*Aust.(b)*
Aggregate value	$'000	156,862	51,127	5,890	41,988	158,033	350	414,292
Value per acre	$	28.65	27.21	7.14	21.18	27.09	31.63	25.88

(*a*) Gross value of total crop, including wheat used for seed and for stock feed on farms. Also includes payment of $27,538,000 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 1967 to 1971.

AUSTRALIAN WHEAT BOARD
WHEAT RECEIVED, STATES, 1966-67 TO 1970-71 HARVESTS
('000 bushels)

Harvest	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*Aust.*
1966–67	184,644	74,607	32,884	50,007	96,823	247	439,212
1967–68	73,005	27,814	24,367	22,084	99,946	154	247,369
1968–69	196,828	94,673	38,798	79,447	105,679	210	515,635
1969–70	145,709	85,883	11,975	55,693	58,702	181	358,143
1970–71	93,862	32,856	3,313	25,023	99,653	122	254,829

Stocks of wheat (including flour in terms of wheat) held by the Australian Wheat Board in each State at 30 November for the years 1967 to 1971 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 1967 TO 1971
('000 bushels)(*b*)

Year	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*Aust.*
1967	43,238	22,709	596	8,160	5,285	536	80,524
1968	10,148	13,298	688	6,791	20,580	353	51,858
1969	84,660	61,897	6,802	46,093	66,731	570	266,752
1970	98,686	77,927	2,620	45,534	44,381	614	269,761
1971	55,220	24,029	86	15,784	29,330	491	124,940

(*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 1967 to 1971 are shown in the following table.

WHEAT: PRODUCTION AND DISPOSAL, AUSTRALIA, 1967 TO 1971
(million bushels)(*a*)

	Year ended 30 November—				
	1967	*1968*	*1969*	*1970*	*1971*
Opening stocks (including flour)(*b*)(*c*)(*d*)	16.5	80.5	51.9	266.8	269.8
Production	466.6	277.3	544.0	387.5	289.9
Total available supplies	**483.1**	**357.8**	**595.9**	**654.3**	**559.7**
Exports—					
Wheat	293.1	187.7	219.0	278.1	315.8
Flour(*b*)	19.7	19.1	15.0	16.7	14.5
Breakfast foods and other products(*b*)(*d*)	0.9	1.0	1.9	2.2	2.9
Local consumption—					
Flour(*b*)(*d*)	43.8	45.0	44.5	45.4	45.8
Breakfast foods and other products(*b*)(*d*)	1.8	2.4	1.7	1.4	1.4
Stock feed wheat sales(*d*)	15.6	22.6	9.8	11.8	14.5
Seed	20.9	24.5	21.7	14.3	16.3
Balance retained on farm (for other than seed use)	6.5	5.4	6.7	14.8	18.8
Closing stocks (including flour)(*b*)(*c*)(*d*)	80.5	51.9	266.8	269.8	124.9
Total disposals	**483.2**	**359.6**	**587.1**	**654.5**	**554.9**
Excess (+) or deficiency (−) of disposals in relation to available supplies(*e*)	+0.1	+1.8	−8.8	+0.2	−4.8

(*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., and in differences related to the timing of official export statistics.

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, 1966-67 TO 1970-71
($'000)

	No. 30 Pool (1966–67 Harvest)	*67/68 Pool (1967–68 Harvest)*	*68/69 Pool(a) (1968–69 Harvest)*	*69/70 Pool(a) (1969–70 Harvest)*	*70/71 Pool(a) (1970–71 Harvest)*
Paid to growers	542,965	321,719	546,484	329,919	321,607
Rail freight	76,538	42,009	90,644	57,084	50,843
Expenses	30,688	32,317	64,079	53,163	36,395
Total payments	**650,191**	**396,045**	**701,207**	**440,166**	**408,845**
Value of sales delivered	(*b*)635,781	(*c*)353,793	(*d*)673,488	(*e*)413,407	(*f*)374,049

(*a*) Incomplete. (*b*) Subject to additional $15,508,000 provided by the Commonwealth Government and payment of $1,098,000 to Wheat Industry Research Fund. (*c*) Subject to an additional $42,870,000 provided by the Commonwealth Government and payment of $618,000 to Wheat Industry Research Fund. (*d*) Subject to an additional $29,008,000 provided by the Commonwealth Government and payment of $1,289,000 to Wheat Industry Research Fund. (*e*) Subject to an additional $27,538,000 to be provided by the Commonwealth Government and payment of $779,000 to Wheat Industry Research Fund. (*f*) Subject to an estimated additional $35,506,000 to be provided by the Commonwealth Government and payment of $710,000 to the 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, 1966-67 TO 1970-71

	Quantity				*Value*		
		Flour(a)					
Year	*Wheat*	*As flour*	*In terms of wheat(b)*	*Total (in terms of wheat)*	*Wheat*	*Flour(a)*	*Total*
	'000 bushels	short tons	'000 bushels	'000 bushels	$'000 f.o.b.	$'000 f.o.b.	$'000 f.o.b.
1966–67	239,051	379,352	17,564	256,615	361,227	24,600	385,827
1967–68	238,778	406,847	18,837	257,613	342,767	25,303	368,070
1968–69	179,707	379,267	17,560	197,267	258,334	23,822	282,156
1969–70	253,019	355,932	16,480	269,499	337,570	23,011	360,581
1970–71	333,445	313,608	14,520	347,965	433,599	21,374	454,973

(*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, 1966-67 TO 1970-71
('000 bushels)

Country to which exported	*1966–67*	*1967–68*	*1968–69*	*1969–70*	*1970–71*
Chile	1,725	6,271	3,849	2,912	6,727
China, Republic of (mainland)	79,523	88,781	43,431	92,489	48,139
Iran	2,078	276	..	18	10,846
Iraq	4,902	7,221	..	2,046	16,038
Japan	15,851	22,484	42,149	37,261	30,167
Malaysia	9,244	9,374	9,299	10,403	11,476
Pakistan	25,863	1,148	865	5,496	5,843
Peru	848	3,041	5,668	5,514	5,780
Singapore	7,403	9,291	3,924	7,674	10,191
Sudan	..	1,373	..	3,280	8,482
United Arab Republic	1,895	..	..	..	48,236
United Kingdom	14,233	23,622	28,412	37,644	64,102
Other(*a*)	75,486	65,896	42,110	48,282	67,418
Total	**239,051**	**238,778**	**179,707**	**253,019**	**333,445**

(*a*) Includes particulars of shipments made 'for orders' which could not be classified to countries.

The following table shows the exports of flour to various countries for each of the years 1966–67 to 1970–71. The figures relate to exports of white flour (plain and self-raising), sharps and wheatmeal for baking.

FLOUR(*a*): EXPORTS TO VARIOUS COUNTRIES, AUSTRALIA, 1966-67 TO 1970-71
(Short tons)

Country to which exported	*1966–67*	*1967–68*	*1968–69*	*1969–70*	*1970–71*
Ceylon	144,982	160,620	143,005	98,320	93,717
Fiji	24,642	33,735	35,323	34,626	37,072
Indonesia	24,766	65,564	58,595	69,413	56,288
Libya	1,504	1,036	8,488	11,581	14,964
Malawi	7,413	10,483	6,464	8,958	12,009
Mauritius	12,147	17,372	17,004	20,177	14,928
Oman	5,255	5,587	5,800	6,183	5,211
Papua New Guinea	16,139	17,804	18,158	20,373	23,596
Qatar	3,125	4,469	4,436	5,716	6,477
Saudi Arabia	12,111	17,183	15,019	7,923	11,651
Trucial States	8,489	12,207	10,840	16,413	19,921
United Kingdom	19,411	11,090	9,156	7,628	7,450
Other(*b*)	99,368	49,697	46,979	48,621	10,324
Total	**379,352**	**406,847**	**379,267**	**355,932**	**313,608**

(*a*) One short ton (2,000 lb) of flour is taken as being equivalent to 46.3 bushels of wheat. (*b*) Includes particulars of shipments made 'for orders' which could not be classified to countries.

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 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 1970–71 the Canadian harvest occurred from August to September 1970 and the Australian harvest from October 1970 to February 1971.

WHEAT: AREA, PRODUCTION AND YIELD PER ACRE IN VARIOUS COUNTRIES 1968-69 TO 1970-71

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

Continent and country	Area			Production			Yield per acre		
	1968–69	*1969–70*	*1970–71*	*1968–69*	*1969–70*	*1970–71*	*1968–69*	*1969–70*	*1970–71*
	'000 acres	'000 acres	'000 acres	mil. bus	mil. bus	mil. bus	bus	bus	bus
Africa	21,535	20,930	23,278	294	247	223	13.6	11.8	12.9
Asia—									
China (mainland)(*a*)	61,776	58,070	58,318	772	819	626	12.5	14.1	14.4
India	37,061	39,433	41,084	608	685	547	16.4	17.4	18.0
Pakistan	14,977	15,511	15,689	238	247	201	15.9	15.9	17.4
Turkey	20,270	20,386	21,395	353	386	272	17.4	18.9	17.2
Total Asia(b)	*164,003*	*164,103*	*163,710*	*2,429*	*2,563*	*1,926*	*14.8*	*15.6*	*15.6*
Europe—									
France	10,107	9,998	9,294	551	534	352	54.5	53.4	51.1
Germany, Federal Republic of	3,618	3,692	3,689	228	221	154	63.0	59.7	56.4
Italy	10,576	10,420	10,225	355	351	262	33.5	33.6	34.6
Spain	9,761	9,153	9,188	195	167	110	20.0	18.3	16.1
Total Europe(b)	*70,264*	*69,499*	*67,174*	*2,660*	*2,573*	*1,812*	*37.9*	*37.0*	*36.4*
North and Central America—									
Canada	29,422	24,968	12,484	650	684	245	22.1	27.4	26.6
United States	55,262	47,555	44,307	1,576	1,459	1,021	28.5	30.7	31.1
Total North and Central America(b)	*86,610*	*74,428*	*58,948*	*2,293*	*2,224*	*1,326*	*26.5*	*29.9*	*30.3*
Oceania—									
Australia	26,799	23,440	16,009	544	388	290	20.3	16.5	18.1
Total Oceania(b)	*27,115*	*23,719*	*16,246*	*560*	*402*	*299*	*20.7*	*16.9*	*18.4*
South America—									
Argentina	14,423	12,810	8,187	211	250	116	14.6	19.5	19.0
Total South America(b)	*20,386*	*19,422*	*16,112*	*311*	*363*	*220*	*15.3*	*18.7*	*18.4*
U.S.S.R. (Europe and Asia)	166,128	163,830	161,115	3,432	3,013	2,712	20.7	18.4	22.7
World total(*b*)	556,041	535,881	506,583	11.978	11,386	8,518	21.5	21.2	16.8

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

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 1970–71 Australia's share of the world wheat exports has averaged 15 per cent.

WORLD EXPORTS OF WHEAT AND WHEAT FLOUR IN TERMS OF WHEAT 1966-67 TO 1970-71

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

(Million bushels)

Year and country of primary destination	*Exporting country*							
	Argentina	*Australia*	*Canada*	*E.E.C.*	*U.S.A.*	*U.S.S.R.*	*Other*	*Total*
1969–70—								
Africa—								
United Arab Republic	..	48.6	16.2	31.5	0.6	11.5	4.1	112.5
Other	2.1	23.1	23.0	35.1	58.4	1.8	3.3	146.9
Total Africa	*2.1*	*71.8*	*39.2*	*66.6*	*59.0*	*13.3*	*7.3*	*259.4*
Asia(*a*)—								
China (mainland)	..	45.7	86.2	0.1	..	..	..	132.1
India	0.9	4.3	22.3	..	53.2	..	..	80.7
Japan	..	31.5	37.8	..	105.7	..	..	175.1
Korea, Republic of	..	1.9	..	..	61.9	..	..	63.8
Pakistan	..	5.8	4.1	4.1	24.0	..	..	38.1
Other	3.4	85.6	39.8	26.9	137.0	33.2	7.3	333.2
Total Asia	*4.3*	*174.9*	*190.2*	*31.2*	*381.8*	*33.2*	*7.3*	*822.8*
Europe(*a*)—								
Czechoslovakia	..	..	..	1.5	..	37.5	..	39.0
Germany, East	..	6.1	..	..	..	55.1	0.4	61.6
Germany, Fed. Rep. of	..	..	20.7	..	23.0	1.0	..	44.7
Italy	19.4	1.0	11.9	..	17.1	0.8	..	50.2
Netherlands	0.3	1.7	13.2	..	22.0	1.1	..	38.3
Poland	..	..	3.0	..	..	69.4	..	72.5
United Kingdom	0.1	63.6	62.0	5.6	44.9	4.3	6.2	186.6
Other	1.5	10.8	25.2	3.6	73.0	30.6	4.3	149.1
Total Europe	*21.3*	*83.3*	*136.0*	*10.7*	*180.0*	*199.9*	*10.8*	*642.0*
North and Central America	..	..	22.6	3.7	24.1	10.8	..	61.3
Oceania	..	6.6	..	1.2	0.1	..	..	7.9
South America—								
Brazil	22.8	..	14.0	..	29 8	..	0.7	67.4
Other	14.0	13.1	10.3	1.3	53.5	2.6	..	94.8
Total South America	*36.8*	*19.7*	*46.9*	*6.2*	*107.5*	*13.4*	*0.7*	*231.4*
U.S.S.R.	..	..	11.6	..	..	..	..	11.6
All other	..	0.2	..	..	..	..	..	0.2
World Total, 1970-71	**64.6**	**349.8**	**423.9**	**114.7**	**728.3**	**259.9**	**26.2**	**1,967.3**
1969–70	73.7	266.4	325.3	262.1	605.5	216.3	90.2	1,839.6
1968–69	102.3	196.2	319.6	169.0	539.8	198.3	111.4	1,636.7
1967–68(*b*)	50.3	257.6	327.1	206.1	742.1	186.8	143.6	1,913.7
1966–67(*b*)	112.4	256.6	545.0	174.4	734.1	151.6	88.4	2,062.5

(*a*) Excludes U.S.S.R., details for which are shown separately. (*b*) Includes European Economic Community intra-trade.

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 758–9 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 through voluntary pools in Victoria, South Australia and Western Australia. In 1971 State statutory marketing boards were set up in New South Wales and Victoria after a poll of growers, and are expected to commence marketing operations with the 1972–73 season.

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 1970–71 accounted for 41 per cent of the area of all crops, oats grown for grain represented only 10 per cent.

OATS FOR GRAIN: AREA, PRODUCTION AND YIELD PER ACRE
STATES AND AUSTRALIAN CAPITAL TERRITORY, 1966-67 TO 1970-71

	N.S.W.	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*A.C.T.*	*Aust.*
				AREA ('000 ACRES)				
1966–67	1,363	1,079	66	509	1,204	36	2	4,258
1967–68	907	723	31	525	1,158	35	1	3,380
1968–69	1,185	991	55	516	1,092	31	1	3,872
1969–70	903	884	75	372	1,139	22	1	3,396
1970–71	1,002	987	60	482	1,284	23	1	3,838
				PRODUCTION ('000 BUSHELS)(*a*)				
1966–67	41,003	31,248	1,467	10,276	22,117	948	47	107,106
1967–68	8,235	6,859	450	3,299	19,759	1,014	12	39,628
1968–69	27,454	30,230	1,119	11,895	22,942	583	27	94,250
1969–70	19,238	25,927	950	6,665	15,463	455	25	68,723
1970–71	25,133	25,720	464	8,408	28,657	486	14	88,882
				YIELD PER ACRE (BUSHELS)(*a*)				
1966–67	30.1	29.0	22.1	20.2	18.4	26.4	26.2	25.2
1967–68	9.1	9.5	14.6	6.3	17.1	28.7	20.3	11.7
1968–69	23.2	30.5	20.3	23.1	21.0	18.5	22.4	24.3
1969–70	21.3	29.3	12.6	17.9	13.6	20.5	28.1	20.2
1970–71	25.1	26.1	7.7	17.5	22.3	20.8	23.7	25.2

(*a*) 40 lb per bushel.

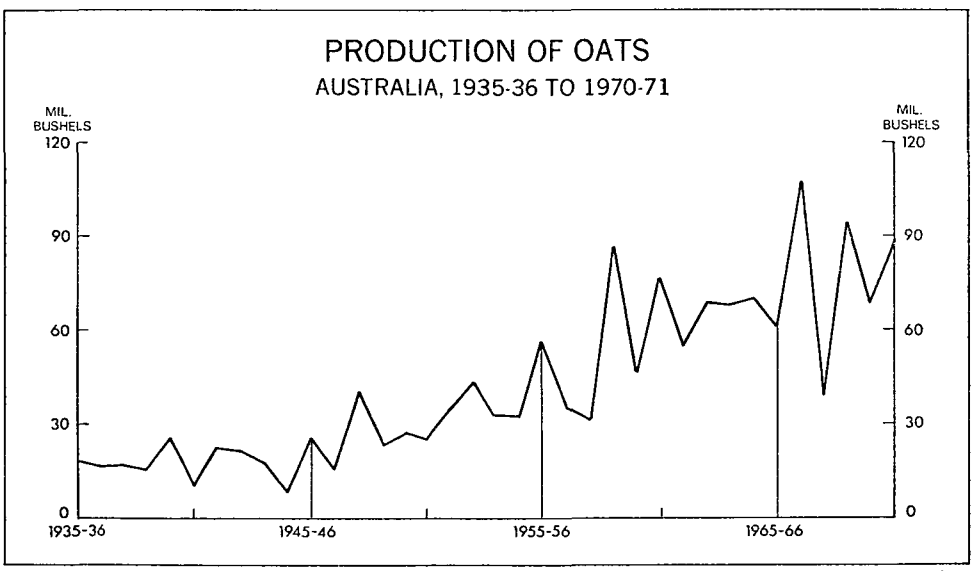


PLATE 41

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 39, page 746 and the production of oats from 1935–36 is shown in plate 41, page 762.

Production of oats in 1970–71, 88,882,000 bushels was 6 per cent below the record production in 1966–67. Yield per acre was 25.2 bushels, which equalled the record yield per acre of 25.2 bushels in 1966–67.

Value of oat crop

The average wholesale price in the Melbourne market for oats of good milling quality was $0.64 per bushel in 1970–71, compared with $0.53 in 1969–70. The estimated gross value of the oat crop in each State for the 1970–71 season and the value per acre were as follows.

OATS FOR GRAIN: VALUE OF CROP, STATES, 1970-71

		N.S.W.	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*Aust.(a)*
Aggregate value	$'000	16,588	13,558	580	5,053	18,100	395	54,283
Value per acre	$	16.56	13.74	9.61	10.49	14.10	16.93	14.14

(a) Includes the Australian Capital Territory.

Exports of oats

OATS: EXPORTS, AUSTRALIA, 1966-67 TO 1970-71

		1966–67	*1967–68*	*1968–69*	*1969–70*	*1970–71*
Quantity	'000 bus	22,134	10,033	18,373	12,086	30,640
Value	$'000 f.o.b.	17,450	8,408	13,042	7,559	23,827

In 1970–71 the principal countries of destination were Japan (10,593,000 bushels), Italy (4,943,000 bushels), the Federal Republic of Germany (4,656,000 bushels) and the Netherlands (3,300,000 bushels).

World production of oats

The world production of oats for the year 1971, according to preliminary figures issued by the United States Department of Agriculture, amounted to 2,881 million bushels, harvested from 74.5 million acres, resulting in an average yield of 38.6 bushels an acre. This compared with an estimated production in the previous year of 2,772 million bushels from an area of 76.9 million acres and an average yield of 36.1 bushels an acre. The main producers are Canada, West Germany and Poland, with Australia producing about 3 per cent of the world total. On occasions in recent years Australia has been the world's largest exporter.

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 crops. 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. A marketing board was established in New South Wales in 1971 after a poll of growers. 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.
1966-67 TO 1970-71

Pool	*Quantity received*	*Quantity sold(a)*	*Total advances per bushel(b)*	*Net payments to growers*
	'000 bushels	'000 bushels	$	$'000
No. 28 (1966–67 Crop) . .	22,043	22,026	1.1940	22,759
„ 29 (1967–68 „) . .	7,985	7,975	1.1912	7,511
„ 30 (1968–69 „) . .	27,280	27,218	0.9681	21,765
„ 31 (1969–70 „) . .	31,429	31,381	0.8490	21,191
„ 32 (1970–71 „) . .	36,499	36,396	1.0600	(c)33,139

(*a*) Includes surplus of shortage in out-turn except for No. 32 Pool for which the sales are not yet complete. (*b*) 2-row No. 1 Grade (bulk) less freight. (*c*) As at 30 April 1972. At that date it was estimated that the amount still to be paid to growers was 3 cents per bushel.

Barley area, production and yield per acre

Since the imposition of wheat quotas for the 1969–70 season, the area of barley sown for grain has increased substantially. The area sown in 1970–71 was 4,942,000 acres. which was 31 per cent more than the previous record acreage of 3,759,000 acres in 1969–70. The production of barley for grain in 1970–71, 103,650,000 bushels, was a record and was 38 per cent more than the previous record production of 74,901,000 bushels in 1969–70. The area, production and yield per acre of barley for grain in the several States for the years 1966–67 to 1970–71 are shown in the following table. Separate details for 2-row and 6-row varieties are shown for all States for 1970–71.

BARLEY FOR GRAIN: AREA, PRODUCTION AND YIELD PER ACRE
STATES AND AUSTRALIAN CAPITAL TERRITORY, 1966-67 TO 1970-71

Year	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*A.C.T.*	*Aust.*
				AREA ('000 ACRES)				
1966–67 . . .	385	228	384	1,107	373	21	..	2,498
1967–68 . . .	367	305	342	1,157	416	24	..	2,611
1968–69 . . .	486	409	427	1,412	553	26	..	3,314
1969–70 . . .	542	487	417	1,384	900	30	..	3,759
1970–71—								
2-row . . .	472	640	203	1,659	781	30	..	3,785
6-row . . .	272	25	23	54	781	1	..	1,158
Total . .	**744**	**665**	**226**	**1,714**	**1,562**	**32**	..	**4,942**

BARLEY FOR GRAIN: AREA, PRODUCTION AND YIELD PER ACRE, STATES AND AUSTRALIAN CAPITAL TERRITORY, 1966–67 TO 1970–71—*continued*

Year	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*A.C.T.*	*Aust.*
PRODUCTION ('000 BUSHELS)(*a*)								
1966–67	11,796	5,421	13,194	23,698	6,707	772	..	61,588
1967–68	4,834	2,709	8,965	12,380	7,027	884	..	36,798
1968–69	11,212	8,885	12,869	29,551	9,187	884	..	72,588
1969–70	12,335	11,373	7,587	30,454	12,058	1,095	..	74,901
1970–71—								
2-row	11,289	13,509	2,492	31,739	18,348	1,258	..	78,634
6-row	7,648	529	212	999	15,574	55	..	25,016
Total	**18,937**	**14,038**	**2,704**	**32,738**	**33,922**	**1,312**	..	**103,650**
YIELD PER ACRE (BUSHELS)(*a*)								
1966–67	30.6	23.8	34.4	21.4	18.0	36.7	..	24.7
1967–68	13.2	8.9	26.2	10.7	16.9	36.8	..	14.1
1968–69	23.1	21.7	30.1	20.9	16.6	33.7	..	21.9
1969–70	22.8	23.4	18.2	22.0	13.4	36.9	..	19.9
1970–71—								
2-row	23.9	21.1	12.3	19.1	23.5	41.4	..	20.8
6-row	28.1	21.0	9.2	18.4	19.9	37.6	..	21.6
Total	**25.4**	**21.1**	**12.0**	**19.1**	**21.7**	**41.2**	..	**21.0**

(*a*) 50 lb per bushel.

For Australia, 77 per cent of the area of barley for grain in 1970–71 was sown with 2-row barley. The proportion, however, varied considerably in the several States. The utilisation of barley during the season ended November 1971 was as follows: exports, 54,293,000 bushels; pearl barley, 125,000 bushels; seed, 8,375,000 bushels. Statistics for malting and distilling utilisation are not available.

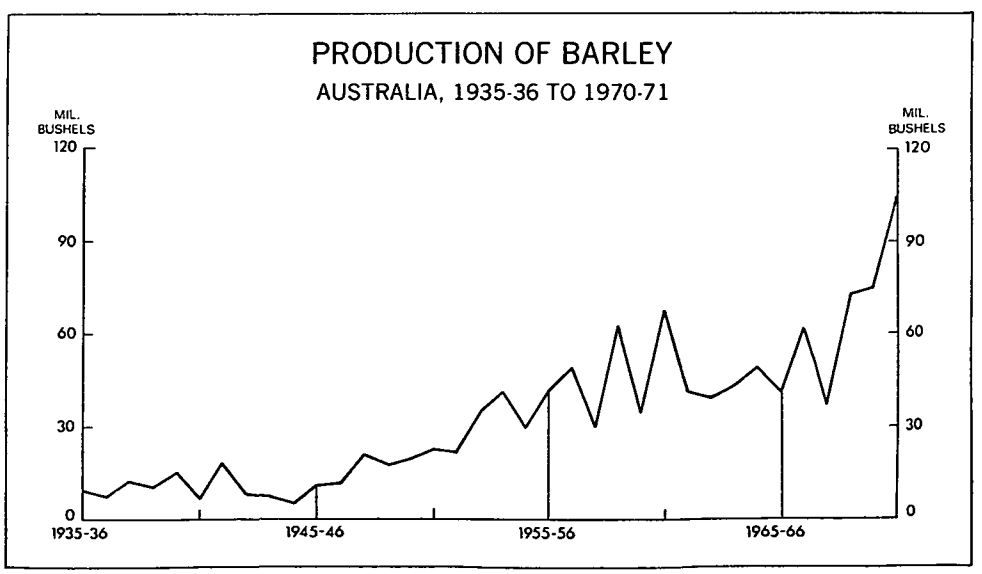


PLATE 42

The production of barley in Australia since 1935–36 is shown in plate 42, above and a map showing the distribution of barley growing areas throughout Australia in 1962–63 appears on page 1014 of Year Book No. 50. The area sown to barley from 1900–01 is shown in plate 39, page 746.

Value of barley crop

The average wholesale price for 2-row English malting barley in the Melbourne market was $1.43 per bushel in 1970–71 compared with $1.44 in 1969–70. The estimated gross value of the barley crop in each State for the 1970–71 season and the value per acre are shown in the following table.

BARLEY FOR GRAIN: VALUE OF CROP, STATES, 1970-71

		N.S.W.	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*Aust.*
Aggregate value	$'000	20,921	16,379	2,865	34,902	34,194	1,528	110,789
Value per acre	$	28.11	24.63	12.70	20.37	21.89	47.99	22.42

Exports of barley

South Australia is the principal exporting State, and China, Republic of (Taiwan), the Federal Republic of Germany, Japan and the United Kingdom were the principal countries to which barley was shipped in 1970–71. Particulars of exports of Australian-produced barley for the years 1966–67 to 1970–71 are shown in the following table.

BARLEY: EXPORTS, AUSTRALIA, 1966-67 TO 1970-71

		1966–67	*1967–68*	*1968–69*	*1969–70*	*1970–71*
Quantity	'000 bus	18,781	5,701	19,871	27,880	49,515
Value	$'000 f.o.b.	21,569	6,569	18,246	22,766	50,820

In addition to exports of barley grain, there are also exports of Australian pearl and Scotch barley, the total for 1970–71 amounting to 269,000 lb, valued at $8,000, the main countries of consignment being Malaysia, Mauritius and Papua New Guinea.

Barley malt

Details of the recorded usage of barley and the production of barley malt in the years 1966–67 to 1970–71 are given in the following table.

BARLEY MALT: GRAIN USED AND MALT PRODUCED, AUSTRALIA 1966-67 TO 1970-71

		1966–67	*1967–68*	*1968–69*	*1969–70*	*1970–71*
Barley used	'000 bus(*a*)	13,601	13,003	n.a.	n.a.	n.a.
Malt produced	'000 bus(*b*)	14,027	13,547	13,825	14,210	17,145

(*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 5,103,000 bushels (value $8,894,000) and 8,216,000 bushels (value $15,437,000) were recorded in 1969–70 and 1970–71 respectively.

World production of barley

In comparison with the barley production of other countries that of Australia is extremely small. The main producers in 1971 were the Union of Soviet Socialist Republics, Canada, the United States of America, France and the United Kingdom. China, Republic of (mainland) is also normally a major producer, but recent details are not available. Australian production in 1971 was approximately 2 per cent of the world total.

According to preliminary estimates made by the United States Department of Agriculture, world production of barley in the year 1971 amounted to 5,617 million bushels harvested from 180 million acres, equivalent to a yield per acre of 31.2 bushels. This compared with the production of 5,127 million bushels in the previous year from 171 million acres, giving a yield per acre of 29.9 bushels.

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. Over the last two years there has been a big expansion in sorghum production and it has become an important export crop.

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 feed, 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 Areas are the main areas. This crop is also suitable for the semi-tropical areas of the Northern Territory, where development is proceeding, and the Kimberley Plateau, Western Australia.

In Queensland orderly marketing of the crop is arranged through the Central Queensland Grain Sorghum Marketing Board and the Grain Sorghum Export Committee of the Queensland Grain-growers Association. A State statutory marketing board will commence operations in New South Wales with the marketing of the 1972 crop.

GRAIN SORGHUM: AREA, PRODUCTION AND YIELD PER ACRE, STATES
1966-67 TO 1970-71

	Area			*Production(a)*			*Yield per acre(a)*		
Year	*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
1966–67	98,161	403,500	502,349	1,527	10,172	11,713	15.6	25.2	23.3
1967–68	78,165	382,192	461,834	1,580	8,939	10,582	20.2	23.4	22.9
1968–69	136,945	371,234	518,164	3,927	6,789	10,820	28.7	18.3	20.9
1969–70	245,180	637,569	886,480	6,011	14,012	20,114	24.5	22.0	22.7
1970–71	445,692	911,118	1,364,474	17,876	29,614	47,673	40.1	32.5	34.9

(*a*) 60 lb per bushel. Production in New South Wales and Queensland (for years prior to 1968–69) harvested from crop sown in previous year. (*b*) Includes small areas sown and quantities produced in other States and Territories. Excludes Northern Territory for 1967–68, 1968–69 and 1969–70.

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 feed and silage, particularly in connection with the dairying industry. There is practically no difference between grain and fodder varieties.

There has been a continuing 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

MAIZE FOR GRAIN: AREA, PRODUCTION AND YIELD PER ACRE
STATES AND A.C.T., 1966-67 TO 1970-71

Year	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	A.C.T.	Aust.
AREA (ACRES)								
1966–67	49,019	1,407	151,010	..	5	..	..	201,441
1967–68	51,569	917	147,732	..	155	..	..	200,373
1968–69	54,484	1,161	108,679	..	39	..	..	164,363
1969–70	80,780	1,145	114,129	..	654	..	..	196,708
1970–71	82,318	1,322	127,815	..	153	..	..	211,608
PRODUCTION ('000 BUSHELS)(a)								
1966–67	2,471	72	4,948	..	..	..	..	7,491
1967–68	2,320	32	4,778	..	2	..	..	7,132
1968–69	3,083	72	2,713	..	1	..	..	5,869
1969–70	4,006	72	3,459	..	6	..	..	7,543
1970–71	4,191	62	4,076	..	2	..	..	8,331
YIELD PER ACRE (BUSHELS)(a)								
1966–67	50.4	51.3	32.8	..	12.8	..	..	37.7
1967–68	45.0	34.9	32.3	..	11.4	..	..	35.6
1968–69	56.6	62.2	25.0	..	17.0	..	..	35.7
1969–70	49.6	62.8	30.3	..	9.9	..	..	38.3
1970–71	50.9	47.0	31.9	..	10.2	..	..	39.4

(a) 56 lb per bushel. Production in New South Wales and Queensland (for years prior to 1968–69) harvested from crop sown in previous year.

The average yield for Australia for the five-year period ended 1970–71 was 37.3 bushels per acre. Among principal producing countries, the United States of America average 86.8 bushels per acre and Brazil 21 bushels for 1969.

Value of maize crop

The average wholesale price of maize in the Melbourne market in 1970–71 was $2.48 per bushel compared with $2.17 in 1969–70. The estimated gross value of the crop in each State for the 1969–70 season and the value per acre were as follows.

MAIZE FOR GRAIN: VALUE OF CROP, STATES, 1970-71

		N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	Aust.
Aggregate value	$'000	5,448	101	4,842	..	2	..	10,393
Value per acre	$	66.18	76.40	37.88	..	13.07	..	49.11

Exports of maize

MAIZE: EXPORTS, AUSTRALIA, 1966-67 TO 1970-71

		1966–67	1967–68	1968–69	1969–70	1970–71
Quantity	'000 bus	80	101	7	27	881
Value	$'000 f.o.b.	114	169	15	51	1,203

World production of maize

According to figures issued by the United States Department of Agriculture, world production of maize in the year 1970 amounted to an estimated 9,887 million bushels, harvested from 261 million acres, giving an average yield per acre of 37.9 bushels. This compared with production in the previous year of 10,166 million bushels from 253 million acres, and an average yield of 40.2 bushels per acre.

The United States of America is the most important maize-producing country in the world, and during the four years ended 1969 the area sown to maize in that country averaged 57 million acres or 23 per cent of the world total. During the same period production averaged 4,388 million bushels or 46 percent 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 untill 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.

Apart from small experimental areas in Western Australia and the Northern Territory, rice-growing in Australia is practically confined to the Murray and Murrumbidgee Irrigation Areas in New South Wales and recently, the Burdekin area of Queensland. The bulk of Australia's exports of rice in 1970–71 was shipped to Papua New Guinea, United Kingdom and Okinawa. Details relating to area, production, and Australian-produced exports for the years 1966–67 to 1970–71 are shown in the following table.

RICE: AREA, PRODUCTION AND EXPORTS, AUSTRALIA(*a*)
1966-67 TO 1970-71

Year	No. of holdings growing rice(*b*)	Production (Paddy rice)			Average yield (paddy) per acre	Imports	Exports
		Area	Quantity	Gross value(*c*)			
		acres	'000 bushels (*d*)	$'000	bushels (*d*)	'000 lb	'000 lb
1966–67	1,164	72,724	11,250	12,445	152.6	3,718	198,370
1967–68	1,210	75,957	11,597	12,831	152.7	3,749	224,956
1968–69	1,464	83,267	13,420	14,358	161.2	3,225	245,202
1969–70	1,804	99,244	12,951	14,533	130.5	3,397	283,918
1970–71	1,880	94,033	15,698	13,720	166.9	966	225,830

(*a*) For some years 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*) Excludes the value of straw. (*d*) 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 1970–71 hay represented 9 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 feed (for feeding-off). 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.

HAY: AREA, PRODUCTION AND YIELD PER ACRE, STATES AND TERRITORIES
1966-67 TO 1970-71

Season	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
				AREA ('000 ACRES)					
1966–67	823	1,558	129	482	295	203	1	4	3,496
1967–68	586	1,165	119	429	318	179	2	2	2,800
1968–69	823	1,847	112	615	341	211	2	4	3,955
1969–70	748	1,200	181	384	500	172	4	3	3,192
1970–71	761	1,266	161	485	469	212	5	3	3,362
				PRODUCTION ('000 TONS)					
1966–67	1,481	2,982	314	729	417	437	2	9	6,371
1967–68	806	1,556	296	418	421	309	3	3	3,812
1968–69	1,439	3,635	263	985	501	494	5	7	7,330
1969–70	1,406	2,461	373	608	508	362	5	7	5,728
1970–71	1,355	2,455	376	743	662	441	6	6	6,044
				YIELD PER ACRE (TONS)					
1966–67	1.80	1.91	2.44	1.51	1.41	2.15	1.63	2.14	1.82
1967–68	1.38	1.34	2.49	0.97	1.32	1.73	1.30	1.19	1.36
1968–69	1.75	1.97	2.35	1.60	1.47	2.35	2.38	1.60	1.85
1969–70	1.88	2.05	2.06	1.58	1.00	2.10	1.26	2.01	1.80
1970–71	1.78	1.94	2.33	1.53	1.41	2.08	1.25	1.80	1.80

Plate 39 shows the area under hay since 1900–01 (page 746).

Information regarding areas cut for hay and varieties grown in 1970–71 is given in the following table.

HAY: AREA OF VARIOUS KINDS GROWN, STATES AND TERRITORIES
1970-71
(Acres)

State or Territory	Oaten	Lucerne	Wheaten	Other	Total
New South Wales	68,924	385,109	44,722	261,835	760,590
Victoria	165,886	102,753	20,841	976,679	1,266,159
Queensland	8,157	94,958	9,831	48,449	161,395
South Australia	128,056	80,867	46,679	229,353	484,955
Western Australia	203,608	2,174	64,873	198,310	468,965
Tasmania	9,598	6,675	258	195,129	211,660
Northern Territory	..	110	..	4,785	4,895
Australian Capital Territory	276	2,177	61	566	3,080
Australia	**584,505**	**674,823**	**187,265**	**1,915,106**	**3,361,699**

For all States and the Territories combined, the proportions of the areas sown to the principal kinds of hay in 1970–71 were 17.4 per cent for oaten, 20.1 per cent for lucerne, 5.6 per cent for wheaten, and 57.0 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 1970–71 season.

HAY: VALUE OF CROPS, STATES 1970–71

		N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	Aust.(a)
Aggregate value	$'000	32,155	40,461	12,882	8,613	15,396	5,865	115,797
Value per acre	$	42.28	31.96	79.82	17.76	32.83	27.71	34.45

(a) Includes $184,000 and $241,000 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 1967 to 1971 are given in the table below.

STOCKS OF HAY HELD ON FARMS, STATES AND A.C.T., 1967 TO 1971

(Tons)

31 March—	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	A.C.T.	Aust.(a)
1967	1,888,668	2,175,731	270,470	544,676	249,531	399,891	8,151	5,537,118
1968	1,273,385	1,104,034	241,922	267,677	223,115	297,118	3,594	3,410,845
1969	1,819,874	2,987,848	152,945	723,057	243,836	450,547	4,975	6,383,082
1970	2,536,522	2,376,974	254,397	630,388	237,339	443,332	13,540	6,492,492
1971	2,520,843	2,653,004	283,216	614,417	400,592	464,146	9,650	6,945,868

(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 1970–71 exports amounting to 11,451 tons, valued at $465,000, were made, principally to Iran, Kuwait, Oman and Singapore. Imports of hay are not recorded separately, but are considered to be negligible.

Green feed

Considerable areas are devoted to the growing of green feed, usually as an adjunct to cereal operations or as a minor crop in irrigation areas. The areas recorded in respect of green feed include areas of crops cut for feeding to livestock as green feed or ensilage, together with areas fed off to stock as green forage. Statistics of green feed 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 feed are lucerne and oats, while small quantities of barley, sorghum, wheat, maize, rye, and sugar cane are also used in this way. In 1970–71 the area under green feed (6,759,969 acres) consisted of oats (2,185,672 acres), lucerne (3,346,193 acres), barley (287,530 acres), sorghum (416,024 acres), wheat (191,080 acres), rye (25,772 acres), maize (13,290 acres), sugar cane (795 acres), and other crops (293,613 acres). Particulars concerning the area of green feed in the several States during each of the years 1966–67 to 1970–71 are given in the following table.

GREEN FEED: AREA, STATES AND TERRITORIES, 1966-67 TO 1970-71

('000 acres)

Year	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
1966–67	2,133	443	1,179	1,169	399	74	..	1	5,399
1967–68	2,326	545	1,337	1,217	414	75	..	1	5,916
1968–69	2,428	352	1,406	1,130	297	99	1	1	5,714
1969–70	2,889	364	1,631	1,295	383	89	1	1	6,654
1970–71	3,130	421	1,287	1,485	367	67	..	2	6,760

In the 1970–71 season green feed ranked second to wheat in area of crops throughout Australia. A graph showing the area sown to green feed appears on plate 39, page 746. The value of these crops is variously estimated in the several States, but the Australian total, excluding Western Australia, may be taken as approximately $29,743,000 for the 1970–71 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 with a 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 1966–67 to 1970–71 is given in the following table.

ENSILAGE: PRODUCTION AND FARM STOCKS, STATES AND A.C.T. 1966-67 TO 1970-71

(Tons)

Period	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*A.C.T.*	*Aust.*
Production during—								
1966–67 season	312,968	335,244	31,895	65,548	29,135	87,041	406	862,237
1967–68 ,,	134,408	160,771	36,238	22,388	30,322	66,602	40	450,769
1968–69 ,,	208,650	337,360	18,221	91,925	45,469	71,209	98	772,932
1969–70 ,,	426,738	289,413	57,396	41,179	38,549	52,449	1,650	907,374
1970–71 ,,	377,234	211,863	124,984	45,814	68,803	46,595	66	875,359
Farm stocks at—								
31 March 1967	519,371	233,979	77,180	62,262	20,476	68,464	740	982,472
,, ,, 1968	365,488	82,139	79,461	24,749	21,460	54,118	4	627,419
,, ,, 1969	393,838	263,190	68,222	80,892	30,078	66,596	27	902,843
,, ,, 1970	690,892	251,880	73,496	69,075	19,656	66,969	1,679	1,173,647
,, ,, 1971	846,971	222,554	127,574	57,211	36,944	68,222	49	1,359,525

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 maximum wholesale price of sugar consumed in Australia. The current agreement, which replaced the 1962 agreement (extended by supplementary agreements) is for the period from 1 July 1969 to 30 June 1974 and prescribes maximum wholesale prices for sugar (delivered State capital cities) equivalent to a retail price of 10.5 cents per lb.

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. Exports are limited by the export quota provisions of the International Sugar Agreement (*see* next page).

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 uniform prices paid to mills. Production for 1971–72 is estimated to be 2,749,000 tons 94 net titre, to which New South Wales is expected to contribute approximately 122,000 tons.

International Sugar Agreement

The International Sugar Agreement of 1937 was superseded by the International Sugar Agreements of 1953, 1958 and 1968. Details of the 1937, 1953 and 1958 Agreements were given in Year Books No. 40, pages 881–2, No. 48, page 936 and No. 54, page 892 respectively.

The 1968 International Sugar Agreement came into force on 1 January 1969 and will operate for five years. Like its predecessors, the 1968 Agreement is built around a schedule of export quotas governing the net exports of exporting members to the world 'free' market. The Agreement is designed to maintain a balance between total world free market supply and demand by adjustments to the level of quotas in effect of exporting members. Quotas in effect cannot be adjusted downwards below 90 per cent of basic export tonnages except in exceptional circumstances where adjustments down to 85 per cent may be possible.

Quota adjustments under the Agreement must take account of the prices (meaning 'prevailing prices' as defined by the Agreement), ruling in the world free market. The quota adjustment provisions pivot around a world free market price of U.S. four cents per pound f.o.b. and stowed Caribbean port, in bulk. When the price is below U.S. four cents, the system is designed to provide an upward pressure on prices by quota reductions. When the price is above U.S. four cents, the system is designed to apply a downward pressure on prices by increases in the level of quotas in effect above basic export tonnages.

Under the Agreement, exporters are required to establish and maintain certain levels of minimum stocks which are only to be released to the market when the price rises above U.S. 4.75 cents. If the price rises above U.S. 5.25 cents, all quota restraints become inoperative, but if the price rises above U.S. 6.50 cents, exporters are required to supply importer members with certain quantities of sugar at prices not exceeding the commercial equivalent of U.S. 6.50 cents, subsequently raised to U.S. 6.95 cents in conformity with U.S. currency devaluation.

If the price is below U.S. 3.50 cents, minimum export quotas in effect are to apply, while at prices below U.S. 3.25 cents, members are obliged to prohibit imports from non-member countries.

Australia has a basic export tonnage under this Agreement of 1,100,000 metric tons raw value (about 1,040,000 long tons of actual raw sugar) and is obliged to establish a minimum level of uncommitted stocks amounting to 15 per cent of this quantity.

Australian exports of negotiated price sugar to the United Kingdom under the British Commonwealth Sugar Agreement, and to the U.S.A. market, are not controlled by the International Sugar Agreement.

In 1971, in accordance with the Agreement, member countries reviewed its operation. They made no change in basic export tonnages and price levels, but listed a number of points which would require consideration when the Agreement is renegotiated.

British Commonwealth Sugar Agreement

On 1 January 1953 the British Commonwealth Sugar Agreement became effective. A triennial review of the Agreement was held late in 1971, and in the expectation of the United Kingdom entering the European Economic Community, the negotiations were concluded on the understanding that the Agreement would terminate at the end of 1974. Should the United Kingdom not enter the E.E.C. arrangements will be made for a special review to consider the future of the Agreement. Under the Agreement Australia has a Negotiated Price Quota of 335,000 tons per annum to the United Kingdom. The negotiated price for Australian sugar had remained at £Stg. 43.10.0 per long ton f.o.b. and stowed, bulk sugar 96° polarisation, for the years 1966 to 1971. The price was increased to £Stg. 50 for 1972, 1973 and 1974.

The Agreement also allows Australia an adjusted Overall Agreement Quota (including the negotiated price quota) of 630,000 tons per annum, which can be adjusted from time to time as a result of re-allocations of other Commonwealth Sugar Agreement exporters. The balance of this quota over the negotiated price quota may be sold to preferential markets on the basis of the world market price plus preference, as part of Australia's export quota under the International Sugar Agreement. Early in 1972 the United Kingdom prohibited the import of free market sugar.

Exports to the United States of America

Australian exports to the U.S.A. are governed by legislation first enacted by the U.S.A. in 1962. The present legislation covers the three years to the end of 1974. These exports are sold on the U.S. domestic raw sugar market, the supplies to which are regulated with a view to ensuring stable and equitable prices, independently of prices ruling elsewhere in the world.

Australian export entitlements to this market vary from year to year. In 1971 they totalled 175,150 long tons of raw sugar and at 23 February 1972 our 1972 entitlement stood at 180,000 long tons.

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 provided from contributions by the Queensland Government on behalf of the sugar industry.

Until 15 May 1960 a domestic rebate of $4.40 a ton of refined cane sugar used in processing approved fruit products was paid to Australian manufacturers, provided they bought fresh fruit for processing at prices not lower than those declared by the Committee as reasonable. This was increased to $10 a ton from 16 May 1960 and to $15 from 1 July 1969.

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 satisfactory arrangements having been made for payment for the fresh fruit used for processing at not less than the prices (if any) which the Committee has declared to be reasonable.

Under the Sugar Agreement 1969 the Queensland Government contributes $924,000 to the fund annually, out of which the Committee pays the domestic sugar rebate on all approved fruit products manufactured. The Queensland Government also reimburses the Committee the difference between the domestic rebate and the export rebate paid on approved fruit products which are subsequently 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 marketable fresh fruits.

Financial assistance to the sugar industry

Under the provisions of the *Sugar Marketing Assistance Agreement Act* 1967 the Commonwealth Government arranged a loan of $19 million, plus interest on a temporary advance of this amount from the Reserve Bank, to assist the returns from No. 1 Pool in the 1966 season, and $3,559,193 for a similar purpose in respect of the 1967 season. The total amount of $23,327,590 so advanced is repayable over ten years commencing in mid-1970, and was not subject to interest before then. Thereafter it incurs interest at the rate of five per cent per annum.

Bulk handling of sugar

Bulk handling and mechanised loading and unloading of raw sugar is now in operation throughout the Australian sugar industry. 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 to give a total bulk storage capacity of 1,300,000 long tons. Extensions, commenced in 1971, at Cairns and Mourilyan will make available storage for a further 151,000 tons as from the 1972 season. 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.

Mechanisation

Mechanisation of harvesting processes has been gradually developed and has been accelerated in recent years. In Queensland the proportion of the crop mechanically cut rose from 8.7 per cent in 1962 to 97.03 per cent in 1971 while the proportion mechanically loaded on to the transport conveying cane to mills rose from 64.5 per cent to 99.63 per cent in the same period. Chopper harvesters, which chop cane into short lengths and pour it into bins hauled alongside, harvested 88.26 per cent of the crop, and whole-stalk harvesters, which cut the cane at the base and deposit the whole stalks in bundles, cut 8.77 per cent. In New South Wales, mechanical harvesting takes place in two of the three mill areas, and is being used on an increasing scale. In the case of the 'Condong' mill, in whose area mechanisation is most widely used, 21.70 per cent of cane was mechanically harvested during the 1971 season.

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 1966–67 to 1970–71 is shown in the following table. The areas shown in the table do not include the small acreage cut for green feed, which in 1970–71 amounted to 795 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, 1966-67 TO 1970-71

(Acres)

Year	*New South Wales*			*Queensland*			*Australia*			
	Area crushed	*Area of standover and newly-planted cane*	*Area cut for plants*	*Area crushed*	*Area of standover and newly-planted cane*	*Area cut for plants*	*Area crushed*	*Area of standover and newly-planted cane*	*Area cut for plants*	*Total*
1966–67	22,475	18,548	613	534,998	78,609	13,265	557,473	97,157	13,878	668,508
1967–68	22,181	18,761	488	530,828	89,494	13,194	553,009	108,255	13,682	674,946
1968–69	22,174	18,588	599	546,306	84,237	13,314	568,480	102,825	13,913	685,218
1969–70	19,838	19,490	487	505,978	120,735	13,808	525,816	140,225	14,295	680,336
1970–71	22,263	19,879	471	522,655	104,535	12,457	544,918	124,414	12,928	682,260

(*a*) Excludes areas cut for green fodder.

Production of cane and sugar

The production of sugar cane in 1970–71 was 17,366,000 tons, which was 1,047,000 tons below the record production in 1968–69. The production of raw sugar from 1935–36 is shown in plate 43, below.

SUGAR CANE: PRODUCTION OF CANE AND RAW SUGAR, STATES, 1966–67 TO 1970–71

(Tons)

Year	*New South Wales*		*Queensland*		*Australia*	
	Cane	*Sugar(a)*	*Cane*	*Sugar(a)*	*Cane*	*Sugar(a)*
1966–67	1,171,441	139,967	15,513,449	2,202,809	16,684,890	2,342,776
1967–68	1,038,507	120,583	15,717,789	2,213,810	16,756,296	2,334,393
1968–69	997,813	120,381	17,414,966	2,604,319	18,412,779	2,724,700
1969–70	835,232	97,721	14,699,785	2,081,036	15,535,017	2,178,757
1970–71	1,160,064	135,225	16,206,027	2,338,018	17,366,091	2,473,743

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

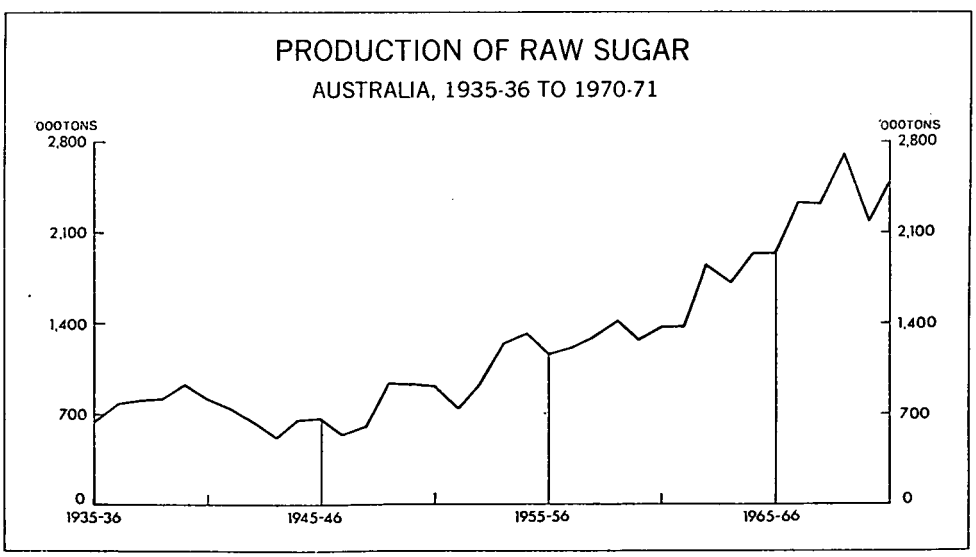


PLATE 43

Climatic conditions in New South Wales are such that the crop 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 1966–67 to 1970–71 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, 1966–67 TO 1970–71

(Tons)

	New South Wales			*Queensland*			*Australia*		
Year	*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*
1966–67	52.12	6.23	8.37	29.00	4.12	7.04	29.93	4.20	7.12
1967–68	46.82	5.44	8.61	29.61	4.17	7.10	30.30	4.22	7.18
1968–69	45.00	5.43	8.29	31.88	4.77	6.69	32.39	4.79	6.76
1969–70	42.10	4.93	8.55	29.05	4.11	7.06	29.54	4.14	7.13
1970–71	52.11	6.10	8.55	31.01	4.47	6.93	31.87	4.54	7.02

Production and utilisation of sugar

Details of the production and utilisation of sugar for the years 1966–67 to 1970–71 are shown below. Consumption is shown in terms of refined sugar, including that consumed in manufactured products.

SUGAR: PRODUCTION AND UTILISATION, AUSTRALIA, 1966–67 TO 1970–71

Year	*Changes in stocks(a)*	*Production (raw)(b)*	*Exports(c)*	*Miscellaneous uses(d)*	*Consumption in Australia(e)*	
					Total	*Per head*
	'000 tons	'000 tons	'000 tons	'000 tons	'000 tons	lb
1966–67	−36.5	2,222.1	1,674.6	20.8	563.2	107.7
1967–68	+170.0	2,393.9	1,634.8	20.8	568.3	106.7
1968–69	n.a.	2,563.2	2,058.4	n.a.	584.7	107.6
1969–70	n.a.	2,167.1	1,387.9	n.a.	609.1	109.6
1970–71	n.a.	2,413.0	1,571.6	n.a.	626.2	110.4

(*a*) Includes allowance for estimated sugar content of imported foodstuffs. (*b*) Year ended June; *tel quel* basis. Not comparable with production figures shown in production table as those relate to year ended March on a 94 net titre basis. (*c*) Raw and refined, including ships' stores and sugar in exported foodstuffs. (*d*) Includes refining losses and quantities used in golden syrup and treacle. (*e*) Includes sugar content of manufactured products consumed.

The statistics of sugar usage in factories for 1968–69, 1969–70 and 1970–71 are not yet available. However, the quantity recorded as used in factories in 1967–68 amounted to 377,132 tons compared with 372,394 tons in 1966–67 and 371,713 tons in 1965–66. Particulars of sugar used in establishments not classified as factories are not available, and consequently these quantities are deficient to that extent. In 1967–68 the reported consumption by factories engaged in the production of jams, jellies and preserved and dried fruit and vegetables amounted to 77,288 tons, by those producing confectionery, ice cream, etc., to 74,196 tons, by breweries to 47,438 tons, and by factories producing aerated waters, cordials, etc., to 70,775 tons.

Sugar prices and returns

The current prices of sugar in Australia (as determined under the Sugar Agreement in Australia, *see* page 772) and details of net returns for raw sugar from 1967–68 to 1970–71 are shown in the following tables.

SUGAR: PRICES IN AUSTRALIA

Year	*Raw sugar, 94 net titre* — *Average return per ton received by millers and growers for—* Home consumption	Exports(a)	Whole crop(a)	*Refined sugar* — Date of determination	Wholesale price to retailer per ton	Retail price capital cities per lb
	$	$	$		$	cents
1967–68(b)	142.80	59.45	82.05	19.6.67	206.72	10.5
1968–69(b)	143.20	63.04	82.10			
1969–70(b)	143.10	80.83	99.76			
1970–71(c)	140.30	87.83	102.34			
1971–72(c)	138.70	100.94	110.35			

(a) Includes 'excess' sugar. (b) Excludes repayable Commonwealth arranged loan (*see* page 774). (c) Includes repayment of Commonwealth loan.

RAW SUGAR(a): NET RETURNS, AUSTRALIA, 1966–67 TO 1970–71

(*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
1966–67	72.50	57.47	75.01	175,694
1967–68	72.89	59.45	82.05	191,471
1968–69	76.23	63.04	82.10	223,638
1969–70	69.61	80.83	99.76	217,279
1970–71	72.36	87.83	102.34	254,191

(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. They include concessions to the fruit industry and other rebates, which in 1970–71 amounted to $3,132,000, and also payment of the first instalment of the repayable Commonwealth grants referred to earlier. 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

RAW AND REFINED SUGAR: EXPORTS, AUSTRALIA, 1966-67 TO 1970-71

		1966–67	*1967–68*	*1968–69*	*1969–70*	*1970–71*
Quantity	tons	1,652,263	1,597,235	2,029,177	1,364,302	1,546,372
Value	$'000 f.o.b.	100,026	97,582	122,214	116,114	149,636

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, production is limited to areas with suitable soils and climate. The main centres of production are the Mareeba-Dimbulah districts of north Queensland and Myrtleford in north-eastern Victoria. Other areas where tobacco is grown include Bundaberg, Beerwah and Texas (Queensland), Ashford (New South Wales) and Wangaratta (Victoria). All tobacco grown in Australia is of the flue-cured type except for small quantities of burley tobacco produced mainly in Victoria.

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 is carried out by the Queensland and Victorian authorities.

In 1965 the Commonwealth and State Governments agreed to a stabilisation plan for the tobacco growing industry with an annual marketing quota of 26 million pounds (green weight) of leaf to be sold under an agreed grade and price schedule providing for an average minimum price, based on normal crop fall-out. The overall marketing quota is divided among tobacco-producing States according to a formula approved by the Australian Agricultural Council. The determination of grower disputes in regard to quotas from State allocations is the responsibility of State Quota Committees.

In 1968, the final year of the plan, the Governments concerned agreed that it should continue for a further period of five years with an increased marketing quota for the 1969 selling season of 28.5 million pounds, which was subsequently increased to 31.5 million pounds to correct industry stockholdings which were depleted by higher than expected manufacturer usage. Provision was made for an annual review of the quota and in 1970 a basic quota of 34 million pounds which was set for the 1971 season was retained for the 1972 season. Each quota is to be divided among the producing States in the same proportions as the original quota.

The plan is administered by the Australian Tobacco Board, constituted under the *Tobacco Marketing Act* 1965–66 and representative of the Commonwealth, tobacco-producing States, growers, and manufacturers.

The guaranteed average minimum Australian price for the 1971 and 1972 seasons, 114.5 cents per lb, is 5.5 cents per lb above the price set for the 1970 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 factors affecting its development and progress. The Committee was reconstituted as the Central Tobacco Advisory Committee in 1952–53.

In order to receive funds for increased research and extension activities, the Tobacco Industry Trust Account was established by the *Tobacco Industry Act* 1955–65 and came into operation on 2 December 1955. Growers and manufacturers contribute to the Trust Account by way of levies imposed on Australian leaf sold and purchased. These industry contributions are matched by the Commonwealth Government with payments made as funds are expended. The Governments of the three tobacco producing States make fixed annual contributions. Money standing to the credit of the Account may be applied for the purpose of research and investigation in connection with the tobacco industry, the training of personnel and the publication and dissemination of scientific and technical information for the industry.

The Central Tobacco Advisory Committee is required to make recommendations to the Minister for Primary Industry in regard to expenditure from the Tobacco Industry Trust Account. By 30 June 1971 expenditure from the Account amounted to $8.3 million, and allocations for support of research projects in 1971–72 totalled $945,797.

Tobacco research and extension

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 and applied research in plant breeding and variety evaluation nutrition, disease and pest control, and cultural practices. The State Departments also provide extension services for tobacco growers. A Mechanisation Sub-Committee of the Central Tobacco Advisory Council was established in 1970 to investigate and advise on practical aspects of mechanisation of the tobacco-growing industry.

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.

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. These percentages, which in November 1946 stood at 3 per cent for cigarettes and 5 per cent for tobacco, have been increased progressively in intervening years and since 1 January 1966 have been set at 50 per cent for both cigarettes and tobacco.

In 1967–68 the quantity of cured leaf recorded as used in tobacco factories in Australia amounted to 50 million lb, of which 23 million lb was of local origin. The balance was imported, chiefly from the United States of America and South Africa. Figures for 1968–69, 1969–70 and 1970–71 are not yet available.

Tobacco area and production

The area planted to tobacco in 1970–71 was 8.3 per cent below the record area established in 1962–63. Production at 37,393,000 lb was 0.4 per cent below the previous record established in 1969–70.

TOBACCO: AREA AND PRODUCTION, STATES, 1966-67 TO 1970-71

Year	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*Aust.*
			AREA (ACRES)				
1966–67	1,794	8,455	12,134	..	..	..	22,383
1967–68	1,831	8,664	12,472	..	..	..	22,967
1968–69	2,190	9,727	13,837	..	..	..	25,754
1969–70	2,739	11,015	12,908	..	..	..	26,662
1970–71	3,042	10,481	13,411	..	..	..	26,934
			PRODUCTION OF DRIED LEAF ('000 lb)				
1966–67	2,133	10,953	14,819	..	..	..	27,905
1967–68	2,075	7,625	15,021	..	..	..	24,721
1968–69	2,481	12,075	19,517	..	..	..	34,072
1969–70	3,061	15,516	18,975	..	..	..	37,553
1970–71	2,800	14,848	19,745	..	..	..	37,393

Imports and exports of tobacco

Imports of tobacco and tobacco manufactures into Australia during 1970–71 were valued at $30.0 million. This included 29.7 million lb of unmanufactured tobacco valued at $20.1 million. Exports of tobacco and tobacco manufactures during 1970–71 were valued at $4,771,000, including Australian produce, $3,905,000.

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. Linters are used in the manufacture of felts and other materials, where fibre length is of little importance. The kernels when crushed produce an oil which is used for both edible and industrial purposes. The residual meal is a useful high protein stockfeed; the hulls may be used as fuel.

Until 1964 cotton growing was mainly confined to Queensland, most of it being grown under conditions of natural rainfall. Since then there has been an increasing trend in the use of irrigation. A sound industry has been established in the Namoi and Macquarie Valleys in New South Wales

with water provided by the Keepit and Burrendong Dams. More than three-quarters of Australia's raw cotton requirements are now produced in that area. Cotton is also grown under irrigation in Queensland and on the Ord River of Western Australia and to a lesser extent in the Murrumbidgee Irrigation Areas of New South Wales. Nearly all Australian cotton is now grown with the assistance of irrigation and acreage yields compare more than favourably with those obtained by traditional overseas cotton producing countries. Australian production currently satisfies all the requirements of local mills for short and medium staple cotton and should in the future, supply the comparatively small quantities of longer staple combing cottons currently imported. Cotton production in 1972 is expected to reach 174,000 bales with an export surplus of some 60,000 bales.

Cotton bounty

For particulars of the *Cotton Bounty Act* 1951–1958, *see* page 1044 of Year Book No. 49. This Act was replaced by the *Raw Cotton Bounty Act* 1963–1966 under which the Commonwealth agreed to pay 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, for a period of five years from 1 January 1964. In 1968 this Act was amended to extend bounty payments to all cotton produced in Australia of a grade higher than Strict Good Ordinary, whether used in Australia or not, provided it has a staple length of $\frac{7}{8}$" or greater. The Commonwealth Government has phased out the bounty assistance. The maximum bounty remained at the previous level of $4 million for 1969, falling to $3 million in 1970, and was $2 million in 1971 the final year in which it was paid.

Cotton area and production

COTTON: AREA, PRODUCTION AND YIELD PER ACRE, STATES AND TERRITORIES 1966-67 TO 1970-71

Year	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
				AREA (ACRES)					
1966–67	30,104	..	11,167	..	11,892	..	..	..	53,163
1967–68	53,474	..	11,629	..	11,782	..	..	..	76,885
1968–69	59,769	..	13,329	..	8,327	..	..	..	81,425
1969–70	56,662	..	13,358	..	7,210	..	..	..	77,230
1970–71	65,242	..	12,882	..	8,505	..	..	..	86,629
				PRODUCTION (UNGINNED) ('000 lb)					
1966–67	79,159	..	11,800	..	29,400	..	..	..	120,360
1967–68	170,064	..	18,718	..	25,954	..	..	..	214,736
1968–69	173,759	..	28,104	..	21,560	..	..	..	223,423
1969–70	138,783	..	26,860	..	20,800	..	..	..	186,443
1970–71	85,122	..	19,191	..	27,700	..	..	..	132,013
				YIELD PER ACRE (lb)					
1966–67	2,630	..	1,057	..	2,472	..	..	..	2,264
1967–68	3,180	..	1,610	..	2,203	..	..	..	2,793
1968–69	2,907	..	2,108	..	2,589	..	..	..	2,744
1969–70	2,449	..	2,011	..	2,885	..	..	..	2,414
1970–71	1,305	..	1,490	..	3,257	..	..	..	1,524

NOTE. Before 1968–69 production in Queensland relates to the crop harvested in the first of the years mentioned, and in other States to the year following: e.g., for 1967–68, the Queensland crop was harvested during 1967, while the crop in other States was harvested during 1968.

Production of ginned cotton for 1965-66 was 40,885,000 lb; 1966–67, 35,510,000 lb; 1967–68, 70,405,000 lb; and 1968–69, 73,435,000 lb. Figures for 1969–70 and 1970–71 are not yet available.

The gross value of cotton for the five years ended 1970–71 was $12,468,000; $19,675,000; $20,753,000; $18,979,000; and $14,015,000 respectively.

Imports of raw cotton (excluding linters) during the past five years were: 1966–67, 19,963,000 lb; 1967–68, 27,066,000 lb; 1968–69, 12,497,000 lb; 1969–70, 10,378,000 lb; and 1970–71, 15,421,000 lb.

Exports of raw cotton (excluding linters) in 1970–71 were 16,351,000 lb, valued at $3,431,000. Hong Kong and Japan were the principal importing countries.

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 and oil cake.

In Australia, peanuts for crushing for oil arise as a by-product in the production of nuts for edible purposes. The oil is used extensively as a cooking and salad oil and in the manufacture of margarine.

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.

PEANUTS: AREA AND PRODUCTION, STATES, 1966-67 TO 1970-71

	Area (Acres)			*Production (cwt)*		
Year	*N.S.W.*	*Qld*	*Aust.*	*N.S.W.*	*Qld*	*Aust.*
1966–67	397	69,330	(*a*)69,727	5,194	821,957	(*a*)827,151
1967–68	353	61,373	61,738	3,920	602,207	606,159
1968–69	183	78,454	(*a*)78,637	1,861	332,740	(*a*)334,601
1969–70	232	82,789	(*a*)83,021	4,039	836,812	(*a*)840,851
1970–71	390	94,304	94,752	5,151	607,172	612,618

(*a*) Incomplete: excludes Northern Territory.

The gross value of the 1970–71 crop was $7,998,000 which was approximately $987,000 less than in 1969–70. Total supplies available for consumption in Australia in 1970–71 were 28,570 tons (in shell equivalent), made up of a decrease in stock held by the Peanut Marketing Board of 6,325 tons, receivals by the Board of 24,435 tons and imports of 50 tons. Exports of peanuts and peanut products for the year were 2,240 tons.

Flax

The flax plant is a summer-growing annual. Varieties have been developed for the production of either fibre or linseed, which when crushed yields an industrial oil used extensively in the manufacture of paint and linoleum. The introduction of synthetics into these fields has reduced the demand for linseed oil. Flax for the production of fibre was last recorded in 1964–65. Production of linseed during 1970–71 was 30,318 tons.

The main producing areas are the wheat belt of New South Wales, western and north-eastern districts of Victoria, the Esperance district of Western Australia and the Darling Downs in Queensland.

Particulars of area and production of flax for linseed, by States, are given in the following table for the years 1966–67 to 1970–71.

FLAX FOR LINSEED: AREA AND PRODUCTION, STATES, 1966-67 TO 1970-71

Year	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Aust.*
Area (acres)—						
1966–67	9,580	5,012	17,854	389	1,751	34,586
1967–68	9,947	9,365	27,764	516	6,886	54,478
1968–69	15,164	14,304	21,459	1,025	18,645	70,597
1969–70	49,455	18,880	21,513	977	30,812	121,637
1970–71	50,751	16,877	8,786	695	25,751	102,860
Production (tons of linseed)—						
1966–67	3,265	2,319	7,338	188	634	13,744
1967–68	952	804	6,571	72	2,083	10,482
1968–69	2,614	5,079	6,132	350	5,321	19,496
1969–70	14,499	9,312	5,701	355	6,186	36,053
1970–71	16,917	6,370	1,937	254	4,840	30,318

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. 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 details are not available for publication.

Production and imports of hops

The production of hops in Australia is adequate to meet local requirements, and in recent years small quantities have been exported. 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 1966–67 to 1970–71. Exports of hops are negligible and are not recorded separately.

HOPS: PRODUCTION AND DISPOSAL, AUSTRALIA
1966-67 TO 1970-71

Year	Production(a)		Imports	Net available supplies(b)	Quantity used in breweries
	Quantity	Gross value			
	cwt	$'000	cwt	cwt	cwt
1966–67 . .	28,907	2,531	2,683	31,590	31,347
1967–68 . .	36,752	3,211	1,370	38,122	30,501
1968–69 . .	42,757	3,788	1,501	44,258	34,077
1969–70 . .	40,319	3,588	357	40,676	34,549
1970–71 . .	33,591	3,133	361	33,952	34,650

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

Rapeseed

Rapeseed is obtained from several varieties of brassica, which are cultivated in temperate and warm temperate zones for their oil producing seed.

The introduction of wheat quotas in Australia and the buoyant world market for oilseeds has brought about an expansion of areas sown to rape in the past three years in New South Wales, Western Australia, Victoria and South Australia.

Domestic production has increased from 88,000 cwt in 1969–70 to 662,000 cwt in 1970–71 with the major part of the production for that year being derived from Victoria.

Rapeseed oil is used mainly as a salad and cooking oil with some minor amounts being utilised for industrial purposes. A protein meal is derived as a by-product in the crushing process.

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 resisant. 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.

The downward trend evident in Queensland production in 1969–70 continued during 1970–71, when production dropped a further 47,008 bushels from the 1969–70 level to 20,462 bushels. In New South Wales and Victoria however, because of crop diversification away from wheat, production increased by 250,305 bushels and 76,608 bushels respectively, to record levels of 406,184 bushels for New South Wales and 76,872 bushels for Victoria.

SAFFLOWER: AREA AND PRODUCTION, STATES AND TERRITORIES, 1966-67 TO 1970-71

Year	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
				AREA (ACRES)					
1966–67	5,092	729	88,803	(a)	(a)	..	..	..	(b)94,624
1967–68	8,550	489	95,351	(a)	225	..	..	..	(b)104,615
1968–69	2,415	199	43,589	..	170	..	..	..	46,373
1969–70	16,022	50	9,475	(a)	1,203	..	..	..	(b)26,750
1970–71	49,012	12,530	5,073	420	1,349	..	..	..	68,384
				PRODUCTION (BUSHELS)(c)					
1966–67	71,823	7,336	1,290,087	(a)	(a)	..	..	..	(b)1,369,246
1967–68	59,310	1,375	815,354	(a)	2,207	..	..	..	(b)878,246
1968–69	14,963	1,268	552,555	..	1,153	..	..	..	569,939
1969–70	155,879	164	67,470	(a)	5,994	..	..	..	(b)229,507
1970–71	406,184	76,872	20,462	4,042	7,828	..	..	..	515,388

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

Imports of crude safflower seed oil in 1969–70 and 1970–71 totalled 490,500 gallons and 1,636,000 gallons respectively. These imports came mainly from the United States of America.

Sunflower seed

Sunflowers are summer growing annuals produced mainly under raingrown conditions in the three eastern mainland States of Australia.

The seed for which the plant is cultivated yields a high quality dual purpose oil and a by-product protein meal used for stockfeed. Main uses for the oil are in the manufacture of margarine, as a salad and cooking oil, and for industrial purposes.

The introduction of wheat quotas and the development of high oil yielding varieties of sunflower seed have resulted in an increase in Australian production from 35,000 cwt in 1967–68 to 1,160,000 cwt in 1970–71.

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 below for the seasons 1968–69 to 1970–71. 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 1970–71 are given in the chapter Miscellaneous.

VEGETABLES FOR HUMAN CONSUMPTION: AUSTRALIA, 1968-69 TO 1970-71

Vegetable	1968–69		1969–70		1970–71	
	Area sown	Production	Area sown	Production	Area sown	Production
	acres	tons	acres	tons	acres	tons
Asparagus	4,148	6,270	4,094	5,201	4,637	5,194
Beans, French and runner	19,745	37,607	20,018	39,243	18,512	33,342
Beans, navy	10,016	833	13,013	2,491	11,426	1,103
Beetroot	2,188	19,441	2,140	22,650	1,890	19,062
Cabbages and brussel sprouts	6,421	72,899	6,388	68,830	6,292	70,066
Carrots	6,969	78,198	7,295	80,819	7,524	83,392
Cauliflowers	6,334	68,971	6,881	92,348	6,550	77,550
Celery	911	15,576	1,023	16,882	955	15,314
Cucumbers	2,106	9,758	2,380	10,098	2,306	10,833
Lettuce	5,405	24,881	5,557	31,638	5,386	25,695
Onions	11,307	86,145	10,299	84,177	10,710	91,483
Parsnips	1,308	14,417	1,366	12,022	1,223	11,236
Peas, blue	3,357	2,129	3,952	3,205	5,121	5,427
Peas, green	60,964	117,947	62,138	135,257	40,146	80,005
Potatoes	113,437	798,478	107,062	749,763	95,404	735,173
Tomatoes	17,479	154,317	17,819	160,339	18,181	173,472
Turnips, swede and white	1,983	9,170	1,748	7,007	1,945	8,664
All other	37,091	..	37,834	..	43,597	..
Total	**311,169**	..	**311,007**	..	**281,805**	..

Processed vegetables

Total production of canned vegetables in 1970–71 amounted to 196,461,000 lb. The principal types produced were baked beans (including pork and beans), 48,221,000 lb; beetroot, 44,008,000 lb; green peas (excluding mint processed peas), 16,938,000 lb; tomatoes, 16,636,000 lb; asparagus, 10,058,000 lb and sweet corn, 9,738,000 lb.

The production of dehydrated vegetables, including split peas, during 1968–69 amounted to 12,959,000 lb. Figures for 1969–70 and 1970–71 are not yet available. Production of potato crisps, chips and flakes during 1970–71 was 29,431,000 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 1970–71 the production was 131,643,000 lb, of which 60,446,000 lb were peas and 31,365,000 lb were beans.

Exports and imports of vegetables

Overseas exports of fresh and frozen vegetables during 1970–71 amounted to 62,463,000 lb valued at $3,843,000; dried vegetables, 32,334,000 lb valued at $1,356,000; preserved vegetables, 5,310,000 lb valued at $1,302,000; and other prepared or preserved vegetables, 310,000 lb valued at $115,000.

Imports of fresh and frozen vegetables during 1970–71 amounted to 9,053,000 lb valued at $1,502,000.

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.

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. New South Wales and Queensland come next in order of acreage sown. In New South Wales production is chiefly in the tablelands district.

POTATOES: AREA, PRODUCTION AND YIELD PER ACRE STATES AND TERRITORIES, 1966-67 TO 1970-71

Year	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
AREA (ACRES)									
1966–67	23,594	37,167	16,227	5,948	6,100	10,278	(a)	14	(b)99,328
1967–68	24,334	40,329	17,347	6,527	6,149	10,960	(a)	22	(b)105,668
1968–69	29,236	39,979	18,515	7,643	6,588	11,461	(a)	15	(b)113,437
1969–70	25,865	39,765	17,712	8,021	6,332	9,367	(a)	(a)	(b)107,062
1970–71	22,102	34,965	15,925	7,160	6,246	8,994	(a)	12	(b)95,404
PRODUCTION (TONS)									
1966–67	126,183	225,186	93,738	60,271	64,169	73,300	(a)	120	(b)642,967
1967–68	122,795	215,941	106,429	63,331	70,469	79,058	(a)	89	(b)658,112
1968–69	160,823	299,961	122,990	68,018	74,435	72,120	(a)	131	(b)798,478
1969–70	142,047	279,553	115,455	78,624	67,164	66,920	(a)	(a)	(b)749,763
1970–71	143,387	272,200	108,659	71,380	68,058	71,444	(a)	45	(b)735,173
YIELD PER ACRE (TONS)									
1966–67	5.35	6.06	5.78	10.13	10.52	7.13	(a)	8.57	(b)6.47
1967–68	5.05	5.35	6.14	9.70	11.46	7.21	(a)	4.05	(b)6.23
1968–69	5.50	7.50	6.64	8.90	11.30	6.29	(a)	8.73	(b)7.04
1969–70	5.49	7.03	6.52	9.80	10.61	7.14	(a)	(a)	(b)7.00
1970–71	6.49	7.78	6.82	9.97	10.90	7.94	(a)	3.75	(b)7.71

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

The production of potatoes from 1935–36 is shown in plate 44, below.

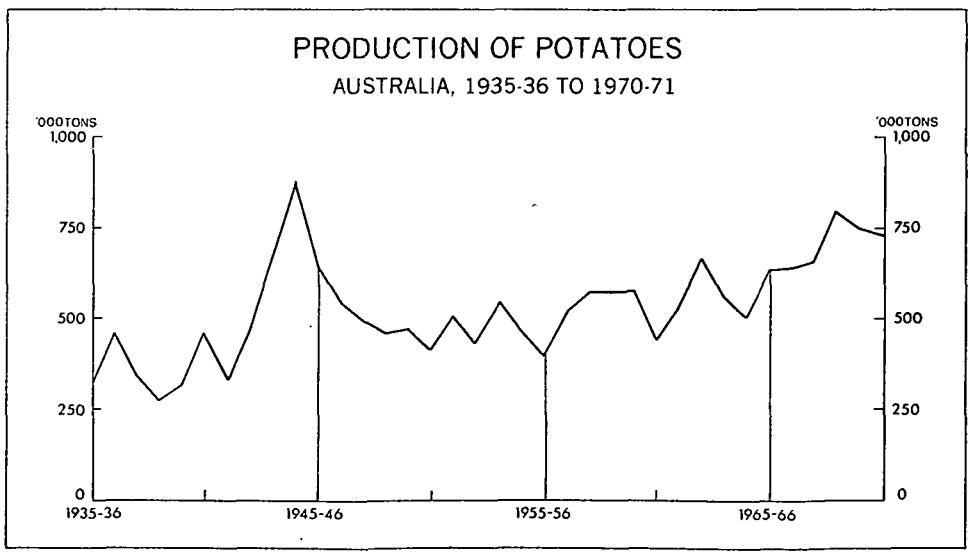


PLATE 44

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 1970–71 season and the value per acre are shown in the following table.

POTATOES: VALUE OF CROP, STATES, 1970-71

		N.S.W.	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*Aust.(a)*
Aggregate value	$'000	10,395	20,916	10,474	6,059	6,299	3,013	57,181
Value per acre	$	470.32	598.20	657.71	846.23	1,008.49	335.00	599.36

(a) Excludes Australian Capital Territory.

Consumption and exports of potatoes. The annual consumption of potatoes in Australia during each of the three years 1968–69 to 1970–71 amounted to 729,500 tons, 679,300 tons and 675,900 tons respectively or 134.3 lb, 122.3 lb and 119.1 lb respectively per head of population. These figures exclude the quantities used for seed, which averaged about 55,000 tons annually over this period. Details showing exports and imports for the years 1966–67 to 1970–71 are given in the following table.

POTATOES: EXPORTS AND IMPORTS, AUSTRALIA, 1966-67 TO 1970-71

	Exports		*Imports*	
Year	*Quantity*	*Value*	*Quantity*	*Value*
	tons	$'000 f.o.b.	tons	$'000 f.o.b.
1966–67	13,593	839	..	..
1967–68	8,150	693	..	..
1968–69	12,591	966	237	12
1969–70	20,583	1,474	..	..
1970–71	11,475	978	..	..

Western Australia has emerged in recent years as the principal exporting State, accounting for almost half of the Australian total in 1970–71. Australia's principal markets are Singapore, Papua New Guinea, Ceylon and New Caledonia.

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 major fruits 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 are by far the most important type of fruit grown, but small fruit, such as currants, raspberries and gooseberries, are also grown extensively, the balance of the area being mainly taken up with pears and apricots.

Apple and Pear Industry

Early in October 1971 the Government approved a stabilisation plan for the export of apples and pears at "risk", with an estimated Commonwealth liability of $10 million over 5 years, commencing with the 1971 season. The plan establishes average seasonal returns (including the returns from forward sales) for each variety, which are then compared with the agreed support price for each variety and the extent of the deficiency or surplus is determined.

Overseas marketing of fruits

Details of the overseas marketing of fruits were published in Year Book No. 55 and earlier issues.

Area and production of fruit

The total area under fruit in Australia in 1970–71 was 304,637 acres, 2.7 per cent less than the record acreage established in 1965–66.

FRUIT: AREA(*a*), STATES AND TERRITORIES, 1966-67 TO 1970-71

(Acres)

Year	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
1966–67	96,482	73,519	50,058	44,157	26,458	22,343	133	38	313,188
1967–68	95,798	71,158	51,391	45,113	25,598	21,762	98	37	310,955
1968–69	94,685	71,598	52,750	44,497	25,366	21,429	90	32	310,447
1969–70	95,326	70,883	53,048	44,801	24,130	21,157	71	38	309,454
1970–71	93,167	66,614	54,752	45,302	23,791	20,853	120	38	304,637

(*a*) Bearing and not bearing.

ORCHARD FRUIT (INCLUDING EDIBLE TREE NUTS), TOTAL NUMBER OF TREES STATES AND TERRITORIES, 1970-71

('000)

	N.S.W.	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
Pome—									
Apples	1,813	1,933	1,356	674	1,264	2,654	..	4	9,698
Pears	286	1,770	123	206	84	181	..	..	2,649
Quinces	4	6	..	3	..	..	..	..	15
Citrus—									
Oranges	2,708	636	262	1,513	370	..	3	..	5,491
Lemons and limes	312	109	39	93	42	..	..	..	597
Mandarins	228	61	239	88	55	..	..	..	671
Grapefruit	84	33	18	55	11	..	..	..	202
Stone—									
Apricots	161	326	56	434	21	50	..	..	1,047
Cherries	332	214	1	67	4	8	..	..	627
Nectarines	47	44	47	27	8	3	..	..	177
Olives	14	88	..	62	23	..	..	..	187
Peaches	733	1,332	179	452	68	5	..	(*a*)	(*b*)2,769
Plums and prunes	506	168	162	81	87	6	..	(*a*)	(*b*)1,009
Nuts—									
Almonds	3	19	..	618	2	..	..	(*a*)	(*b*)642
Macadamia	31	..	110	..	..	..	..	..	141
Walnuts	1	8	..	4	3	..	..	..	17
Other orchard n.e.i.—									
Custard apples	..	..	16	..	..	..	..	..	17
Figs	4	2	1	8	1	..	..	..	16
Mangoes	1	..	47	..	1	..	1	..	49

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

ORCHARD FRUIT (INCLUDING EDIBLE TREE NUTS), PRODUCTION STATES AND TERRITORIES, 1970-71

	N.S.W.	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
	'000	'000	'000	'000	'000	'000	'000	'000	'000
Pome—	bus	bus	bus	bus	bus	bus	bus	bus	bus
Apples	4,016	5,079	2,025	1,583	3,156	7,373	..	6	23,238
Pears	736	7,061	172	649	177	397	..	..	9,192
Quinces	8	15	..	6	1	..	..	..	31
Citrus—									
Oranges	6,321	1,785	840	5,377	480	..	2	..	14,804
Lemons and limes	650	236	172	146	149	..	1	..	1,355
Mandarins	252	110	412	126	55	..	..	..	956
Grapefruit	275	134	41	126	17	..	1	..	593
Stone—									
Apricots	367	677	54	1,274	26	26	..	..	2,425
Cherries	173	184	..	50	1	1	..	..	410
Nectarines	54	36	38	28	8	1	..	..	166
Olives	11	59	..	22	10	..	..	..	103
Peaches	1,526	2,925	179	1,283	97	2	..	(*a*)	(*b*)6,012
Plums and prunes	365	176	158	85	121	5	..	(*a*)	(*b*)909
Nuts—	'000 lb	'000 lb	'000 lb	'000 lb	'000 lb	'000 lb	'000 lb	'000 lb	'000 lb
Almonds	6	11	..	3,005	3	..	..	(*a*)	(*b*)3,024
Macadamia	53	..	109	..	..	..	..	..	162
Walnuts	9	270	..	48	19	..	..	..	347
	'000	'000	'000	'000	'000	'000	'000	'000	'000
Other orchard n.e.i.—	bus	bus	bus	bus	bus	bus	bus	bus	bus
Custard apples	..	..	17	..	..	..	..	..	17
Figs	15	2	..	12	1	..	..	..	30
Mangoes	..	..	81	..	1	..	1	..	83

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

BERRY AND OTHER FRUITS (EXCLUDING VINEYARDS): STATES AND TERRITORIES, 1970-71

	N.S.W.	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
TOTAL AREA BEARING AND NOT BEARING (ACRES)									
Small and berry fruit—									
Currants (black, red)	..	..	..	(*a*)	..	691	..	..	(*b*)691
Raspberries	..	146	..	18	..	631	..	..	795
Strawberries	93	470	288	179	22	60	..	..	1,112
Other	34	219	22	15	3	147	..	..	440
Other fruit—									
Bananas	18,849	..	6,083	..	403	..	(*a*)	..	(*b*)25,335
Papaws	17	..	1,243	..	1	..	(*a*)	..	(*b*)1,261
Passionfruit	408	72	736	..	123	..	..	..	1,339
Pineapples	181	..	15,695	..	1	..	(*a*)	..	(*b*)15,877
PRODUCTION									
Small and berry fruit—	cwt	cwt	cwt	cwt	cwt	cwt	cwt	cwt	cwt
Currants (black, red)	..	..	..	(*a*)	..	19,973	..	..	(*b*)19,973
Raspberries	..	3,410	..	473	..	26,385	..	..	30,267
Strawberries	4,013	29,816	20,100	12,695	1,431	1,152	..	..	69,207
	'000	'000	'000	'000	'000	'000	'000	'000	'000
Other fruit—	bus	bus	bus	bus	bus	bus	bus	bus	bus
Bananas	3,789	..	1,282	..	65	..	7	..	5,142
Papaws	3	..	445	..	..	..	(*a*)	..	(*b*)448
Passionfruit	37	3	140	..	7	..	..	..	187
Pineapples	45	..	7,363	..	..	..	(*a*)	..	(*b*)7,408

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

Principal fruit crops

PRINCIPAL FRUIT CROPS: PRODUCTION, AND GROSS VALUE OF PRODUCTION, AUSTRALIA, 1966–67 TO 1970–71

Year	Apples	Apricots	Bananas	Oranges	Peaches	Pears	Pineapples	Plums and prunes
				PRODUCTION ('000 BUSHELS)				
1966–67	19,418	2,405	4,901	10,677	5,913	6,557	6,059	1,204
1967–68	19,615	1,519	5,145	9,846	6,294	7,351	6,804	778
1968–69	22,174	2,004	4,940	12,137	5,280	5,245	6,363	904
1969–70	22,259	1,814	5,160	10,787	5,513	9,331	6,344	985
1970–71	23,238	2,425	5,142	14,804	6,012	9,192	7,408	909
				GROSS VALUE OF PRODUCTION ($'000)				
1966–67	52,108	6,912	20,319	25,327	13,912	15,913	7,137	5,149
1967–68	49,741	4,637	19,636	24,496	14,123	16,469	6,470	3,362
1968–69	56,146	6,992	19,128	26,095	12,685	13,512	7,482	4,697
1969–70	56,120	7,438	24,961	29,026	15,101	23,809	7,144	5,828
1970–71	58,339	9,392	20,033	33,029	15,760	20,855	9,722	6,360

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. The statistics of fruit usage in factories for 1968–69, 1969–70 and 1970–71 are not yet available. However, during 1970–71 output of jams, conserves, fruit spreads, etc., amounted to 85,228,000 lb, while output of preserved fruit amounted to 659,825,000 lb. Of the latter figure, peaches accounted for 213,807,000 lb, pears 159,314,000 lb, and pineapples 76,279,000 lb.

In 1967–68, 9,102,000 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, Figures for 1968–69, 1969–70 and 1970–71 are not yet available. Details of the estimated consumption of fruit and fruit products for a series of years ending 1970–71 are shown in Chapter 29, Miscellaneous.

Imports and exports of fruit and fruit products

The imports of fresh fruit into Australia are negligible, while those of dried fruit consists mainly of dates, approximately 90 per cent of which are obtained from Iraq and Iran; the bulk of the remainder coming from the United States of America. A considerable export trade in fresh and chilled, and dried fruit is carried on by Australia with overseas countries. The values of the shipments in 1970–71 amounted to $32,012,000 and $20,048,000 respectively. Apples constitute the bulk of the fresh fruit exported, although exports of pears and citrus fruits are considerable.

FRESH AND CHILLED FRUIT: EXPORTS, AUSTRALIA, 1966–67 TO 1970–71

Year	Apples		Pears		Citrus		Total value(a)
	Quantity	Value	Quantity	Value	Quantity	Value	
	'000lb	$'000 f.o.b.	'000lb	$'000 f.o.b.	'000lb	$'000 f.o.b.	$'000 f.o.b.
1966–67	288,834	18,280	64,620	4,800	58,656	3,779	27,869
1967–68	277,814	17,368	68,922	5,442	54,875	3,656	27,535
1968–69	287,135	19,964	46,652	4,107	68,312	4,423	29,456
1969–70	296,806	20,410	81,324	6,486	48,113	3,216	31,011
1970–71	313,219	21,881	76,029	6,411	59,520	3,721	32,012

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

The quantity and value of overseas imports and exports of dried fruit, other than sultanas, raisins and currants, for the years 1966–67 to 1970–71 are shown below.

DRIED TREE FRUIT(*a*): IMPORTS AND EXPORTS, AUSTRALIA
1966-67 TO 1970-71

Year	*Imports(b)*		*Exports*	
	Quantity	*Value*	*Quantity*	*Value*
	'000 lb	$'000 f.o.b.	'000 lb	$'000 f.o.b.
1966–67	8,936	671	8,038	2,037
1967–68	8,996	750	8,027	2,016
1968–69	9,942	843	5,401	2,087
1969–70	11,728	1,113	4,828	1,716
1970–71	8,530	956	5,003	1,532

(*a*) Excludes sultanas, raisins and currants dealt with separately under Vineyards (*see* pages 792–3). (*b*) Dates and figs only.

Exports of jams and jellies in 1970–71 were 6,160,000 lb valued at $1,032,000, compared with 6,036,000 lb, valued at $909,000 in 1969–70. Imports of jams and jellies in 1970–71 were 5,546,000 lb, valued at $877,000, compared with 4,574,000 lb, valued at $813,000 in 1969–70.

Large quantities of canned or bottled fruit are normally exported from Australia, the quantity recorded in 1970–71 being 326,799,000 lb, valued at $42,891,000. Exports in 1970–71 were made up principally of peaches (110,201,000 lb), pears (113,266,000 lb), fruit salad (47,129,000 lb), pineapples (13,667,000 lb), and apricots (14,765,000 lb). In addition, the exports of pulped fruits during 1970–71 amounted to 1,386,000 lb valued at $212,000.

The total value of preserved fruit and fruit preparations (including fruit juices) imported into Australia during 1970–71 was $4,645,000. The value of exports of fruit juices in 1970–71 was $1,048,000.

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 Areas 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 other States.

Area of vineyards

The area under vineyards in the 1970–71 season in Victoria and South Australia constituted 76 per cent of the total area of vineyards.

VINEYARDS: AREA(*a*), STATES, 1966-67 TO 1970-71
(Acres)

Year	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Aust.*
1966–67	21,257	49,164	3,304	57,080	7,945	138,750
1967–68	22,155	48,725	3,400	58,129	7,665	140,074
1968–69	22,749	48,970	3,508	60,574	7,270	143,071
1969–70	25,422	49,838	3,614	64,837	6,648	150,359
1970–71(*b*)—						
Drying	7,754	36,961	..	4,032	(*c*)2,262	51,009
Table	2,550	3,528	3,564	209	(*c*)1,067	10,918
Wine	17,488	10,444	282	64,091	(*c*)3,379	95,684
Total	**27,792**	**50,933**	**3,846**	**68,332**	**6,708**	**157,611**

(*a*) Bearing and not bearing. (*b*) Area of individual categories is shown according to ultimate use to which grapes are put. (*c*) Estimated.

Wine industry

Australia produces wine of every type and also brandy. In recent years there has been a distinct trend towards 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 1968–69 production of table wines had exceeded the volume of fortified varieties and in 1970–71, production of unfortified wines exceeded fortified wines by 5.6 million gallons.

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* 1929–1969 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 1970–71 the total production of wine (beverage and distillation) in Australia was 55.3 million gallons, while total consumption of beverage wine was 24.4 million gallons (1.9 gallons per head of population). Similar particulars for 1969–70 are 63.1 million gallons and 24.4 million gallons (2.0 gallons per head of population) respectively.

WINE: PRODUCTION(*a*), STATES, 1966-67 TO 1970-71
('000 gallons)

Year	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Aust.*
1966–67	7,893	3,555	37	29,324	924	41,734
1967–68	8,350	5,180	31	30,055	829	44,444
1968–69	8,597	6,241	32	36,186	1,056	52,111
1969–70	11,529	7,251	31	43,301	1,015	63,127
1970–71	10,376	6,616	32	37,233	999	55,257

(*a*) Beverage and distillation wine; includes farm wine in New South Wales, Queensland and Western Australia.

BRANDY: PRODUCTION, SOUTH AUSTRALIA AND AUSTRALIA, 1966-67 TO 1970-71
(Proof gallons)

Year	*S.A.*	*Aust.*(*a*)
1966–67	650,618	791,163
1967–68	715,147	872,428
1968–69	848,225	1,068,030
1969–70	1,140,010	1,257,781
1970–71	1,346,708	1,482,573

(*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 1970–71 these countries received 458,000 gallons, 476,000 gallons and 91,000 gallons respectively. Exports of Australian-produced wine for the five years ended 1970–71 are shown in the following table.

WINE: EXPORTS, AUSTRALIA, 1966-67 TO 1970-71

Year	Quantity ('000 gals)			Value ($'000 f.o.b.)		
	Sparkling	Other	Total	Sparkling	Other	Total
1966–67	65	1,709	1,774	251	2,917	3,169
1967–68	88	1,751	1,839	359	2,794	3,153
1968–69	73	1,729	1,802	314	3,081	3,395
1969–70	83	1,212	1,295	348	2,565	2,913
1970–71	87	1,357	1,444	391	3,190	3,581

Imports of wine for 1970–71 amounted to 526,000 gallons valued at $2,582,000, compared with 430,000 gallons valued at $1,922,000 in the previous year. During 1970–71 Italy supplied 168,000 gallons valued at $675,000, France 108,000 gallons valued at $950,000 and Portugal 113,000 gallons valued at $365,000.

Exports of Australian-produced brandy in 1970–71 amounted to 80,000 proof gallons, valued at $485,000. Imports of brandy, mainly from France, amounted to 261,000 proof gallons, valued at $1,375,000.

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. For details of the *Dried Fruits Export Control Act* 1924–1966 *see* Year Book No. 55, page 877, and earlier issues.

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 has been periodically reviewed. At the Ninth Conference in London in June 1971, representatives of the signatory countries (which had included South Africa from 1970) met for the last time as parties to the agreement and formally resolved it out of existence. Despite this it was agreed that contacts between the producing countries would continue and that they would meet again in June 1972.

The *Dried Vine Fruits Stabilization Act* 1964–1966. For details of the first Dried Vine Fruits Stabilization Scheme, which expired with the disposal of the 1968 crop, *see* Year Book No. 55, page 877, and earlier issues. A referendum of eligible dried vine fruit producers was held in September 1971 concerning a new five-year stabilisation plan for the dried vine fruits industry. The result of this referendum was that growers were in favour of the introduction of a new plan. Accordingly, legislation was brought down and received the Royal Assent on 16 December 1971. The plan operates as from the 1971 season for a period of five years.

DRIED VINE FRUIT: PRODUCTION, STATES, 1966-67 TO 1970-71

(Tons)

Year	N.S.W.		Vic.		S.A.		W.A.		Aust.	
	Raisins (a)	Currants	Raisins (a)	Currants	Raisins (a)	Currants	Raisins (a)	Currants	Raisins (a)	Currants
1966–67	14,108	643	69,628	3,588	13,544	3,773	67	1,353	97,347	9,357
1967–68	12,119	505	59,222	3,166	5,200	3,112	40	1,668	76,581	8,451
1968–69	7,829	428	37,896	2,687	1,743	2,261	8	1,862	47,476	7,238
1969–70	14,118	651	67,070	3,383	3,169	3,325	8	1,068	84,365	8,427
1970–71	9,240	630	40,585	3,034	1,313	3,150	29	1,489	51,167	8,303

(a) Includes sultanas and lexias.

DRIED VINE FRUIT(a): EXPORTS, AUSTRALIA, 1966-67 TO 1970-71

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.
1966–67	63,561	19,720	4,301	1,428	67,862	21,148
1967–68	63,562	19,459	3,907	1,316	67,469	20,775
1968–69	58,070	18,310	3,437	1,203	61,507	19,513
1969–70	40,631	13,383	2,793	979	43,424	14,362
1970–71	54,857	17,194	4,194	1,322	59,051	18,516

(a) Excludes quantities exported as mincemeat.

The chief countries importing Australian dried vine fruit are the United Kingdom, Canada, the Federal Republic of Germany, and New Zealand. The quantities exported to these countries in 1970–71 were 22,013 tons, 12,061 tons, 10,935 tons and 4,536 tons respectively.

Table grapes

Grapes for table use are grown in all States except Tasmania, but the area of this type was only about 7 per cent of the productive area of vines in 1970–71. The quantities of table grapes produced during the season 1970–71 in each State are shown on page 747.

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 1967 onwards in single years, are given in the following table, and are shown continuously since 1870 on the graph on plate 45, page 795.

LIVESTOCK: AUSTRALIA, 1860 TO 1971

('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	1967	n.a.	18,270	164,237	1,804
1900	1,610	8,640	70,603	950	1968	n.a.	19,218	166,912	2,056
1910	2,166	11,745	98,066	1,026	1969	n.a.	20,611	174,605	2,253
1920	2,416	13,500	81,796	764	1970	456	22,162	180,080	2,398
1930	1,793	11,721	110,568	1,072	1971	n.a.	24,373	177,792	2,590

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, 1901–2, 1912, 1914, 1918, 1919, 1922–23, 1925–26, 1927–28, 1929–30, 1940–41, 1944–45 to 1946–47, and 1965–67. The years in which the numbers of livestock attained their peaks are as follows: horses, 1919 (2,527,000); cattle, 1971 (24,373,000); sheep, 1970 (180,080,000); and pigs, 1971 (2,590,000).

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.

Value of pastoral production and indexes of quantum and price

Values of pastoral production are shown for 1970–71 in the table following. Further details of values of pastoral production and indexes of quantum and price, together with details of the source of the information and an explanation of the terms used in this compilation will be found in Chapter 29, Miscellaneous.

GROSS, LOCAL AND NET VALUES OF PASTORAL PRODUCTION: STATES AND TERRITORIES, 1970-71

($'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	416,413	48,534	367,879	(b)50,499	317,380
Victoria	354,607	29,245	325,362	52,228	273,134
Queensland	229,660	22,257	207,404	37,003	170,401
South Australia	123,858	8,880	114,978	20,261	94,717
Western Australia	146,198	14,712	131,486	30,001	101,485
Tasmania	34,459	2,910	31,549	10,518	21,031
Northern Territory	22,039	3,403	18,636	n.a.	18,636
Australian Capital Territory	1,674	148	1,526	126	1,401
Australia	**1,328,908**	**130,089**	**1,198,820**	**200,636**	**998,185**

(*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.

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, although its relative importance has declined somewhat in recent years, due, among other factors, to heavy losses caused by drought conditions in 1965–66. Concurrently, there has been a marked increase in the sheep population of Western Australia, where figures have doubled in little more than a decade to give that State second position of importance in terms of sheep numbers.

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 45 and 46 of this Year Book (pages 795 and 804).

SHEEP: NUMBERS IN STATES AND TERRITORIES, 1967 TO 1971

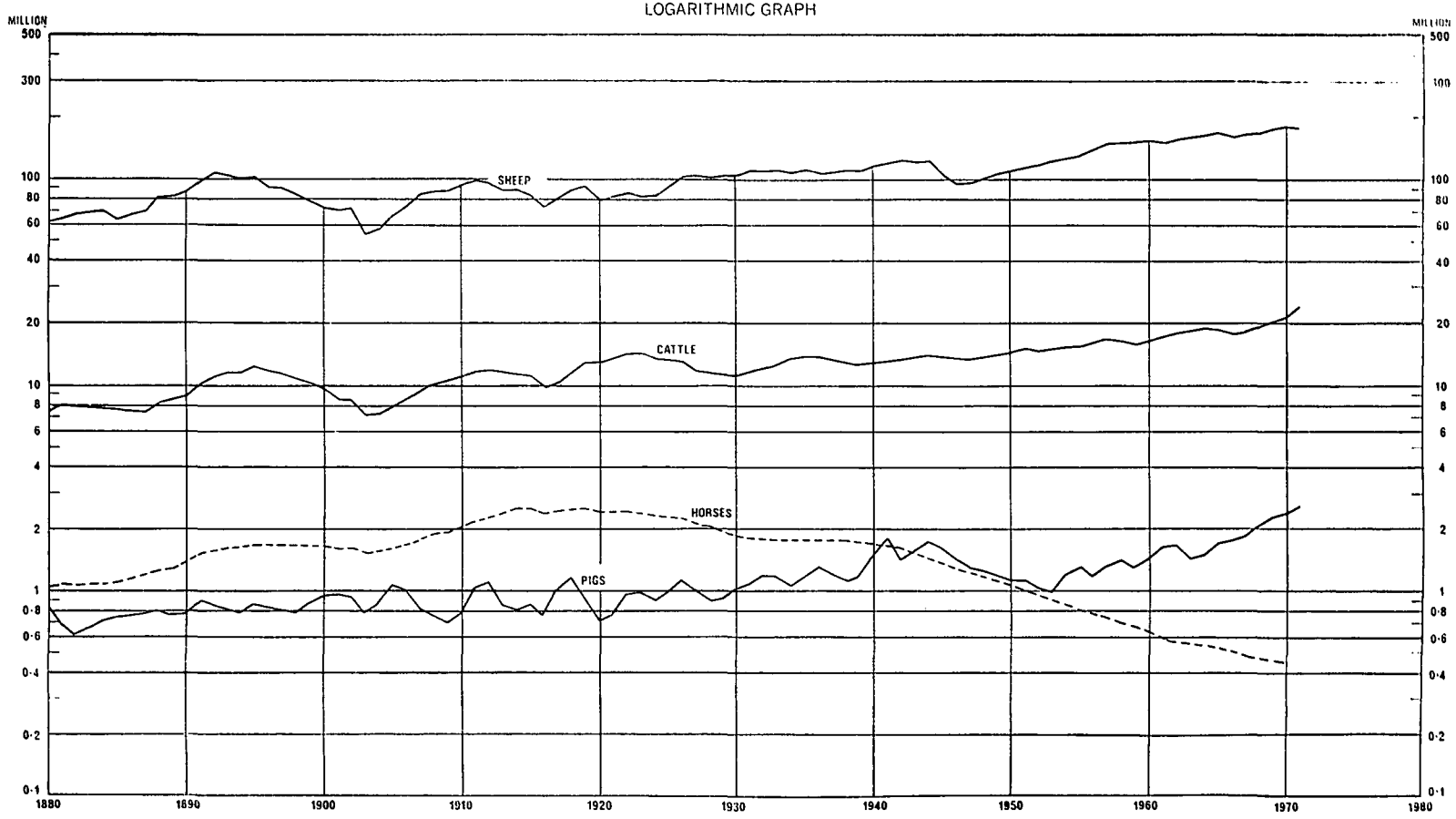
('000)

Year ended 31 March	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
1967	63,848	31,239	19,305	17,864	27,370	4,321	8	281	164,237
1968	67,786	27,909	19,948	16,405	30,161	4,428	9	267	166,912
1969	68,153	30,185	20,324	18,392	32,901	4,395	10	246	174,605
1970	72,284	33,157	16,446	19,747	33,634	4,560	8	244	180,080
1971	70,605	33,761	14,774	19,166	34,709	4,517	9	251	177,792

The percentage distribution of sheep and lambs in the several States in 1971 was: New South Wales, 40; Victoria, 19; Queensland, 8; South Australia, 11; Western Australia, 20; and Tasmania, 3.

LIVESTOCK: AUSTRALIA, 1880 TO 1971

LOGARITHMIC 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.
SINCE 1967 FIGURES FOR HORSES HAVE BEEN COLLECTED ON A TRIENNIAL BASIS.

Movement in Sheep numbers

SHEEP AND LAMBS: ANALYSIS OF MOVEMENT IN NUMBERS, AUSTRALIA 1966-67 TO 1970-71
('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
1967	157,563	47,830	337	33,350	7,469	164,237
1968	164,237	50,648	362	38,145	9,466	166,912
1969	166,912	51,171	361	35,676	7,441	174,605
1970	174,605	56,784	487	41,045	9,777	180,080
1971	180,080	54,512	768	44,175	11,857	177,792

(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 809.

Classification of sheep according to age, sex, and breed

SHEEP, BY AGE AND SEX: AUSTRALIA, 31 MARCH 1967 TO 1971
('000)

Description	1967	1968	1969	1970	1971
Rams, 1 year and over	2,013	2,079	2,184	2,200	2,177
Breeding ewes (including ewes intended for mating)	76,618	77,872	83,607	85,474	84,381
Other ewes, 1 year and over	7,117	6,700	6,424	6,483	7,521
Wethers, 1 year and over	44,186	42,512	45,178	45,441	45,269
Lambs and hoggets, under 1 year	34,302	37,750	37,212	40,482	38,443
Total, sheep and lambs	**164,237**	**166,912**	**174,605**	**180,080**	**177,792**

Particulars of the principal breeds of sheep at 31 March 1971 (details are collected on a triennial basis) are shown in the following table.

SHEEP, BY PRINCIPAL BREED: STATES AND TERRITORIES, 31 MARCH 1971
('000)

Breed	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Merino	53,017	16,740	14,449	16,304	32,100	402	9	198	133,218
Other recognised breeds	5,196	6,679	137	1,244	1,267	2,904	..	11	17,438
Merino comback(a)	1,663	2,199	25	215	363	533	..	8	5,005
Crossbreds(b)	10,729	8,144	163	1,403	979	678	..	35	22,131
Total	**70,605**	**33,761**	**14,774**	**19,166**	**34,709**	**4,517**	**9**	**251**	**177,792**

(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 movement of sheep to and from Australia is governed under Customs regulations. Exports of both breeding and slaughter sheep are subject to the provision of a permit from the Department of Primary Industry. For most breeds, these permits are freely granted. However, the export of breeding merinos has been banned since 1929. There was a partial relaxation of this ban for the period February 1970—February 1971, whereby up to 300 merino rams could be purchased, for export, at nominated public auction sales. This partial relaxation was extended, on the same terms, for a further twelve months to 31 January 1972, and again for a period of three years to 31 January 1975. The export of merino ewes, semen and fertilised ova is still prohibited.

Since June, 1958, there has been a prohibition on the import of sheep to protect the Australian sheep industry from the introduction of exotic diseases, such as 'blue-tongue'.

Cattle

Objects of cattle-raising in Australia

Cattle-raising is carried out in all 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, 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. Increasing numbers of beef cattle are being raised in conjunction with sheep.

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 19,055,000. Again because of drought in the eastern States, this figure declined to 17,936,000 in 1966. There has been a steady increase in the total number of cattle in Australia over the last five years due largely to an increase in the demand for beef. Total cattle numbers in March 1971 were 24.4 million compared with 19.1 million in 1964. Total dairy cattle numbers are currently 4.0 million.

For graph showing the number of cattle in Australia from 1870 onwards *see* plate 45 page 795.

CATTLE: NUMBERS IN STATES AND TERRITORIES, 1967 TO 1971
('000)

Year ended 31 March	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
1967	4,146	3,528	6,919	687	1,357	522	1,097	14	18,270
1968	4,555	3,474	7,361	695	1,427	564	1,130	13	19,218
1969	4,864	3,878	7,668	865	1,546	586	1,190	14	20,611
1970	5,637	4,462	7,515	1,026	1,681	646	1,179	15	22,162
1971	6,494	5,061	7,944	1,196	1,781	733	1,145	18	24,373

The percentage of cattle in each State and Territory during 1971 was: New South Wales, 27; Victoria, 21; Queensland, 32; South Australia, 5; Western Australia, 7; Tasmania, 3; and Northern Territory, 5.

Maps showing the distribution of beef and dairy cattle in Australia appear on page 1050 and facing page 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

CATTLE, BY PURPOSE, AGE AND SEX: STATES AND TERRITORIES, 31 MARCH 1971
('000)

Classification	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust*
Bulls (1 year and over) used or intended for service—									
Dairy breeds	12	32	11	5	3	3	..	..	65
Beef breeds	103	68	150	20	32	9	32	..	414
Total bulls	*115*	*100*	*160*	*25*	*35*	*12*	*32*	..	*479*
Cattle used or intended for production of—									
Milk or cream for sale—									
Cows (in milk and dry)	527	1,244	441	138	96	153	..	1	2,601
Heifers—Springing (within 3 months of calving)	124	336	102	19	39	39	..	..	687
Other (1 year and over)				27					
Calves (under 1 year)	103	326	80	35	33	40	..	..	614
Milk or cream for use on rural holdings—									
House cows and heifers	74	24	30	6	6	4	..	..	145
Total cattle, production of milk, etc.	*827*	*1,930*	*653*	*226*	*175*	*234*	..	*2*	*4,047*
Cattle for other purposes(*a*)—									
Cows and heifers (1 year and over)	2,956	1,517	3,639	525	825	224	675	9	10,370
Calves (under 1 year)(*b*)	1,838	1,034	1,723	299	386	192	192	5	5,669
Other (1 year and over), i.e. steers, bullocks, speyed cows, etc.	757	481	1,769	122	360	71	247	1	3,808
Total cattle, other purposes	*5,551*	*3,031*	*7,131*	*946*	*1,572*	*487*	*1,113*	*16*	*19,847*
Total cattle and calves for all purposes	6,494	5,061	7,944	1,196	1,781	733	1,145	18	24,373

(*a*) Mainly for meat production. (*b*) Includes vealers, and bull calves intended for service.

CATTLE, BY PURPOSE, AGE AND SEX: AUSTRALIA, 31 MARCH 1967 TO 1971
('000)

Classification	*1967*	*1968*	*1969*	*1970*	*1971*
Bulls (1 year and over) used or intended for service—					
Dairy breeds	87	82	77	69	65
Beef breeds	279	299	323	363	414
Total bulls	*367*	*381*	*400*	*432*	*479*
Cattle used or intended for production of—					
Milk or cream for sale—					
Cows (in milk and dry)	2,881	2,794	2,700	2,673	2,601
Heifers—Springing (within 3 months of calving) and other (1 year and over)	796	755	769	703	687
Calves (under 1 year)	672	689	624	631	614
Milk or cream for use on rural holdings—					
House cows and heifers	180	169	165	156	145
Total cattle, production of milk, etc.	*4,528*	*4,407*	*4,258*	*4,164*	*4,047*
Cattle for other purposes(*a*)—					
Cows and heifers (1 year and over)	6,886	7,450	8,333	9,249	10,370
Calves (under 1 year) (*b*)	3,392	3,868	4,218	4,805	5,669
Other (1 year and over), i.e. steers, bullocks, speyed cows, etc.	3,097	3,113	3,403	3,512	3,808
Total cattle, other purposes	*13,375*	*14,431*	*15,954*	*17,566*	*19,847*
Total cattle and calves for all purposes	**18,270**	**19,218**	**20,611**	**22,162**	**24,373**

(*a*) Mainly for meat production. (*b*) Includes vealers, and bull calves intended for service.

Exports and imports of cattle

In 1970–71 the number of cattle exported was 1,672, valued at $288,000 (1969–70, 1,647 valued at $392,000). 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	1971 (January)	114,568
U.S.S.R.	1971 (January)	99,100
Brazil	1971 (December)	97,122
China, Republic of (mainland)(*a*)	1960 (December)	65,400
Argentina	1971 (June)	49,633
Pakistan(*a*)	1961 (Estimate)	30,300
Mexico	1971 (December)	25,374
Australia	**1971 (March)**	**24,373**
Ethiopia	1963 (Estimate)	22,000
France	1971 (October)	21,621
Colombia	1971 (October)	21,173
Turkey(*a*)	1971 (December)	14,600
Germany, Federal Republic of	1971 (December)	13,995
South Africa, Republic of	1971 (June)	12,557
United Kingdom	1971 (December)	12,469

(*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 1970 was 456,000. In future, particulars of horses, on a Commonwealth basis, will be collected only at decennial intervals in accordance with the world census by FAO.

A graph showing the number of horses in Australia since 1870 appears on plate 45, page 795.

HORSES: NUMBERS IN STATES AND TERRITORIES, 1966 TO 1970

('000)

31 March—	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
1966 . .	151	n.a.	190	n.a.	35	n.a.	37	1	n.a.
1967 . .	146	55	182	16	35	7	38	1	479
1968 . .	n.a.	n.a.	181	n.a.	n.a.	n.a.	38	1	n.a.
1969 . .	132	n.a.	176	n.a.	n.a.	n.a.	39	1	n.a.
1970 . .	136	53	173	16	29	6	41	1	456

Overseas trade in horses

Exports of Australian-bred horses in 1970–71 numbered 1,367, valued at $3,530,000, made up of horses for breeding (339 valued at $676,000), horses for racing (953 valued at $2,800,000, shipped principally to New Zealand, Singapore, the United States of America and Indonesia), and horses for other purposes (75 valued at $54,000). Horses imported into Australia in 1970–71 (1,161 valued at $4,598,000) 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 809.

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 the Reserve Price Plans of 1951 and 1965, are given in previous issues of the Year Book.

Approximately 90 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, Fremantle, 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 by the Joint Wool Selling Organisation representing wool growers, 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 Enquiry

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* 1962–1970 which set up the Australian Wool Board.

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. The fifty 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. Under the Wool Tax Acts (*see* page 571) 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 and the wool research programme.

Australian Wool Board

This Board constituted under the *Wool Industry Act* 1962–1970, 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, but subsequent chairmen will be appointed by the Minister for Primary Industry after consultation with 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 by the Minister after consultation with the Conference.

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* 1970, 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, South Africa and Uruguay.

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

Wool Research. The Board is required to advise the Minister for Primary Industry on the general scope of those research programmes of the C.S.I.R.O. and the Bureau of Agricultural Economics in relation to the needs of the wool industry. The Board is also responsible for recommending grants from the Wool Levy Fund to recipients other than the C.S.I.R.O. and the Bureau of Agricultural Economics.

Investigation into all aspects of wool marketing on a continuing basis. The Board is required to inquire into, and from time to time report to the Australian Wool Industry Conference upon, methods of marketing wool and related matters. However, the Board has no executive powers over marketing.

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.

The establishment of integrated wool selling complexes. The aim is to make the cost savings inherent in this wool handling technique available to the woolgrowing industry as soon as possible.

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, *see* below.

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 for collecting the woolgrowers' combined levy for wool promotion and research was changed from a flat rate per bale to a percentage deduction from the gross value of shorn wool sold. A maximum rate of 2 per cent was fixed, but provision was made for a lower rate to be prescribed, if appropriate. For 1964–65 the rate was set at 1.875 per cent, which involved a substantial increase in payments by woolgrowers for promotion (from $1 per bale to the equivalent of about $2.70 per bale), while the research component of the levy was left unaltered at 20c per bale. In 1965–66 the levy was set at 2 per cent and it remained at the maximum rate till 1969–70. From 1 August 1970, the rate of levy was reduced to 1 per cent.

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 20c a bale, but this was doubled in 1957 to 40c a bale. At this rate the Commonwealth Government contributed about $2 million to wool research in 1965–66, and a similar sum was 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 in financing its commitment to the greatly expanded wool promotion programme of the International Wool Secretariat. The expanded 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 million to about $20 million.

From 1 July 1964 the Commonwealth Government undertook to match on a $1 for $1 basis any increase in contributions by woolgrowers for wool promotion in excess of the levy of $1 a bale then in force, and the Wool Industry Conference agreed to increase the growers' levy to the equivalent of about $2.70 a bale, which resulted in a Commonwealth commitment of about $1.70 a bale. In aggregate this commitment entailed a Commonwealth contribution for promotion of about $8 million a year. This arrangement operated until 30 June 1967.

During 1967 the Wool Industry Act was amended following negotiations between the Executive of the Australian Wool Industry Conference and the Government. The amendment provided for a Government contribution for wool research and promotion during the three years 1967–68 to 1969–70 on a $1 for $1 basis matching woolgrowers' contribution by levy, to a maximum of $14 million in any one year. It provided for the grower levy and the Government grant to be apportioned annually between wool research and promotion by the Minister for Primary Industry after considering the recommendations of the Australian Wool Industry Conference. No change occurred in the legislation providing for the payment by woolgrowers of a levy at a rate not exceeding two per cent per annum.

When arrangements for Government financial support for wool research and promotion expired on 30 June 1970, the Government increased its contributions for these activities to an average of $27 million a year for each of the three years 1970–71 to 1972–73. At the same time, as mentioned above, the levy on woolgrowers was reduced from 2 per cent to 1 per cent of the gross proceeds from the sale of shorn wool.

Australian Wool Marketing Corporation Pty Ltd.

On 31 October 1967 the Australian Wool Board presented to the Australian Wool Industry Conference a report containing proposals for the establishment of an authority to enforce standards of clip preparation, administer the elimination of one, two, and three bale lots, conduct a price averaging plan for these wools and others voluntarily submitted, and conduct, in conjunction with wool selling brokers, a system of supply management involving chiefly wools in the price averaging plan. The report also recommended the establishment of an organisation of woolgrowers, brokers, and buyers to conduct and control the sale of wool at auction.

A recommendation that these proposals, with some amendments, be implemented by a non-statutory Australian Wool Marketing Corporation was accepted by the Australian Wool Industry Conference in November 1968. The proposals were then submitted to the Government with a request for assistance in financing some of their elements. In September 1969 the Minister for Primary Industry announced details of assistance offered by the Government in response to this request. The Government undertook to meet, for a period of three years, half of the costs involved in handling one, two and three bale lots admitted to the price averaging plan and half of wool selling brokers' administrative charges relating to the price averaging plan, on the understanding that the Government would share equally in any reductions in these charges.

The Government also undertook to meet any losses, incurred by the Wool Marketing Corporation, on wool it may have purchased at the end of a price averaging period and sold in a subsequent

period. The Government's offer was conditional upon the Corporation undertaking to limit its activities to one, two and three bale lots and on the understanding that the total borrowings of the Corporation for the purchase and carry over of price averaging plan wool will not exceed $14 million at any one time.

The Government's offer was accepted by the Wool Industry Conference at its meeting in November 1969. Arrangements were immediately commenced by the Wool Board to bring the Wool Marketing Corporation into being. The Price Averaging Plan Wool Marketing Scheme, administered by the Corporation, came into operation on 1 July 1970. Included in the Corporation's responsibilities were the operation of the Wool Statistical Service and the Wool Classer Registration Scheme, both formerly administered by the Wool Board. The Wool Statistical Service (described in more detail in Year Book No. 48, pages 997–8) 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.

On the establishment of the Australian Wool Commission (*see* below) in November 1970, the work of the Wool Marketing Corporation was taken over by the Commission. The Corporation was formally wound up in 1971.

The Australian Wool Commission

The Australian Wool Commission was established in November 1970 under the Australian *Wool Commission Act* 1970 to operate a flexible reserve price scheme for wool sold at auction and to perform a number of other functions aimed at improving the marketing of Australian wool.

The Commission consists of seven members comprising a Chairman, two members to represent Australian woolgrowers, a Commonwealth Government representative, and three other members. The three other members are persons with special qualifications in the fields of marketing of wool or wool products; in the processing of wool or the manufacture of wool products; or in commerce, finance or economics. All members, including the Chairman, are appointed by the Minister for Primary Industry. The Chairman is to be a full-time member, appointed for a period of five years. Pending the appointment of a full-time Chairman, a part-time Interim Chairman was appointed in November 1970. All other members of the Commission serve on a part-time basis and are appointed for a period of three years. The Chairman is appointed by the Minister after consultation with the Australian Wool Board. The two woolgrower representatives are appointed after consultation with the Australian Wool Industry Conference. The three members with special qualifications are appointed after consultation with the Wool Board. The Act provides that the Chairman of the Commission should automatically become a member of the Wool Board, to ensure close liaison between the Board and the Commission.

Apart from operating a flexible reserve price scheme for wool, the Commission was empowered to take over the functions of the Australian Wool Marketing Corporation Pty Ltd (*see* above), which include the formulation of standards of clip preparation for wool sold at auction or otherwise and the making of arrangements to secure their observance; the elimination of small lots (except specialty wools) from sale at auction to the extent desirable; the operation of a Price Averaging Plan for wool from small lots; the payment of advances to growers whose wool is included in the Price Averaging Plan; the operation of the Wool Statistical Service; and the operation of a scheme for the voluntary registration of woolclassers.

The Commission also has the following additional functions and powers.

To operate, when judged appropriate by the Commission, a voluntary pool for wool other than that in small lots (i.e. for wool in lots exceeding three bales) and pay advances to owners of such wool.

To formulate the terms and conditions governing the sale of wool at auction and make arrangements for their adoption.

To make arrangements concerning wool auction sale rosters and offerings and to pay advances to growers the sale of whose wool has been delayed because of the arrangements made by the Commission.

To have power to sell wool outside the auction system or have wool processed before sale in cases where such wool cannot be sold advantageously at auction.

To encourage the progressive adoption of proven and practical technological aids to more efficient wool marketing.

To keep under review the operations of firms outside the auction system which purchase wool direct from growers and sell it to local and overseas users, and obtain from these firms such information as the Minister for Primary Industry approves for this purpose.

To make recommendations to the Government for suitable action to be taken if and when it can be clearly demonstrated that private buying and selling is having detrimental effects on wool marketing generally.

With the approval of the Minister for Primary Industry, to participate in negotiations concerning charges associated with the marketing of wool, including freight rates.
To co-operate with authorities and organisations in other countries in measures aimed at more efficient marketing of wool.
To co-operate with the Australian Wool Board and other authorities and organisations in regard to wool promotion and research, including inquiries into methods of marketing wool.

The working capital needed by the Commission (to purchase wool under its flexible reserve price scheme, to make advances to woolgrowers, etc.) is provided in the form of loans by the Commonwealth Government and by trading banks. The Commonwealth guarantees loans made by trading banks to the Commission.

Under the Act, the operating costs of the Commission are to be met jointly by woolgrowers and the Commonwealth Government. The Government provides half of the funds required for the re-handling and brokers' administration charges for the elimination of small lots under the Price Averaging Plan, and is to meet any losses that may result from time to time on the resale of wool purchased by the Commission. The balance of the operating costs of the Commission has to be met by woolgrowers.

Emergency financial assistance for woolgrowers

In the 1970–71 Budget an amount of up to $30 million was provided for emergency assistance to woolgrowers to offset to some extent the decline in wool income resulting from the drastic slump in wool prices between 1968–69 and 1969–70. About $21.5 million was paid out in grants to over 21,000 woolgrowers during 1970–71 and 1971–72.

Wool Deficiency Payments Scheme

This scheme was introduced to give woolgrowers a guaranteed price for the 1971–72 wool selling season for all but specified low price low grade wools comprising the bottom 10 per cent of the clip. A deficiency percentage rate is calculated each week which, when applied to the gross sale price of all wool sold, brings the price up to the equivalent of an average for the whole Australian clip over the full season of 79.37 cents per kilo greasy. Payments to producers of wool are made by the Australian Wool Commission on behalf of the Commonwealth through wool brokers and merchants and other persons registered under the *Wool (Deficiency Payments) Act* 1971.

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 Realisation 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 55.7 per cent and 57.7 per cent. It was 56.8 per cent in 1970–71.

Wool scoured, washed and carbonised in Australia before export, however, has a somewhat lower clean yield than the whole clip, because the grade of greasy wool treated locally for export as scoured, washed or carbonised contains quantities of dirty and low-grade wool. The quantity of scoured wool exported during 1970–71 was about 6.8 per cent of 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 has been adopted.

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 805). 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.

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 1966–67 to 1970–71. A graph showing the production of wool in relation to sheep numbers from 1870 onwards appears on plate 46 following.

PRODUCTION OF WOOL (GREASY BASIS): STATES AND TERRITORIES, 1966-67 TO 1970-71

('000 lb)

Year	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
1966–67	622,745	378,457	203,664	239,202	272,575	43,153	88	2,454	1,762,338
1967–68	650,420	332,427	226,822	218,951	300,229	38,308	112	2,238	1,769,507
1968–69	673,531	364,347	247,005	238,120	375,650	46,955	111	2,059	1,947,778
1969–70	749,840	427,206	196,353	275,005	336,474	48,195	111	2,555	2,035,738
1970–71	692,943	430,875	168,772	259,121	350,463	47,775	80	2,205	1,952,234

The bulk of the Australian wool production (about 90 per cent in recent years) is shorn from live sheep. The remainder is obtained by fellmongering (less than 1.5 per cent) or is exported on skins (about 8 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, 1966-67 TO 1970-71

Year	*Shorn (including crutchings)*	*Dead and fell-mongered*	*Exported on skins*	*Total production*	
				Quantity	*Value*
	'000 lb	'000 lb	'000 lb	'000 lb	$'000
1966–67	1,602,229	24,841	135,269	1,762,338	812,230
1967–68	1,605,056	23,944	140,507	1,769,507	709,524
1968–69	1,773,222	25,223	149,332	1,947,778	838,651
1969–70	1,849,844	22,172	163,722	2,035,738	735,233
1970–71	1,766,256	17,236	168,741	1,952,234	537,504

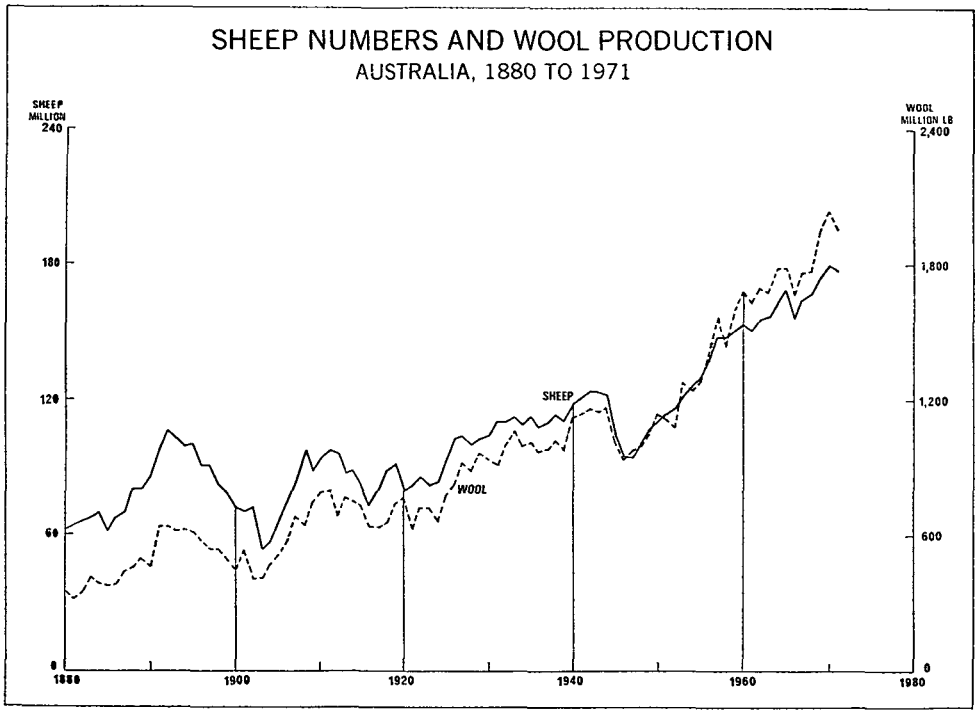


PLATE 46

Average fleece weight

AVERAGE WEIGHT OF FLEECES SHORN (SHEEP AND LAMBS) STATES AND TERRITORIES, 1966-67 TO 1970-71

(lb)

State or Territory	Sheep					Lambs				
	1966–67	*1967–68*	*1968–69*	*1969–70*	*1970–71*	*1966–67*	*1967–68*	*1968–69*	*1969–70*	*1970–71*
N.S.W.	10.01	9.87	10.06	10.86	10.04	3.21	3.16	3.56	3.58	3.56
Vic.	9.90	9.08	9.79	10.66	10.31	2.90	2.56	2.97	3.03	3.05
Qld	9.94	10.62	11.26	10.33	10.34	3.55	4.10	4.34	4.22	4.52
S.A.	12.75	12.25	13.41	13.83	12.55	3.90	3.38	3.93	4.12	3.85
W.A.	10.67	10.57	11.72	10.36	10.31	2.98	2.97	3.47	2.97	3.05
Tas.	10.22	8.62	10.62	10.70	10.30	2.54	2.28	2.66	2.55	2.62
N.T.	8.13	10.89	10.78	10.78	9.43	3.00	..	..	..	..
A.C.T.	9.81	8.67	8.54	11.29	9.38	1.64	1.65	1.67	1.82	2.11
Aust.	**10.39**	**10.14**	**10.81**	**10.99**	**10.46**	**3.19**	**3.09**	**3.52**	**3.41**	**3.42**

Classification of wool according to quality

The following table provides a detailed analysis of wool sold at auction, according to quality, for the years 1966–67 to 1970–71. 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 1lb of tops (combed wool) of that particular wool.

CLASSIFICATION OF GREASY WOOL SOLD AT AUCTION(*a*): AUSTRALIA 1966-67 TO 1970-71

(Bales of approximately 300 lb)

Predominating quality	*1966–67*		*1967–68*		*1968–69*		*1969–70*		*1970–71*	
	Quantity	*Per cent*	*Quantity*	*Per cent*	*Quantity*	*Per cent*	*Quantity*	*Per cent*	*Quantity*	*Per cent*
70's and finer	114,406	2.4	131,939	2.7	113,057	2.2	117,592	2.1	100,212	2.0
64/70's	292,158	6.2	270,039	5.6	203,969	3.9	193,644	3.5	182,516	3.7
64's	470,153	9.9	468,436	9.7	381,785	7.5	349,402	6.3	310,911	6.3
64/60's	403,917	8.5	427,884	8.8	401,844	7.9	441,895	8.0	479,315	9.6
60/64's	1,002,088	21.1	1,089,866	22.4	1,081,779	21.1	1,173,533	21.3	926,234	18.7
60's and 60/58's	1,016,979	21.5	1,073,517	22.1	1,228,214	24.0	1,395,028	25.3	1,272,005	25.6
Total, 60's and finer	*3,299,701*	*69.6*	*3,461,681*	*71.3*	*3,410,648*	*66.6*	*3,671,094*	*66.5*	*3,271,193*	*65.9*
58's	660,570	13.9	623,043	12.8	789,540	15.4	786,592	14.3	714,134	14.4
56's	461,182	9.7	433,505	8.9	514,587	10.1	549,550	10.0	469,063	9.4
50's	178,587	3.8	173,313	3.6	204,014	4.0	267,932	4.9	273,498	5.5
Below 50's	61,289	1.3	59,401	1.2	72,710	1.4	97,310	1.8	114,276	2.3
Oddments	81,725	1.7	104,738	2.2	126,142	2.5	136,194	2.5	122,881	2.5
Grand total	4,743,054	100.0	4,855,681	100.0	5,117,641	100.0	5,508,672	100.0	4,965,045	100.0

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

Price and value

During 1970–71 the price of greasy and scoured wool sold in the selling centres of Australia averaged 29.34c per lb compared with the average price of 37.55c per lb in 1969–70 and 44.67c per lb in 1968–69. These prices are as compiled by the National Council of Wool Selling Brokers and represent the average price realised for all greasy and scoured 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 1970–71 it was $537,504,000 or 14.9 per cent of the gross value of production of rural industries.

ESTIMATED GROSS VALUE OF TOTAL WOOL PRODUCTION(*a*) STATES AND TERRITORIES, 1966-67 TO 1970-71

($'000)

Season	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
1966–67	286,293	180,946	93,190	104,588	124,821	20,983	39	1,370	812,230
1967–68	265,527	133,213	94,874	79,925	119,146	15,609	41	1,189	709,524
1968–69	296,005	155,547	108,060	95,054	161,589	21,180	38	1,178	838,651
1969–70	275,385	154,693	69,783	91,224	124,829	18,081	30	1,208	735,233
1970–71	198,688	118,123	44,916	65,525	94,510	14,983	17	742	537,504

(*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 1971 amounted to 489.6 million lb (greasy basis) of which 74.6 million lb (44.7 million lb as greasy and 29.9 million lb as scoured and carbonised) was held by woollen mills, wool scourers and fellmongers, and 415.0 million lb, assumed to be all greasy, was held by brokers and dealers. Of the wool held by brokers and dealers 96.0 million lb was unsold wool and 319.0 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 1966–67 to 1970–71.

ESTIMATED CONSUMPTION OF RAW WOOL: AUSTRALIA, 1966-67 TO 1970-71

('000 lb)

	Greasy basis			*Clean equivalent*		
Year	*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*
1966–67	121,777	2,210	123,987	71,412	1,050	72,462
1967–68	128,401	2,530	130,931	73,043	1,202	74,245
1968–69	129,450	2,530	131,980	73,639	1,202	74,841
1969–70	131,083	2,530	133,613	74,568	1,202	75,770
1970–71	134,270	2,530	136,800	76,381	1,202	77,583

As considerable quantities of tops, noils and yarn are exported from Australia, the series on raw wool consumption shown on page 806 is over-stated to this extent. The series '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 1966–67 to 1970–71. 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 1966–67 TO 1970–71

('000 lb)

	Greasy basis				*Clean equivalent*			
Year	*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*
1966–67 .	41,838	38,628	2,210	82,676	24,129	23,499	1,050	48,678
1967–68 .	40,232	37,197	2,530	79,959	22,411	22,667	1,202	46,280
1968–69 .	38,801	36,543	2,530	77,874	21,600	22,267	1,202	45,069
1969–70 .	40,503	40,047	2,530	83,080	22,581	24,404	1,202	48,187
1970–71p.	43,132	42,236	2,530	87,898	24,045	25,738	1,202	50,985

(*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 1970-71, 39 per cent went to Japan, 10 per cent to France, 7 per cent to Italy, 7 per cent to the Federal Republic of Germany, 7 per cent to Belgium-Luxembourg and 6 per cent to U.S.S.R.

EXPORTS OF GREASY AND SLIPE WOOL: AUSTRALIA, 1966–67 TO 1970–71

('000 lb actual weight)

Country of consignment	*1966–67*	*1967–68*	*1968–69*	*1969–70*	*1970–71*
Belgium-Luxembourg . . .	98,546	95,934	84,557	85,469	97,322
China, Republic of (Taiwan) . .	6,972	11,950	22,369	27,216	31,363
France	106,208	120,641	130,776	133,192	137,441
Germany, Federal Republic of .	71,170	100,823	96,880	101,603	101,671
India	29,583	21,562	34,027	42,223	37,292
Italy	151,749	123,116	130,678	135,707	93,588
Japan	492,456	498,087	530,453	569,305	561,476
Poland	30,651	35,536	34,460	33,825	28,023
United Kingdom	145,828	143,593	115,856	138,051	75,337
Yugoslavia	23,577	19,764	18,802	26,608	36,718
U.S.S.R.	29,205	46,147	62,018	67,395	85,529
Other	181,956	177,235	210,123	210,792	148,797
Total	**1,367,901**	**1,394,388**	**1,470,999**	**1,571,386**	**1,434,557**

EXPORTS OF SCOURED AND WASHED, AND CARBONISED WOOL: AUSTRALIA
1966-67 TO 1970-71
('000 lb actual weight)

Country of consignment	*1966–67*	*1967–68*	*1968–69*	*1969–70*	*1970–71*
Canada	3,767	5,087	2,203	2,739	2,107
China, Republic of (Taiwan)	1,487	990	1,511	3,185	4,810
France	2,920	2,443	2,326	1,358	2,340
Germany, Federal Republic of	7,100	8,648	6,773	5,396	8,377
Hong Kong	2,816	2,689	4,551	4,348	3,966
Iran	4,650	4,729	4,111	4,882	4,179
Italy	8,048	8,708	7,434	8,333	7,781
Japan	4,215	3,952	3,644	3,703	2,135
Korea, Republic of	1,025	1,823	2,693	2,374	1,608
United Kingdom	16,850	18,931	13,509	13,350	13,456
United States of America	16,180	18,377	19,061	14,360	5,621
U.S.S.R.	2,472	3,675	7,742	15,358	2,305
Other	8,340	9,985	9,834	10,944	13,607
Total	**79,870**	**90,037**	**85,392**	**90,330**	**72,292**

EXPORTS OF CARDED OR COMBED WOOL, NOILS AND WOOLWASTE: AUSTRALIA
1966-67 TO 1970-71
('000 lb actual weight)

	1966–67	*1967–68*	*1968–69*	*1969–70*	*1970–71*
Carded or combed—Tops	23,975	22,716	24,124	21,914	19,604
Other	..	..	6	8	30
Noils	4,114	3,886	3,386	2,608	3,014
Waste	2,585	2,875	2,261	2,230	3,207

The following table shows the estimated greasy weights of exports of raw and semi-processed wool for the years 1966–1967 to 1970–71. As the figures in the following table are in terms of 'greasy' basis, they differ from those in the preceding tables which represent actual weight shipped.

EXPORTS OF WOOL—GREASY BASIS: AUSTRALIA
1966-67 TO 1970-71
('000 lb)

	1966–67	*1967–68*	*1968–69*	*1969–70*	*1970–71p*
Raw wool—					
Greasy and slipe	1,368,237	1,395,405	1,471,764	1,571,846	1,434,936
Scoured and washed and carbonised	128,614	147,119	139,531	147,601	118,123
Exported on skins	135,269	140,507	149,332	163,722	168,741
Total raw wool	*1,632,120*	*1,683,031*	*1,760,627*	*1,883,169*	*1,721,800*
Semi-processed wool—					
Tops	44,687	43,877	46,801	42,513	38,032
Yarn	263	240	200	277	536
Total raw and semi-processed wool	**1,677,070**	**1,727,148**	**1,807,628**	**1,925,959**	**1,760,368**

Value of wool exported

The value of wool (other than wool on sheepskins) exported from Australia during 1970–71 was 13 per cent of the total value of exports of merchandise of Australian origin, while the proportion for the five years ended 1970–71 averaged 21 per cent. The value for the five years ended 1970–71, together with the principal countries to which wool was exported, is shown in the following table.

VALUE OF WOOL EXPORTS: AUSTRALIA(*a*), 1966-67 TO 1970-71
($'000)

Country of consignment	*1966–67*	*1967–68*	*1968–69*	*1969–70*	*1970–71*
Belgium-Luxembourg	39,822	32,712	32,709	28,026	24,486
France	53,554	49,430	59,991	53,615	42,155
Germany, Federal Republic of	40,552	46,517	48,994	48,202	39,246
Italy	82,229	60,182	70,127	63,928	33,863
Japan	274,321	245,882	263,320	259,766	198,276
United Kingdom	85,214	71,846	63,947	62,784	30,062
United States of America	50,611	47,058	49,753	36,386	14,672
U.S.S.R.	20,305	27,368	40,104	43,212	35,349
Other	159,843	134,736	166,562	165,124	125,718
Total	**806,451**	**715,731**	**795,507**	**761,043**	**543,827**

(*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 1970–71 Australia produced 32 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, 7 per cent, South Africa, 4 per cent, and United States of America, 3 per cent. Production in the U.S.S.R., China, and eastern European countries together amounted to 21 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
1968-69 TO 1970-71

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

	Sheep numbers (million)			*Wool production (million lb—greasy basis)*		
Country	*1968–69*	*1969–70*	*1970–71(a)*	*1968–69*	*1969–70*	*1970–71(a)*
Australia	**175**	**180**	**178**	**1,948**	**2,036**	**1,952**
New Zealand	60	60	59	732	723	736
Argentina	45	44	43	461	444	427
South Africa	34	33	30	314	319	257
United States of America	21	20	20	213	195	187
Uruguay	22	20	16	181	176	164
United Kingdom	27	26	26	119	106	104
U.S.S.R., China, Eastern Europe(*b*)	247	236	243	1,289	1,236	1,288
Other	327	328	327	924	910	907
World total	**958**	**947**	**942**	**6,181**	**6,145**	**6,022**
Type of wool—						
Apparel type—						
Merino				2,491	2,526	2,395
Crossbred				2,340	2,338	2,326
Carpet type				1,282	1,272	1,284

(*a*) Provisional. (*b*) This group comprises Albania, Bulgaria, China (mainland) 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 1970 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 wool is quoted.

PRINCIPAL WOOL IMPORTING COUNTRIES AND SOURCES OF SUPPLY, 1970

(*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*	
Japan	560	70	22	43	12	707
United Kingdom	130	137	27	29	130	453
France	189	91	12	43	15	350
Italy	132	33	11	20	42	238
Belgium	98	57	3	..	52	210
Germany, Federal Republic of	99	32	11	37	38	217
United States of America(*b*)	33	58	20	10	32	153

(*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 201.6 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* 1964–1969, is the body responsible for controlling the external marketing of Australian beef, mutton and lamb. Powers and membership of the Board prior to 1964 are set out on page 801, Year Book No. 40. Following its reconstitution it consisted of five members representing meat producers, two representing meat exporters, one representing the Commonwealth Government, and an independent Chairman. The Meat Industry Act was amended in 1969 to provide for the appointment of an additional member to represent meat producers. 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.

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.

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, 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 similar to those of the former Committee extended 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 (Chairman), 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 such bodies as the universities, C.S.I.R.O., State Departments of Agriculture and the Bureau of Agricultural Economics.

The Minister for Primary Industry approved a beef research programme of $2,467,000, and a mutton and lamb research programme of $1,254,000 for 1971–72.

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 operated from 1 August 1964 and have replaced the charge imposed on meat exports and also subsumed the cattle levy for beef research purposes imposed in 1960 (*see* page 909, Year Book No. 51). In November 1968 legislation was passed amending the Act to provide for an additional levy to finance service and investigation activities relating to meat processing. The amended legislation (the *Livestock Slaughter Levy Act* 1964–71) now provides three elements in the levy for each class of livestock—an amount to finance meat research; an amount to finance the operations of the Australian Meat Board; and, from 1 January 1969 until 31 December 1974, an amount to finance service and investigation activities relating to meat processing. The first two elements are paid by producers while the third element is paid by meat processors.

Under the Act the total levy may not exceed 75.0c a head for cattle or 7.5c a head for sheep and lambs. The amount levied for research may not exceed 25.0c a head for cattle or 3.3c a head for sheep and lambs while the amount for service and investigation activities relating to meat processing is set for the period of its operation at 1.0c a head for cattle and 0.1c a head for sheep and lambs. The present operative rate for cattle is 46.0c (25.0c for research; 20.0c to the Australian Meat Board; 1.0c for service and investigation) and for sheep and lambs, 3.85c (1.75c for research; 2.00c to the Australian Meat Board; 0.10c for service and investigation).

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, 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).

On 30 September 1967 the Fifteen Year Meat Agreement expired, and no new agreement has been negotiated. Australia retained duty-free entry for meat until 1 July 1971 when a variable levy system for beef and veal imports and duties on mutton and lamb were introduced by the United Kingdom Government.

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 1966–67 season the prices were set at 16.0c per lb and 14.5c per lb, and for 1967–68 and 1968–69, 17.0c per lb and 15.5c per lb. Prices set for the 1969–70 and 1970–71 seasons were 18.0c per lb and 16.5c per lb. For the 1971–72 season the scheme was extended to cover the period from August 1971 to July 1972. The guaranteed minimum price for August shipments was set at 19.0c per lb, for September to November 18.5c per lb and for December to July 16.5c 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.

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. (Details of the Agreement were given on page 820 of Year Book No. 56). In June 1970, the United States advised that it was terminating the Agreement at the end of 1970. Legislation enacted by the United States Congress in 1964, details of which were given in previous issues of the Year Book, provides for restrictions on imports of fresh, chilled and frozen beef, veal, mutton, and goatmeat from all sources if such imports are estimated by the United States, Secretary of Agriculture to exceed a predetermined figure (the trigger point) calculated by a formula in the legislation. Should quotas be necessary the total permissible imports would be set some 10 per cent below the trigger

point. Until 1968 the estimate of imports did not exceed the trigger point and quotas were not necessary. However, late in that year it appeared likely that quotas would be triggered and to avoid this all major suppliers agreed to restrain shipments. The total restraint level was set approximately half way between the quota level and trigger point. A similar situation arose in 1969 and 1970 and restraints again operated. However in June 1970 the estimate of imports exceeded the trigger point and the United States President suspended the operation of quotas and announced new higher restraint levels for all major suppliers. In 1971 an increase of 41.2 per cent (37.7 per cent in 1970) in the base quantity was set providing for allowable imports of approximately 457,400 tons (445,900 tons in 1970) and a trigger point of 503,100 tons (490,500 tons in 1970). However the initial estimate of imports was 517,900 tons. While this was in excess of the trigger point quotas were not imposed as the United States President exercised, as in 1970, his powers under the legislation and announced that the operation of quotas would be suspended as suppliers had agreed to enter into a restraint agreement with the United States to keep the import level to 517,900 tons.

Cattle slaughtered

CATTLE (INCLUDING CALVES) SLAUGHTERED: STATES AND TERRITORIES
1966-67 TO 1970-71
('000)

Year	*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.*	
1966–67	1,455	1,706	1,677	265	301	170	67	10	5,650	5,701
1967–68	1,447	1,713	1,664	245	333	172	74	10	5,656	5,731
1968–69	1,417	1,514	1,823	220	366	178	80	10	5,608	5,672
1969–70	1,545	1,709	1,680	249	402	178	83	15	5,861	5,921
1970–71	1,573	1,845	1,590	264	348	162	69	19	5,870	5,896

Production of beef and veal

PRODUCTION OF BEEF AND VEAL (CARCASS WEIGHT): STATES AND TERRITORIES
1966-67 TO 1970-71
(Tons)

Year	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
1966–67	209,403	224,983	295,810	38,754	54,811	24,695	14,572	1,711	864,739
1967–68	220,879	223,307	310,478	33,074	59,249	25,084	15,879	1,692	889,642
1968–69	217,011	212,859	340,744	35,617	67,751	27,936	16,239	1,891	920,048
1969–70	273,358	249,574	309,771	40,059	71,902	31,011	16,147	2,636	994,458
1970–71	277,910	302,663	297,412	42,807	63,318	29,407	14,092	3,129	1,030,738

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 1970–71 consumption per head was 91.3 lb, of which 87.2 lb was carcass meat and 4.1 lb was canned meat (in terms of carcass equivalent).

PRODUCTION AND DISPOSAL OF BEEF AND VEAL (CARCASS WEIGHT)
AUSTRALIA, 1966-67 TO 1970-71

Year	*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
1966–67	− 5	865	384	40	445	85.2
1967–68	− 6	890	381	38	478	89.7
1968–69	+12	920	380	34	495	91.1
1969–70	+ 5	994	481	35	473	85.2
1970–71	+ 1	1,031	491	44	495	87.2

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

Exports of beef and veal

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 1970–71 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. In 1970–71, the principal markets for Australian beef and veal exports were the United States (467,160,000 lb, valued at $208,336,000); United Kingdom (68,777,000 lb, valued at $20,974,000); and the U.S.S.R. (63,399,000 lb, valued at $17,943,000).

EXPORTS OF FROZEN AND CHILLED BEEF AND VEAL(*a*): AUSTRALIA
1966–67 TO 1970–71

	Exports of frozen and chilled beef				*Exports of frozen veal*		*Exports of frozen and chilled beef and frozen veal*	
	Bone-in		*Boneless*					
Year	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
	'000 lb	$'000 f.o.b.	'000 lb	$'000 f.o.b.	'000 lb	$'000 f.o.b.	'000 lb	$'000 f.o.b.
1966–67	14,419	3,910	547,911	188,411	15,889	5,922	578,219	198,243
1967–68	7,950	2,845	546,473	191,679	9,645	4,064	564,068	198,588
1968–69	7,218	3,045	548,768	204,247	8,389	3,681	564,375	210,973
1969–70	29,490	9,068	681,602	277,858	11,804	5,200	722,896	292,126
1970–71	71,302	21,277	663,114	275,806	12,415	5,768	746,831	302,851

(*a*) Actual weight shipped, not carcass equivalent.

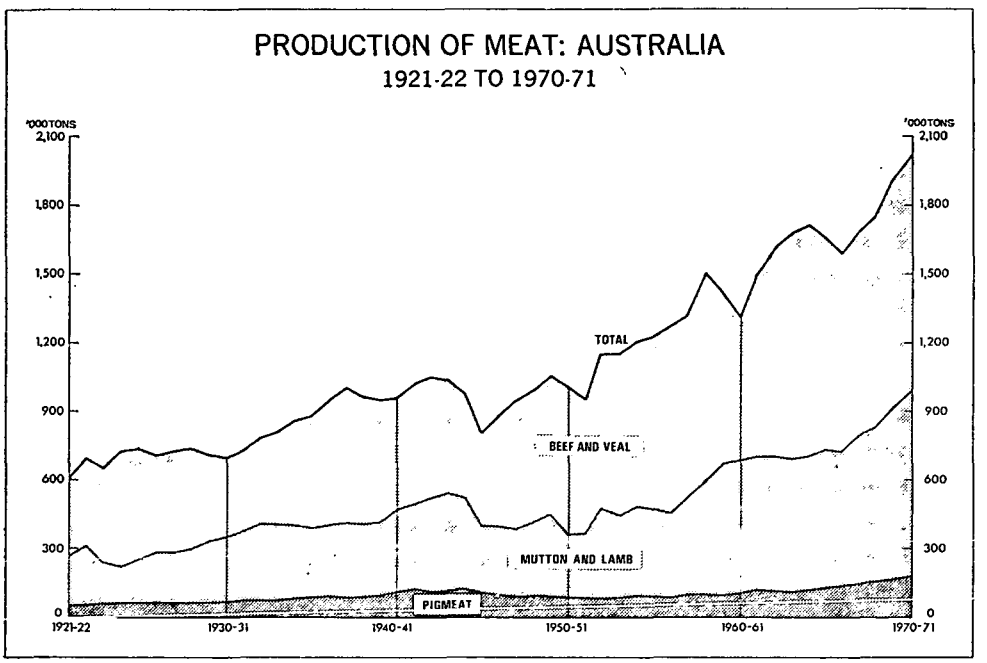


PLATE 47

Sheep slaughtered

SHEEP (INCLUDING LAMBS) SLAUGHTERED: STATES AND TERRITORIES
1966-67 TO 1970-71
('000)

Year	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.	
1966–67	9,989	13,160	2,154	3,358	2,580	1,159	2	93	32,496	32,578
1967–68	12,099	14,999	2,491	4,019	3,173	1,125	..	103	38,008	38,164
1968–69	12,950	12,882	2,724	2,977	3,808	1,241	..	130	36,712	36,803
1969–70	13,309	15,745	2,937	4,232	4,534	1,297	..	158	42,213	42,384
1970–71	14,948	16,434	2,907	5,101	4,416	1,394	2	196	45,397	45,322

Production of mutton and lamb

PRODUCTION OF MUTTON AND LAMB (CARCASS WEIGHT): STATES AND TERRITORIES
1966-67 TO 1970-71
(Tons)

Year	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
1966–67	173,857	243,597	37,744	62,476	46,381	20,902	45	1,621	586,623
1967–68	203,169	261,615	43,801	68,730	55,059	19,845	9	1,795	654,023
1968–69	223,945	247,972	48,208	56,824	67,713	22,452	1	2,240	669,355
1969–70	233,501	277,710	50,711	78,172	76,814	23,669	2	2,482	743,061
1970–71	258,567	307,534	49,390	90,471	77,401	25,661	33	3,163	812,220

Consumption of mutton and lamb

In 1959–60 consumption of mutton and lamb, at 103 lb per head of population, exceeded that of beef and veal for the first time on record. Subsequently, it showed a continuous decline until 1965–66, when it fell to 82.8 lb per head. The 1970–71 figure was 94.0 lb per head or 6.8 lb per head more than beef and veal.

PRODUCTION AND DISPOSAL OF MUTTON AND LAMB
(CARCASS WEIGHT): AUSTRALIA, 1966-67 TO 1970-71

Year	Net change in stocks ('000 tons)	Production ('000 tons)	Exports (a) ('000 tons)	For canning ('000 tons)	Apparent consumption in Australia	
					Total ('000 tons)	Per head per year (lb)
MUTTON						
1966–67	−5	350	132	7	216	41.3
1967–68	+3	412	180	8	222	41.7
1968–69	+2	366	129	7	229	42.1
1969–70	+1	434	218	7	207	37.3
1970–71	+5	463	198	14	246	43.3
LAMB						
1966–67	−3	237	18	..	222	42.5
1967–68	..	242	11	..	230	43.2
1968–69	+1	303	43	..	259	47.7
1969–70	−1	309	57	..	252	45.4
1970–71	+1	349	61	..	288	50.7

(a) Includes carcass equivalent of boneless mutton exported.

Exports of frozen mutton and lamb

EXPORTS OF FROZEN MUTTON AND LAMB(*a*): AUSTRALIA, 1966-67 TO 1970-71

Year	*Exports of frozen mutton*		*Exports of frozen lamb*		*Exports of frozen mutton and lamb*	
	Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
	'000 lb	$'000 f.o.b.	'000 lb	$'000 f.o.b.	'000 lb	$'000 f.o.b.
1966–67	177,359	35,339	33,161	7,979	210,520	43,318
1967–68	232,317	44,141	20,336	5,546	252,653	49,687
1968–69	167,564	32,213	65,004	13,216	232,568	45,429
1969–70	300,908	60,912	91,289	20,470	392,197	81,382
1970–71	288,609	52,132	96,172	21,878	384,781	74,010

(*a*) Actual weight shipped, not carcass equivalent.

In 1970–71 the principal buyers of Australian frozen mutton and lamb were Japan (90,266,000 lb, valued at $6,168,000); the United Kingdom (78,768,000 lb, valued at $14,350,000); the U.S.S.R. (67,670,000 lb, valued at $8,930,000); and the United States of America (51,371,000 lb, valued at $14,821,000).

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 1966–67 to 1970–71.

MEAT (INCLUDING CURED AND CANNED) AND EDIBLE OFFAL AVAILABLE FOR CONSUMPTION: AUSTRALIA, 1966-67 TO 1970-71

(lb per head per year)

Year	*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)*
1966–67	85.2	41.3	42.5	13.4	11.0	5.2	8.1	210.3
1967–68	89.7	41.7	43.2	14.6	11.4	4.8	7.7	217.4
1968–69	91.1	42.1	47.7	16.1	11.2	4.9	7.8	225.1
1969–70	85.2	37.3	45.4	16.6	11.4	5.1	8.3	213.8
1970–71	87.2	43.3	50.7	15.2	11.3	5.4	10.2	228.8

(*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 factories classified to industry sub-classes industrial and heavy chemicals and acids, and soap and candles, for the five years 1963–64 to 1967–68 was as follows: 1963–64, 1,077,000 cwt; 1964–65, 1,157,000 cwt; 1965–66, 1,061,000 cwt; 1966–67, 1,007,000 cwt; 1967–68, 880,000 cwt. Details for 1968–69, 1969–70 and 1970–71 are not yet available. The figures above 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 usage 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 1966–67 to 1970–71.

TALLOW: EXPORTS, AUSTRALIA, 1966-67 TO 1970-71
(cwt)

	1966–67	1967–68	1968–69	1969–70	1970–71
Edible . . .	244,582	88,465	201,847	348,005	348,947
Inedible. . .	1,767,130	1,654,071	2,035,529	3,019,497	2,739,091
Total . .	**2,011,712**	**1,742,536**	**2,237,376**	**3,367,502**	**3,088,038**

Overseas trade in hides and skins

The value of cattle and horse hides, sheep and other skins, and skin pieces sent overseas during 1970–71 amounted to $73,536,000, compared with a total of $89,335,000 in 1969–70 and $76,855,000 in 1968–69.

Of the total exports of sheepskins with wool during 1970–71, amounting to 256,539,000 lb valued at $48,957,000, 147,075,000 lb valued at $29,655,000 (61 per cent of total value) were shipped to France, 40,111,000 lb valued at $8,418,000 (17 per cent) to Italy, and 11,213,000 lb valued at $2,641,000 (5 per cent) to the Federal Republic of Germany. In the previous year France received 56 per cent (by value) of all sheepskins with wool exported, Italy 24 per cent and the Federal Republic of Germany 6 per cent. The exports of sheepskins with wool during each of the years 1966–67 to 1970–71 were as follows.

EXPORTS OF SHEEPSKINS WITH WOOL: AUSTRALIA
1966-67 TO 1970-71

		1966–67	1967–68	1968–69	1969–70	1970–71
Number . .	'000	27,578	29,757	30,473	34,109	36,181
Value . .	$'000	62,074	45,620	55,784	63,200	48,957

In 1970–71 a total of 1,533,000 sheepskins without wool were exported, valued at $856,000. Of these, sheepskins without wool to the value of $281,000 (33 per cent) were shipped to the United States of America, $188,000 (22 per cent) to Italy and $119,000 (14 per cent) to France.

The export trade in cattle hides and calfskins during 1970–71 was distributed among the main importing countries as follows: Japan, $6,526,000, the Federal Republic of Germany, $2,220,000, and Italy, $2,031,000. The total quantity exported was 158,022,000 lb, valued at $20,686,000.

The exports of furred skins in 1970–71 were valued at $2,399,000, of which kangaroo and wallaby skins constituted $1,847,000 and rabbit and hare skins $405,000. In 1969–70 they accounted for $1,568,000 and $619,000 respectively, out of a total of $2,459,000. The skins were shipped principally to the United States of America, Italy, the United Kingdom, and the Federal Republic of Germany; the values shipped to each in 1970–71 being $1,197,000, $569,000, $204,000 and $199,000 respectively.

The quantity of cattle hides, including calfskins, imported into Australia during the year 1970–71 amounted to 770,000 lb, valued at $122,000. The chief source of supply was New Zealand.

OTHER RURAL INDUSTRIES: DAIRYING, PIG, POULTRY AND BEE FARMING

The dairying industry

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, better feeding, resulting from the use of improved pastures and better farming methods, arising from the development of modern farm machinery and the application of the results of research.

The Australian dairying industry is conducted under conditions ranging from tropical to temperate and mediterranean type climates, and in general, 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 well advanced technologically and certain techniques and equipment developed in Australia are now being adopted overseas. State Agricultural Departments give advice on approved methods of production and inspect animals, buildings and marketable produce, to ensure that the latest advances in technology are passed on to the farmer and that hygiene standards are maintained at a high level.

Marginal Dairy Farms Reconstruction Scheme

The Marginal Dairy Farms Reconstruction Scheme was introduced in July 1970 and is to operate for a period of four years. It provides funds up to a maximum of $25 million, to State Governments to purchase marginal dairy farms from producers who wish to leave the industry and to enable them to sell the land on favourable terms to neighbouring farmers who want to build up their holdings to an economic size. By the end of March 1972, 876 dairy farms had been offered to the States for acquisition; purchase and subsequent sale of 393 had been arranged; and 284 applications rejected. The cost of purchase to that date amounted to $10 million. The scheme has had its greatest impact in Queensland where almost 80 per cent of the build-up propositions have been located.

Marketing of dairy products

The export trade is regulated by the terms of the Commonwealth *Customs Act* 1901–1971 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 replaced by the *Butter Fat Levy Act* 1965–1966 (*see* page 819).

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 1965 to 1970 are given on page 825 of this issue. Details are also given on page 824 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 $23.556 in 1966–67, $24.606 in 1967–68, $24.629 in 1968–69, $24.789 in 1969–70. For 1970–71 the interim rate is $24.00 and for 1971–72 $26.00

From 1 July 1970 a skim milk powder equalisation scheme was commenced by the Commonwealth Dairy Produce Equalisation Committee. For 1970–71 the interim rate is $205 a ton and for 1971–72 $250 a ton.

Statutory support for the equalisation scheme was provided by legislation passed by Parliament during 1970 and ratified by producers at a referendum held in February 1971. The legislation consists of *The Dairying Industry Equalisation Act* 1970, *The Dairying Industry Levy Act* 1970, and *The Dairying Industry Levy Collection Act* 1970. (*See* Year Book No. 57, page 818).

The basic element of the legislation is the establishment of a fund by way of a levy on the production of butter, butteroil, cheese, casein and such other dairy produce as may be prescribed to provide the necessary finance for equalisation payments. The legislation has been designed to permit the imposition of the levy on one product or a number of products as circumstances warrant. It will not be implemented unless there is a specific need created such as by the withdrawal of an important manufacturer from the present voluntary equalisation scheme.

Commonwealth bounties 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 bounties on milk supplied for the manufacture of butter and cheese. Bounties were paid on a seasonal basis prior to 1 April 1946, but from that date have been on a flat rate basis. Bounties 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 were retained, including the fixed bounty of $27 million payable in each year of the plan on butter, cheese and butterfat products containing 40 per cent or more butterfat.

The underwriting of final minimum equalised returns on butter and cheese, each year, was also continued. Returns to producers which had been underwritten at 33c per lb on commercial butter each year since the inception of the underwriting arrangement in 1958 were raised to 34c per lb for the 1967–68 season and maintained at that level for 1968–69 and 1969–70.

However these arrangements were altered for the year 1970–71 as the Government's commitments on underwriting relating to total production were no longer appropriate to the changing market situation. Instead of the underwriting arrangements for butter and cheese the Government decided that a grant of $15,882,000 would be made to the industry for distribution as bounty on the 1970–71 production of butter and cheese under the Dairying Industry Act additional to the existing bounty of $27 million. This $42,882,000 was the amount estimated necessary to maintain producer returns at 34c per lb commercial butter equivalent if production was held at 220,000 tons for butter and 70,000 tons for cheese.

The Government also agreed that a grant of $3,379,000 be made to the industry as bounty on 1970–71 exports of skim milk powder, casein and other non-fat products.

For 1971–72 the Government has provided $40 million for payment as bounty on butter and cheese production. This amount included a grant of $13 million additional to the existing bounty of $27 million on butter and cheese production and was in lieu of the Government's underwriting commitment under the current stabilisation plan. The grant was designed on the basis of future market prospects to allow returns to producers to be maintained at the 34 cents per lb commercial butter basis level on estimated production of 210,000 tons of butter and 76,000 tons of cheese. The export bounty on other non-fat milk products, which was a specific grant provided for 1970–71, was not renewed for 1971–72.

Amounts realised on exports of butter and cheese were, in 1948–49 and 1949–50, in excess of the f.o.b. equivalent of the then guaranteed return and were 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, and this amendment was later extended by the *Dairying Industry Act* 1967 to the present time. The balance of accumulated funds in the Dairying Industry Stabilisation Fund at 30 June 1971 totalled approximately $6,029,000. The major portion of the fund represents capital and other investments in milk recombining plants now established or under construction by the Board in Bangkok, Cambodia, Djakarta and Manila.

Processed milk products. Bounty 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* 1968, for the payment of a maximum amount of $800,000 as a bounty on exports of processed milk products in 1967–68. The bounty is to continue under present legislation until 30 June 1972, the maximum amount available being $800,000 per annum.

Whole milk. In addition to the bounties 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. The grant was renewed at the same level until 30 June 1963 when it was increased to $700,000 per annum. On 1 July 1966 the Dairy Industry Extension Grant was incorporated in the Commonwealth Extension Services Grant, and assistance to the State agricultural departments for extension services to the dairying industry will be maintained from funds from this source.

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 compaign 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 *Butter Fat Levy Act* 1965–1966 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 rate operative from 1 October 1971 is 58 cents per cwt (24 cents for promotion, 24 cents for administration and overseas market development, and 10 cents for research).

In February 1972, the Commonwealth Government agreed to industry proposals to broaden the scope of the research levy so that it would apply to all producers. Thus dairy farmers supplying milk for human consumption and for condensery products would be levied.

To implement the new scheme, five new Acts were passed by the Government: *Dairying Research Act* 1972; *Dairying Research Levy Act* 1972; *Dairying Research Levy Collection Act* 1972; *Dairy Produce Sales Promotion Act* 1972; *Butter Fat Levy Act* 1972.

The levies are payable either on a butterfat or gallonage basis, according to the normal method of payment to the producer by the dairy factory or authority. The maximum rate of levy is 12 cents per cwt butterfat or 0.04 cents per gallon of milk. The operative rates of levy are prescribed by Regulations.

The sums raised for research purposes from these levies will increase by approximately $150,000 per year, which with matching contributions from the Commonwealth Government will make over $1 million per annum available for dairying 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 1966–67 to 1970–71.

BUTTERFAT LEVY: AMOUNTS COLLECTED FOR RESEARCH AND SALES PROMOTION, 1966-67 TO 1970-71

($)

	1966–67	*1967–68*	*1968–69*	*1969–70*	*1970–71*
Research(*a*) . . .	406,100	363,700	367,720	413,277	387,088
Sales promotion . .	891,400	804,300	811,860	908,521	923,494
Total collected(*a*) .	**1,297,500**	**1,168,000**	**1,179,580**	**1,321,798**	**1,310,582**

(*a*) 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.

Cattle for milk production

DAIRY BREED BULLS, AND COWS AND HEIFERS USED OR INTENDED FOR PRODUCTION OF MILK OR CREAM, 31 MARCH 1967 TO 1971

At 31 March	Bulls dairy Breed(a)	Cows and heifers used or indented for production of milk or cream for sale			House cows and heifers(c)
		Cows (in milk and dry)	Heifers		
			One year and over(b)	Under one year	
1971—					
New South Wales	12,031	526,591	123,767	103,135	73,896
Victoria	31,756	1,244,089	336,425	325,810	23,547
Queensland	10,613	441,103	102,200	79,945	29,795
South Australia	5,036	138,271	46,445	34,649	6,231
Western Australia	2,627	96,438	38,841	32,956	6,499
Tasmania	2,812	153,402	39,205	37,184	4,171
Northern Territory	16	162	58	30	123
Australian Capital Territory	28	1,082	161	276	305
Australia	**64,919**	**2,601,138**	**687,104**	**613,985**	**144,567**
1970	69,297	2,673,358	702,982	631,383	156,305
1969	76,651	2,700,635	768,781	624,290	164,548
1968	81,512	2,793,650	754,587	689,038	169,384
1967	87,235	2,880,681	795,771	671,957	179,675

(a) Used or intended for service; excludes bull calves (under 1 year). (b) Springing (within 3 months of calving) and other. (c) Kept primarily for rural holdings' own milk supply.

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

Milking machines

MILKING MACHINES ON RURAL HOLDINGS: NUMBER OF UNITS(a) STATES AND TERRITORIES, 1966 TO 1970

At 31 March	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
1966	41,796	105,003	42,199	18,833	9,780	15,894	26	94	233,625
1967	41,433	108,664	40,878	18,143	9,664	16,414	35	94	235,325
1968	40,862	109,137	38,208	18,399	9,317	16,968	40	91	233,022
1969	39,557	112,618	35,401	17,908	9,036	17,057	24	97	231,698
1970	38,013	112,160	34,185	17,642	9,144	16,941	30	75	228,190

(a) The number of units indicates the number of cows that can be milked simultaneously, i.e. the cow capacity of installed milking machines.

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 540 gallons per cow per annum has been obtained. In 1970–71 the average yield was 574 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 AUSTRALIAN CAPITAL TERRITORY
1966-67 TO 1970-71
(Gallons)

Year	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	A.C.T.	Aust.
1966–67	423	647	366	624	480	591	548	521
1967–68	416	596	354	590	502	581	465	497
1968–69	393	663	306	708	546	647	486	525
1969–70	463	712	374	724	543	650	598	584
1970–71	442	708	348	707	520	618	569	574

In the following table particulars of the production of whole milk in the various States and Territories are shown for the years 1966–67 to 1970–71. Victoria is the principal milk-producing State, and in 1970–71 the output from that State, 899 million gallons, represented 56 per cent of total production. Output from New South Wales in 1970–71 was 276 million gallons (17 per cent of the total) and that of Queensland 168 million gallons (10 per cent). Production in the remaining States and Territories accounted for 17 per cent.

TOTAL PRODUCTION OF WHOLE MILK: STATES AND TERRITORIES
1966-67 TO 1970-71
('000 gallons)

Year	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
1966–67	322,995	796,673	238,134	98,727	55,611	91,418	97	1,070	1,604,725
1967–68	310,056	734,203	217,202	88,822	55,411	90,793	97	900	1,497,484
1968–69	278,930	815,791	171,686	102,808	58,222	102,164	97	898	1,530,597
1969–70	310,876	892,378	191,401	106,236	55,873	103,213	97	939	1,661,013
1970–71	276,167	898,970	167,627	103,592	54,869	98,085	70	773	1,600,153

UTILISATION OF WHOLE MILK: STATES AND TERRITORIES, 1970-71
('000 gallons)

	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Milk used for—									
Butter	101,053	619,433	82,522	28,488	23,745	69,097	..	..	924,338
Cheese	14,435	74,104	16,769	41,893	3,526	12,239	..	..	162,966
Processed milk products	26,010	91,209	68,336	..	1,278	3,869	..	..	128,259
Other purposes	134,669	114,225		33,211	26,320	12,880	70	773	384,590
Total	**276,167**	**898,970**	**167,627**	**103,592**	**54,869**	**98,085**	**70**	**773**	**1,600,153**

In 1970–71, 57.8 per cent of the total milk supply was used for butter, 10.2 per cent for cheese, 8.0 per cent for processed milk products, and 24.0 per cent for other purposes.

PRODUCTION AND UTILISATION OF WHOLE MILK: AUSTRALIA
1966-67 TO 1970-71
('000 gallons)

		Quantity used for—			
Year	Total production	Factory butter	Factory cheese	Processed milk products(a)	Other purposes(b)
1966–67	1,604,725	1,011,000	146,547	99,502	347,676
1967–68	1,497,484	892,898	149,444	98,555	356,587
1968–69	1,530,597	908,565	158,286	98,945	364,802
1969–70	1,661,013	1,021,105	160,597	103,557	375,755
1970–71	1,600,153	924,338	162,966	128,259	384,590

(a) Quantities of milk used to produce two or more products (for example, initially as full cream milk and subsequently as skim milk) are counted once only. (b) Principally fluid milk for domestic purposes. Includes milk used for farm production of butter and cheese.

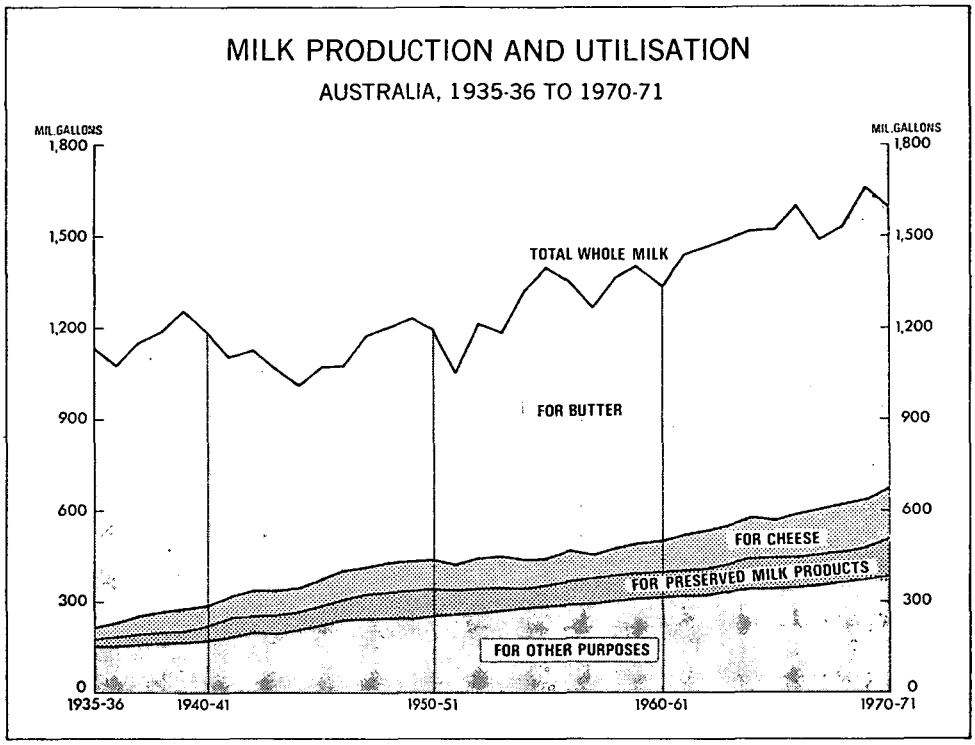


PLATE 48

Production of butter, cheese and processed milk products

In 1969–70 factories classified to the industry group Milk Products comprising A.S.I.C. classes 2121 Liquid milk and cream factories, 2122 Butter factories, 2123 Cheese factories, 2124 Ice cream and frozen confections factories and 2125 Milk products n.e.c. factories, numbered 440 and were distributed among the States, as follows: New South Wales, 108; Victoria, 160; Queensland, 63; South Australia, 56; Western Australia, 23; Tasmania, 26; Northern Territory, 2 and Australian Capital Territory, 2.

Factory production of butter in 1970–71 was 448,024,000 lb. This was 46,182,000 lb (9.3 per cent) below the record of 494,206,000 lb attained in 1969–70.

BUTTER PRODUCTION IN FACTORIES: STATES, 1966-67 TO 1970-71
('000 lb)

Year	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*Aust.*
1966–67 . .	86,392	266,907	74,375	15,092	14,394	32,056	489,217
1967–68 . .	71,281	241,240	63,546	12,133	13,248	30,865	432,313
1968–69 . .	52,172	280,206	43,083	14,507	13,937	35,315	439,220
1969–70 . .	63,881	313,753	50,258	17,268	13,014	36,033	494,206
1970–71 . .	46,933	299,486	41,387	14,588	11,959	33,671	448,024

Factory production of cheese in 1970–71 reached a record level of 170,952,000 lb, which was 2,746,000 lb (1.6 per cent) more than the previous record of 1969–70.

CHEESE PRODUCTION IN FACTORIES: STATES, 1966-67 TO 1970-71
('000 lb)

Year	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*Aust.*
1966–67 . .	12,023	67,907	23,071	38,598	3,807	8,427	153,834
1967–68 . .	12,074	73,570	22,181	32,773	4,373	10,414	155,385
1968–69 . .	12,201	75,256	17,867	42,218	4,458	12,834	164,833
1969–70 . .	18,705	73,866	20,491	39,437	3,787	11,921	168,206
1970–71 . .	16,923	78,935	16,947	41,681	4,226	12,239	170,952

FACTORY PRODUCTION OF CHEESE BY VARIETIES: AUSTRALIA
1966-67 TO 1970-71
('000 lb)

	1966–67	*1967–68*	*1968–69*	*1969–70*	*1970–71*
Fetta	1,042	1,124	1,085	1,223	
Cheddar	137,657	137,616	146,116	149,636	
Cottage	1,876	2,215	2,612	3,273	
Edam	531	691			
Blue Vein	187	102	8,220	6,123	n.a.
Grating	8,975	9,790			
Soft			(*a*)	(*a*)	
Gouda	(*a*)	(*a*)	868	1,039	
Other	3,566	3,848	6,070	6,787	
Total cheese	**153,834**	**155,385**	**164,971**	**168,081**	**170,952**

(*a*) Not collected separately.

Processed milk products are manufactured mainly in Victoria, which produced 71 per cent of the total (in terms of whole milk equivalent) in 1970–71. New South Wales accounted for 20 per cent and the remaining States for 9 per cent.

PRODUCTION OF PROCESSED MILK PRODUCTS: AUSTRALIA, 1966-67 TO 1970-71
('000 lb)

	1966–67	*1967–68*	*1968–69*	*1969–70*	*1970–71*
Condensed, concentrated and evaporated milk—					
Full cream—					
Sweetened(*a*)	61,510	47,316	40,439	36,551	36,809
Unsweetened	91,700	87,946	98,658	120,893	136,240
Skim	24,974	18,932	19,670	40,146	31,633
Ice cream mix (liquid)	15,422	9,065	7,238	8,906	9,632
Infants', invalid and health beverages—					
Infants' milk powder	14,535	16,233	17,610	21,186	17,485
Other(*b*)	34,813	32,001	36,938	35,273	35,376
Casein	45,812	44,815	64,963	71,188	62,788
Powdered milk—					
Full cream—					
Spray	46,276	46,125	53,083	49,494	55,335
Roller	1,742	1,147	1,341	1,091	1,176
Skim—					
Without added ingredients—					
Spray	162,351	161,071	122,104	171,195	164,835
Roller	13,153	18,606	14,916	13,791	12,972
With added ingredients—					
Baker's powder	5,401	5,937	5,765	8,182	6,666
Other	7,679	10,415	13,445	15,725	17,265
Buttermilk or mixed skim and buttermilk—					
Spray	12,829	15,836	14,902	21,834	20,318
Roller	19,689	17,756	18,957	18,841	17,547
Total powdered milk	*269,120*	*276,893*	*244,513*	*300,152*	*296,114*

(*a*) Includes 'coffee and milk'. (*b*) Includes malted milk and milk sugar (lactose).

Wholesale prices of butter and cheddar cheese in Australia

Details of prices operating in each of the States since 1 July 1958 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 cheddar cheese.

WHOLESALE PRICES OF BUTTER AND CHEDDAR CHEESE: AUSTRALIA
($ per cwt)

Date from which prices became effective	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*
Butter—						
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
31 March 1969	54.60	54.60	54.60	54.60	54.60	54.60
3 August 1971	56.84	56.84	56.84	56.84	56.84	56.84
Cheddar cheese—						
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
7 November 1966	33.04	33.04	33.04	33.04	33.04	33.04
10 November 1970	34.16	34.16	34.16	34.16	34.16	34.16
3 August 1971	35.28	35.28	35.28	35.28	35.28	35.28
8 November 1971	38.64	38.64	38.64	38.64	38.64	38.64

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 1970–71, at 20.3 lb per head, it reached its lowest level since the war. Consumption of cheese per head rose steadily in recent years and in 1965–66 reached a record level of 7.9 lb. There was a slight decline thereafter, however in 1970–71 it attained a new record figure of 9.0 lb per head.

PRODUCTION AND DISPOSAL OF BUTTER AND CHEESE
AUSTRALIA, 1966-67 TO 1970-71

Year	*Change in stocks(a)* ('000 lb)	*Factory production* ('000 lb)	*Exports(b)* ('000 lb)	*Apparent consumption in Australia* — *Total* ('000 lb)	*Apparent consumption in Australia* — *Per head per year* (lb)
BUTTER					
1966–67	− 872	489,217	234,611	255,478	21.8
1967–68	− 3,068	432,313	177,331	258,050	21.6
1968–69	+11,471	439,220	170,709	257,040	21.1
1969–70	+12,974	494,206	226,075	255,157	20.5
1970–71	−15,165	448,024	205,187	258,002	20.3
CHEESE					
1966–67	+ 5,248	153,834	57,423	91,162	7.8
1967–68	−10,527	155,385	76,249	89,663	7.5
1968–69	+12,375	164,833	56,494	95,968	7.9
1969–70	−22,532	168,206	90,199	100,540	8.1
1970–71	−23,598	170,952	80,571	113,979	9.0

(*a*) Balance figure (includes imports). (*b*) Includes ships' stores; figures for butter include ghee and butter concentrate expressed as butter.

Average returns from butter and cheddar 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 1967 to 1972.

BUTTER AND CHEDDAR CHEESE: RATES REALISED ON SALES, AVERAGE EQUALISATION RATES AND RATES OF COMMONWEALTH SUBSIDY UNDER DAIRYING INDUSTRY ACTS, 1966-67 TO 1971-72

(*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—							
1966–67	49.88	47.46	31.97	29.87	39.38	5.66	45.04
1967–68	49.22	47.17	31.87	27.60	39.50	6.31	45.81
1968–69	49.75	47.54	32.02	26.67	38.91	6.02	44.93
1969–70	(*a*)	(*a*)	(*a*)	(*a*)	(*b*)38.00	(*b*)5.40	(*b*)43.40
1970–71	(*a*)	(*a*)	(*a*)	(*a*)	(*b*)38.20	(*b*)9.40	(*b*)47.60
1971–72	(*a*)	(*a*)	(*a*)	(*a*)	(*b*)41.40	(*b*)7.72	(*b*)49.12
Cheddar cheese—							
1966–67		31.24		21.52	27.01	2.04	29.05
1967–68		31.53		17.81	25.04	2.38	27.42
1968–69		31.50		17.73	24.84	2.87	27.71
1969–70		(*a*)		(*a*)	(*b*)25.50	(*b*)2.58	(*b*)28.08
1970–71		(*a*)		(*a*)	(*b*)25.50	(*b*)4.24	(*b*)29.74
1971–72		(*a*)		(*a*)	(*b*)28.25	(*b*)3.69	(*b*)31.94

(*a*) Not yet available. (*b*) Interim rates.

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, 1966-67 TO 1971-72

(*Source:* Commonwealth Dairy Produce Equalization Committee Ltd)

(Cents per lb)

Year	*Rate of overall return to manufacturer*	*Estimated manufacturing cost*	*Return to dairy farmer*
1966–67	40.216	4.583	35.633
1967–68	40.904	4.583	36.321
1968–69	40.114	4.750	35.364
1969–70	(*a*)38.911	4.911	34.000
1970–71	(*a*)42.500	5.161	37.339
1971–72	(*a*)43.857	5.161	38.696

(*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 1970–71 amounted to 155.4 million lb, compared with 179.8 million lb in 1969–70. Exports of cheese in these years were 80.4 million lb and 90.0 million lb respectively. The principal importing country for Australian butter in 1970–71 was the United Kingdom, accounting for 78.9 per cent of total exports. In 1970–71 Japan replaced the United Kingdom as the principal importing country for Australian cheese with 30.1 per cent of total shipments.

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; butter at 88 to 89, cheese at 86 to 89 points, second quality; and butter at 83 to 85 points, pastry or cooking quality.

In the following table particulars are given of the relative proportions of butter and cheese graded for export according to quality. Further details for 1968–69, which include actual quantities by States, will be found in *Rural Industries*, Bulletin No. 7.

BULK BUTTER AND CHEESE GRADED FOR EXPORT: AUSTRALIA, 1968-69 TO 1970-71

Grade	*Quantity ('000 lb)*			*Per cent*		
	1968–69	*1969–70*	*1970–71*	*1968–69*	*1969–70*	*1970–71*
BUTTER(a)						
Choicest quality	145,577	176,642	129,074	86.1	87.7	87.2
First quality	16,923	18,716	14,301	10.0	9.3	9.7
Second and pastry quality(b)	6,658	6,002	4,557	3.9	3.0	3.1
Total	**169,158**	**201,360**	**147,932**	**100.0**	**100.0**	**100.0**
CHEESE						
Bulk cheddar—						
Choicest quality	29,036	22,723	24,131	35.0	28.0	30.8
First quality	31,339	34,248	28,285	37.8	42.3	36.2
Second quality(b)	2,721	4,236	2,227	3.3	5.2	2.8
Other cheese	19,839	19,831	23,671	23.9	24.5	30.2
Total	**82,935**	**81,038**	**78,314**	**100.0**	**100.0**	**100.0**

(a) Includes unsalted. (b) Includes rejected.

Exports of butter, cheese and other milk products of Australian origin are shown in the following table.

EXPORTS OF DAIRY PRODUCTS: AUSTRALIA, 1968-69 TO 1970-71

	Quantity ('000 lb)			*Value ($'000 f.o.b.)*		
	1968–69	*1969–70*	*1970–71*	*1968–69*	*1969–70*	*1970–71*
Butter(a)	140,865	179,827	155,444	34,745	43,750	38,148
Cheese(b)—						
Processed(c)	16,922	20,367	18,902	6,070	6,580	6,772
Other—						
Cheddar and epicure cheddar	28,821	62,016	51,087	5,417	11,027	9,436
Parmesan (incl. parmigiano and reggiono)	64	70	154	30	33	82
Other	10,289	7,584	10,237	2,355	1,928	2,088
Total cheese	*56,096*	*90,037*	*80,380*	*13,872*	*19,570*	*18,378*
Other milk products—						
Preserved, condensed, concentrated, etc.—						
Sweetened	12,653	10,606	8,915	1,570	1,385	1,234
Unsweetened	10,512	13,130	11,922	1,189	1,504	1,445
Infants' and invalids' food (essentially of milk)(d)	29,079	29,652	31,646	9,171	8,802	9,196
Casein	58,217	66,812	59,301	10,809	12,094	11,562
Dried or powdered—						
Full cream	30,006	33,789	37,425	7,435	7,557	8,554
Skim	88,259	116,751	109,843	6,127	8,316	9,184

(a) Excludes butter concentrate, ghee and ships' stores. (b) Excludes ships' stores. (c) Includes pastes and spreads. (d) Includes malted milk.

The pig industry

In line with the general trend of increased specialisation common to most of the rural industries, pig farming has developed into a separate industry being no longer mainly associated with the dairy industry.

In 1971, a research scheme was established for the Australian Pig Industry. It is similar to those already operating for the benefit of other major rural industries such as wool, meat, wheat, dairy, tobacco, poultry and the dried fruit industries. Finance is provided from a levy of 5 cents per head on all pig slaughterings and this is matched, on a dollar for dollar basis from Commonwealth sources. In all, some $300,000 annually is available for research.

The research programme is administered by a Pig Industry Research Committee. This Committee, which is representative of the industry and research organisations, makes recommendations to the Minister for Primary Industry relating to the rate of levy and expenditure from the Pig Industry Research Trust Fund.

At 31 March 1971 the number of pigs in Australia reached a record level of 2,590,195 which represented an increase of 191,831 (8.0 per cent) on the previous record at 31 March 1970 (2,398,364).

PIGS: NUMBERS IN STATES AND TERRITORIES, 1967 TO 1971

At 31 March	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*Aust.(a)*
1967	513,575	350,591	467,572	222,334	160,983	85,654	2,791	1,803,500
1968	645,196	376,990	520,141	242,319	182,507	86,517	1,999	2,055,669
1969	690,226	421,655	535,496	288,019	219,787	95,363	2,488	2,253,034
1970	707,703	495,128	479,586	350,748	250,051	111,275	3,873	2,398,364
1971	796,184	519,779	491,328	389,417	277,501	112,636	3,229	2,590,195

(a) Incomplete; excludes Australian Capital Territory.

A long-term comparison of pig numbers is given in the division Pastoral Production of this chapter (*see* page 793). A map showing the distribution of pigs in Australia at 31 March 1963 faces page 1083, Year Book No. 50 and a graph showing the number of pigs in Australia from 1870 onwards appears on plate 45 of this Year Book (*see* page 795).

PIGS SLAUGHTERED: STATES AND TERRITORIES, 1966-67 TO 1970-71

('000)

	Slaughterings passed for human consumption									*Total slaughterings (including boiled down)*
Year	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*	
1966–67	849	698	666	316	214	149	2	9	2,903	2,912
1967–68	908	700	735	310	242	143	3	9	3,049	3,058
1968–69	1,008	771	800	317	263	139	3	10	3,310	3,319
1969–70	1,065	895	757	386	316	160	3	12	3,593	3,605
1970–71	1,093	941	742	436	316	171	3	16	3,717	3,722

Production of pigmeat, bacon and ham

PRODUCTION OF PIGMEAT (CARCASS WEIGHT): STATES AND TERRITORIES
1966-67 TO 1970-71

(Tons)

Year	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
1966–67	38,283	33,094	33,255	15,947	11,584	7,164	87	386	139,800
1967–68	41,129	33,204	36,739	15,787	13,159	6,890	93	385	147,386
1968–69	46,313	36,582	39,168	15,939	14,006	7,024	107	460	159,599
1969–70	49,032	40,355	37,280	19,765	16,718	7,881	87	386	171,504
1970–71	49,438	44,840	36,833	22,181	16,470	8,395	104	522	178,783

PRODUCTION OF BACON AND HAM (CURED CARCASS WEIGHT): STATES
1966-67 TO 1970-71
(Tons)

Year	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	Aust.
1966–67	15,366	9,995	14,670	4,403	4,624	1,242	50,300
1967–68	15,134	9,340	14,103	4,110	5,128	1,281	49,096
1968–69	14,748	9,872	15,189	3,998	5,417	1,394	50,618
1969–70	15,947	11,891	14,068	4,933	5,678	1,381	53,898
1970–71(a)—							
(bone in)	10,705	4,409	5,527	1,097	4,792	901	27,430
(bone out)	4,895	8,649	5,531	3,451	1,290	537	24,351

(a) Statistics on a bone in/bone out basis are not available prior to 1970–71.

Consumption of pigmeat, bacon and ham

The apparent consumption of pigmeat decreased from 16.7 lb per head in 1969–70 to 15.2 lb in 1970–71.

PRODUCTION AND DISPOSAL OF PIGMEAT (CARCASS WEIGHT): AUSTRALIA
1966-67 TO 1970-71

Year	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
1966–67	−1.1	139.8	0.9	69.8	70.2	13.4
1967–68	+0.9	147.4	0.6	68.1	77.9	14.6
1968–69	+0.4	159.6	1.2	70.3	87.7	16.1
1969–70	−0.2	171.5	5.1	74.1	92.6	16.7
1970–71	−0.9	178.8	1.7	91.8	86.2	15.2

(a) Includes allowance for imports.

PRODUCTION AND DISPOSAL OF BACON AND HAM (CURED CARCASS WEIGHT): AUSTRALIA, 1966-67 TO 1970-71

Year	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
1966–67	−0.2	50.3	0.2	8.1	42.1	8.1
1967–68	+0.1	49.1	0.2	7.7	41.1	7.7
1968–69	..	50.6	0.2	8.1	42.4	7.8
1969–70	+0.3	53.6	0.2	7.3	45.8	8.3
1970–71	..	66.2	0.3	8.1	57.8	10.2

Exports of pigs and pig products

EXPORTS OF PIGS AND PIG PRODUCTS: AUSTRALIA, 1968-69 TO 1970-71

		Quantity			*Value ($'000 f.o.b.)*		
		1968–69	*1969–70*	*1970–71*	*1968–69*	*1969–70*	*1970–71*
Bacon and ham (including canned)	'000 lb	498	572	877	377	415	593
Lard	'000 lb	42	35	231	8	6	23
Frozen pork	'000 lb	2,658	11,358	3,808	935	4,050	1,425
Pigs, live	number	1,600	933	1,877	93	47	107

The poultry industry

Once part of the mixed farming sector, the poultry industry is now a highly specialised and distinct industry. The bulk of production is obtained from this commercial source, though many farm households and some private homes in suburban areas keep poultry to supply their domestic needs and some supplies from this source are also marketed. Because the data from this latter sector is incomplete, details of poultry numbers throughout Australia are not published. There is an increasing tendency for specialisation within the industry into hatcherymen, egg producers and broiler producers. These sectors of the industry each have separate statistics. There are also separate research schemes for the egg and meat chicken industries. Both sectors are good examples of the general movement towards specialised, large scale capital intensive production which is common to all rural industries.

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 maximum rate of levy permitted under the legislation is $1 per hen per annum. The levy is payable fortnightly by the owner of the hen. The levy operated at its maximum in 1969–70 and 1970–71. It was apportioned at a rate of 4 cents per hen per fortnight for the first 24 fortnights and 2 cents per hen per fortnight for the remaining two fortnights, in accordance with the recommendations of the Council of Egg Marketing Authorities of Australia.

Exemptions from payment are granted on the first twenty 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 arrangement between the Commonwealth and State Governments, the State Egg Boards collect the levy due in each State from individual producers and remit the total amount to the Commonwealth (the Department of Primary Industry collects the levy in the Australian Capital Territory). The Commonwealth Government pays into the Poultry Industry Trust Fund amounts equal to the receipts obtained from the hen levy. These amounts totalled $12,755,000 in 1970–71 ($11,114,000 in 1969–70). 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 $12,505,000 in 1970–71 ($11,346,000 in 1969–70).

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 per annum. 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.

Chicken Meat Research

In June 1969, a research scheme for the chicken meat industry was established along lines similar to those operating for the wool, wheat, dairy, meat, tobacco and poultry industries. The operative Acts are the *Chicken Meat Research Act*, 1969, the *Meat Chicken Levy Act*, 1969 and the *Meat Chicken Collection Act*, 1969. This legislation provides for a levy of one-tenth of a cent on each meat chicken hatched before 1 July 1972 and, thereafter, for a levy at a prescribed rate not exceeding one-quarter of a cent per meat chicken hatched. Hatcheries, hatching less than 20,000 meat chickens per annum, are exempt from the levy. The legislation also provides that the industry levy be paid into a Trust Account and that research expenditure therefrom be matched on a $1 for $1 basis by the Commonwealth. On this basis, it is estimated that funds currently available for research will be approximately $200,000 per annum.

Marketing of eggs

Details of the *Egg Export Control Act* 1947–1966 were given in earlier issues of the Year Book (*see* No. 47, page 997).

Chicken hatching and poultry slaughterings

Statistics shown in the following section have been compiled on a Commonwealth basis since 1965–66 from returns supplied by commercial chicken hatcheries (i.e. those making sales of day-old chicks) and by commercial poultry slaughtering establishments. Poultry farmers hatching chicks solely for replenishing their own flocks, producers in the Northern Territory and the many very small producers are excluded from the collection. However, the statistics represent a high level of coverage in respect of commercial hatcheries and slaughtering establishments.

Poultry slaughtered for human consumption

No allowance has been made in the following figures for interstate movement of dressed poultry or changes in stocks held, and figures therefore do not necessarily represent the level of consumption in the States concerned.

Statistics for poultry slaughtered in Queensland are based on numbers slaughtered as collected by the Queensland Department of Primary Industries. From 1968–69, New South Wales slaughtering statistics include poultry slaughterings by producers in the Australian Capital Territory. Prior to that year, Australian Capital Territory slaughtering statistics were not collected.

NUMBERS OF POULTRY SLAUGHTERED FOR HUMAN CONSUMPTION
1966-67 TO 1970-71
('000)

Year	*Chickens(a)*	*Other fowls(b)*	*Ducks and drakes*	*Turkeys*
1970–71				
New South Wales	49,192	3,255	708	1,119
Victoria	19,854	1,908	283	146
Queensland	15,689	1,461	78	69
South Australia	7,894	341	50	23
Western Australia	10,175	499	(c)	(c)
Tasmania	1,103	119	(c)	(c)
Australia	**103,907**	**7,581**	**1,214**	**1,440**
1969–70	84,644	6,681	968	1,331
1968–69	75,174	6,025	1,010	916
1967–68	76,361	5,403	790	660
1966–67	67,085	4,760	775	694

(a) Comprises broilers, fryers and roasters. (b) Comprises hens, roosters, etc. (c) Not available for publication.

DRESSED WEIGHT OF POULTRY SLAUGHTERED FOR HUMAN CONSUMPTION(a) 1966-67 TO 1970-71

('000 lb)

Year	Chickens(b)	Other fowls(c)	Ducks and drakes	Turkeys	Total
1970–71—					
New South Wales	138,382	11,557	2,647	10,426	163,013
Victoria	55,559	6,820	1,016	1,353	64,747
Queensland(d)	46,571	5,439	282	529	52,821
South Australia	19,838	1,163	222	229	21,452
Western Australia	25,622	1,930	(e)	(e)	28,492
Tasmania	2,936	390	(e)	(e)	3,516
Australia	**288,909**	**27,300**	**4,560**	**13,272**	**334,041**
1969–70	232,432	23,891	3,605	13,101	273,029
1968–69	206,651	21,875	3,849	8,335	240,709
1967–68	197,350	19,671	3,099	6,363	226,482
1966–67	168,130	16,940	2,997	7,093	195,159

(a) Dressed weight of all birds, including pieces and giblets, as reported in all States except Queensland. (b) Comprises dressed weight of broilers, fryers and roasters. (c) Comprises dressed weight of hens, roosters, etc. (d) Estimated. (e) Not available for publication.

Chicken hatchings in commercial hatcheries

Details contained in the following tables relate to all eggs set and to chicks hatched in commercial hatcheries whether for sale as day-old chicks or for replenishment of own flocks.

NUMBER OF EGGS SET(a) IN COMMERCIAL HATCHERIES: STATES, 1966-67 TO 1970-71

('000)

Year	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	Aust.
MEAT STRAINS							
1966–67	50,141	19,626	n.a.	6,215	(b)	1,227	(c)77,209
1967–68	54,270	20,655	17,969	7,407	(b)	(b)	112,484
1968–69	51,667	20,120	18,381	6,546	(b)	(b)	109,832
1969–70	60,438	21,946	20,233	8,090	(b)	(b)	124,529
1970–71	76,536	29,401	23,127	11,891	(b)	(b)	158,953
EGG STRAINS							
1966–67	19,847	12,206	n.a.	5,352	3,784	761	(c)41,950
1967–68	19,510	12,578	8,823	5,060	3,256	1,024	50,251
1968–69	19,971	13,104	8,909	5,049	3,660	904	51,597
1969–70	22,447	14,440	9,925	5,971	3,665	1,206	57,654
1970–71	19,333	15,343	9,971	5,885	4,444	849	55,827

(a) Includes eggs which failed to hatch. (b) Not available for publication. (c) Incomplete; *see* individual States.

CHICKENS HATCHED(a) IN COMMERCIAL HATCHERIES: STATES, 1966-67 TO 1970-71
('000)

Year	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	Aust.
INTENDED FOR CHICKEN MEAT—MEAT STRAINS (Unsexed)							
1966–67	34,163	14,486	n.a.	4,383	(b)	833	(c)53,865
1967–68	37,629	15,806	13,456	5,218	(b)	(b)	80,874
1968–69	35,563	15,546	13,765	5,053	(b)	(b)	79,538
1969–70	41,464	17,334	14,882	6,173	(b)	(b)	89,835
1970–71	54,462	22,105	16,548	9,101	(b)	(b)	114,999
INTENDED FOR CHICKEN MEAT—EGG STRAINS (Crossbred and other cockerels)(d)							
1966–67	1,743	1,509	n.a.	230	313	72	(c)3,867
1967–68	1,545	1,567	759	134	105	43	4,153
1968–69	1,191	880	457	180	66	19	2,794
1969–70	1,846	1,462	431	373	58	7	4,177
1970–71	975	1,096	464	300	52	19	2,906
INTENDED FOR EGG PRODUCTION—EGG STRAINS (Pullets)(d)							
1966–67	6,293	4,114	n.a.	1,925	1,253	273	(c)13,858
1967–68	6,093	4,251	2,862	1,904	1,143	371	16,624
1968–69	6,310	4,455	2,922	1,854	1,246	299	17,085
1969–70	7,110	4,977	3,169	2,136	1,314	408	19,115
1970–71	6,325	5,350	3,176	2,125	1,560	268	18,803

(a) Excludes chicks destroyed. (b) Not available for publication. (c) Incomplete; *see* individual States. (d) Includes (for States other than Queensland) a proportion of unsexed egg strain chicks.

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, 1966-67 TO 1970-71
('000 dozen)

State	1966–67	1967–68	1968–69	1969–70	1970–71
New South Wales(b)	68,043	74,682	76,062	82,021	89,663
Victoria	34,100	38,231	41,147	47,613	53,339
Queensland	20,474	21,393	20,854	23,837	25,305
South Australia	13,176	15,813	15,692	16,655	19,440
Western Australia	9,810	11,583	11,491	12,716	14,501
Tasmania	n.a.	n.a.	n.a.	n.a.	n.a.
Total(c)	**145,603**	**161,702**	**165,247**	**182,842**	**202,249**

(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, 1966-67 TO 1970-71

('000 lb)

State	*1966–67*	*1967–68*	*1968–69*	*1969–70*	*1970–71*
New South Wales	15,734	14,532	15,691	22,009	28,488
Victoria	6,029	8,841	10,093	13,930	18,373
Queensland	6,809	7,877	5,288	7,988	7,582
South Australia	4,953	7,024	5,370	6,074	8,137
Western Australia	1,143	1,802	1,510	1,964	2,982
Tasmania	n.a.	n.a.	n.a.	n.a.	n.a.
Total(*a*)	34,667	40,076	37,952	51,965	65,562

(*a*) Excludes Tasmania.

In addition to liquid whole egg, production was also recorded of liquid egg whites and liquid egg yolks. Output in 1970–71 amounted to 8,329,000 lb and 5,699,000 lb respectively, compared with 8,071,000 lb and 5,563,000 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 operation of producers 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, 1966-67 TO 1970-71

Year	*Change in stocks*	*Estimated total production*	*Exports(a)*	*For drying and pulping(b)*	*Apparent consumption in Australia*	
					Total	*Per head per year*
	mil. doz	mil. doz	mil. doz	mil. doz	mil. doz	doz
1966–67	+0.2	237.8	5.3	31.3	201.0	17.2
1967–68	−0.3	253.3	6.5	42.3	204.7	17.2
1968–69	−0.1	257.4	7.6	41.0	208.9	17.2
1969–70	..	272.4	5.1	53.6	213.6	17.2
1970–71	+0.2	288.3	5.1	64.8	218.2	17.2

(*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, 1966-67 TO 1970-71

(Per head per year)

Year	*Eggs in shell*	*Liquid whole egg and egg powder(a)*	*Total*	
			Number	*Weight(b)*
	number	number		lb
1966–67	206	13	220	27.5
1967–68	206	14	221	27.6
1968–69	206	14	220	27.5
1969–70	206	14	220	27.5
1970–71	206	14	220	27.5

(*a*) In terms of number of eggs in shell. (*b*) The average weight of an egg in Australia is taken as 2 oz.

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Overseas trade in poultry products

Australian exports of shell eggs in 1970–71 amounted to 3,990,000 dozen compared with 3,956,000 dozen in 1969–70. The main outlets for Australian eggs in 1970–71 were Hong Kong (1,414,000 dozen), Kuwait (529,000 dozen), Bahrain (499,000 dozen), and Trucial States (429,000 dozen).

EXPORTS OF POULTRY PRODUCTS: AUSTRALIA
1968-69 TO 1970-71

		Quantity			*Value ($'000 f.o.b.)*		
		1968–69	*1969–70*	*1970–71*	*1968–69*	*1969–70*	*1970–71*
Eggs in shell	'000 doz	6,043	3,956	3,990	1,356	987	1,038
Eggs not in shell—							
In liquid form	'000 lb	28,505	38,493	43,129	4,214	6,211	7,052
Dry	'000 lb	99	125	842	31	94	357
Frozen poultry	'000 lb	2,699	3,682	5,168	858	1,098	1,504
Poultry, live(*a*)	number	86,574	418,987	369,821	24	125	161

(*a*) Includes day-old chicks.

Imports of canned poultry in 1970–71 amounted to 470,000 lb, valued at $116,000, compared with 156,000 lb, valued at $64,000, in 1969–70.

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. A feature of the industry is that it consists mainly of intinerant 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 nector from flora suitable for their bees. Production of honey in 1970–71 amounted to 42,165,000 lb (112.3 lb per productive hive) compared with 49,072,000 lb (133.4 lb per productive hive) in 1969–70. Bees-wax produced in 1970–71 was 587,000 lb compared with 676,000 lb in the previous year.

In the following tables, statistics for 1970–71 for each State are confined to apiarists with five or more hives, except in New South Wales where, since 1966–67, details relate to beekeepers with six or more hives. Prior to 1966–67, statistics for States other than Queensland related to beekeepers with five or more hives. In Queensland, details were confined to beekeepers on rural holdings with five or more hives and to beekeepers not on rural holdings with ten or more hives.

BEEHIVES, HONEY AND BEES-WAX: STATES AND A.C.T., 1970–71

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	142	47	189	7,456	1,833	241	140
Victoria	82	22	103	9,804	984	120	68
Queensland	42	21	64	3,773	394	58	35
South Australia	67	14	81	7,032	705	102	58
Western Australia	33	11	44	3,025	266	52	29
Tasmania	9	2	12	1,002	173	14	7
Australian Capital Territory	1	1	1	74	7	1	..
Australia	**376**	**118**	**493**	**42,165**	**4,362**	**587**	**337**

(*a*) At 30 June 1971.

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., 1966–67 TO 1970–71

('000 lb)

Year	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	A.C.T.	Aust.
				HONEY				
1966–67	10,580	7,160	3,461	6,588	6,882	385	100	35,158
1967–68	21,014	7,580	4,116	6,844	3,410	841	153	43,958
1968–69	10,654	3,638	1,718	5,770	6,553	671	78	29,081
1969–70	18,731	8,220	3,144	10,638	7,409	821	109	49,072
1970–71	17,456	9,804	3,773	7,032	3,025	1,002	74	42,165
				BEES-WAX				
1966–67	137	88	52	93	99	7	1	477
1967–68	281	92	66	105	49	13	2	609
1968–69	145	50	32	92	94	11	1	425
1969–70	254	103	49	157	99	13	1	676
1970–71	241	120	58	102	52	14	1	587

Honey levy

A levy is imposed on domestic sales of honey for the purposes of financing the operations of the Australian Honey Board. The current rate of levy which became effective on 1 November 1971, is, five-tenths of a cent per lb, but under the provisions of the *Honey Levy Act* 1962–65, 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 1968–69, 1969–70 and 1970–71 collections amounted to $106,000, $102,000 and $108,000 respectively.

Overseas trade in bee products

The principal importer of Australian honey in 1970–71 was the United Kingdom, accounting for 66.8 per cent, by value, of total exports.

Bees-wax was exported mainly to the United Kingdom and Japan in 1970–71.

EXPORTS OF HONEY AND BEES-WAX: AUSTRALIA, 1968-69 TO 1970-71

	Quantity ('000 lb)			*Value ($'000 f.o.b.)*		
	1968–69	*1969–70*	*1970–71*	*1968–69*	*1969–70*	*1970–71*
Honey	12,246	14,695	22,076	1,480	1,775	3,051
Bees-wax	301	250	345	200	166	218

Value of dairy, poultry and bee-farming production

Value of dairy, poultry and bee-farming production

Value of dairy, poultry and bee-farming production for 1970–71 and earlier years are shown in the following tables. Further information on values, including definitions of the terms used, is given in Chapter 29 Miscellaneous.

GROSS VALUE OF DAIRY, POULTRY AND BEE-FARMING PRODUCTION: AUSTRALIA 1966-67 TO 1970-71

($'000)

	1966–67	*1967–68*	*1968–69*	*1969–70*	*1970–71*
DAIRYING					
Whole milk used for—					
Butter(*a*)	165,635	134,089	148,148	172,762	156,798
Cheese(*a*)	33,345	31,148	29,994	29,344	30,825
Processed milk products	25,355	23,084	23,245	23,075	28,812
Other purposes	148,955	154,280	154,547	161,283	170,487
Subsidy paid on whole milk for—					
Butter	24,500	24,100	23,313	23,581	37,200
Cheese	2,500	2,900	3,687	3,419	5,682
Total, whole milk (including subsidy)	*400,289*	*369,602*	*382,935*	*413,466*	*492,805*
Pigs slaughtered	83,961	89,598	86,842	96,066	104,992
Dairy cattle slaughtered	39,563	44,849	43,967	37,703	32,191
Total dairying	**523,814**	**504,050**	**513,742**	**547,239**	**566,989**
POULTRY					
Total poultry	**171,551**	**169,342**	**176,167**	**184,401**	**195,322**
BEE-FARMING					
Honey	3,765	4,259	2,760	4,427	4,362
Bees-wax	224	367	259	397	337
Total bee-farming	**3,992**	**4,627**	**3,021**	**4,824**	**4,702**

(*a*) Excludes Commonwealth subsidy which is shown separately.

GROSS, LOCAL AND NET VALUE OF DAIRY PRODUCTION STATES AND TERRITORIES, 1970–71

($'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	151,920	12,716	139,204	(*b*)24,309	114,895
Victoria	243,791	15,806	227,985	25,261	202,724
Queensland	70,053	4,957	65,095	10,020	55,075
South Australia	43,918	1,019	42,900	11,803	31,097
Western Australia	26,861	1,522	25,339	16,865	8,474
Tasmania	29,858	1,624	28,234	4,710	23,523
Northern Territory	158	n.a.	158	n.a.	158
Australian Capital Territory	430	22	408	99	308
Australia	**566,989**	**37,666**	**529,323**	**93,067**	**436,254**

(*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.

Indexes of quantum and price of dairy, poultry and bee-production

For details of these indexes *see* Chapter 29, Miscellaneous.