CHAPTER 22

RURAL INDUSTRY

This chapter is divided into nine major parts:

Land tenure; Rural land use; Crops; Livestock and livestock products; The Bee-Farming Industry; Rural improvements, conservation and consumption of fodder; Agricultural machinery on rural holdings; Rural employment; Assistance to, and control of, agriculture.

For greater detail on the subjects dealt with in this chapter *see* the annual bulletins *Rural Industries* (10.29), latest issue *Bulletin No.* 8 1969–70, 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 747) 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 (*See* also chapter 31, Miscellaneous). The following mimeographed publications also contain considerable detail on the particular subjects dealt with.

Crops. *Crop Statistics* (annual) (10.58); *Agricultural Statistics, Preliminary Statement* (10.57); *Rural Land Use, Improvements, Agricultural Machinery and Labour* (annual) (10.59); *Principal Agricultural Statistics: Preliminary Estimates* (annual) (10.63); *The Wheat Industry* (annual) (10.35); *The Wheat Industry: Estimates of Intended Sowings* (annual) (10.36); *The Wheat Industry: Estimates of Area Sown* (annual) (10.52); *The Wheat Industry: Estimates of Wheat Production* (annual) (10.53); *Fruit Growing Industry* (annual) (10.11).

Livestock and livestock products. *Livestock Statistics* (annual) (10.14); *Livestock Statistics: Preliminary Estimates* (annual) (10.15); *Wool Production and Utilisation* (annual) (10.38); *The Meat Industry* (Monthly) (10.16); *The Meat Industry* (annual) (10.54); *Livestock Slaughtered and Meat Produced* (quarterly) (10.74); *The Dairying Industry* (annual) (10.15); *Whole Milk Production and Utilisation* (monthly) (10.6); *Chicken Hatchings and Poultry Slaughtering* (monthly) (10.44); *Principal Agricultural Statistics: Preliminary Estimates* (annual) (10.63).

Other. *Bee Farming* (annual) (10.3); *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); *Rural Land Use, Improvements, Agricultural Machinery and Labour* (annual) (10.59); *Estimates of Gross Indebtedness of Agricultural Producers, Australia* (annual) (10.62).

Rural debt. For estimated figures of rural debt to specified lenders for the years 1968–69 to 1972–73 *see* page 551 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.

LAND TENURE

Disposal of Crown lands

Land legislation and tenures

The following sections contain figures showing the extent of the different land tenures in the 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 States and the 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* 1910–72, 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
('000 hectares)

Year	*N.S.W.(a)*	*Vic.(a)*	*Qld(b)*	*S.A.(a)*	*W.A.(a)*	*Tas.(a)*	*N.T.(a)*	*A.C.T.(a)*	*Total*
1969	6,414	n.a.	11,416	9,275	32,687	2,555	24 736	..	n.a.
1970	6,391	(c)3,151	11,520	9,277	34,001	2,579	25,178	..	92,097
1971	6,373	(c)3,153	11,589	9,283	36,557	2,679	25,231	..	94,865
1972	6,340	(c)3,154	11,567	9,285	39,010	2,688	25,231	9	97,284
1973	6,331	6,776	11,336	9,285	39,099	2,665	26,587	10	102,089

(a) At 30 June. (b) At 31 December. (c) 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, 1,987,130 hectares; forest reserves, 639,644 hectares; water and camping reserves, 293,811 hectares; mining reserves, 393,293 hectares; recreation and parks, 300,973 hectares; other reserves, 2,716,150 hectares; total 6,331,001 hectares.

Victoria. Water reserves, 85,827 hectares; forest and timber reserves, 2,349,039 hectares; national parks, 205,276 hectares; public parks and camping reserves, 49,092 hectares; native flora and fauna, 57,437 hectares; other reserves (including roads), 4,028,454 hectares; total, 6,776,125 hectares.

Queensland. For timber reserves, 679,326 hectares; State forests and national parks, 4,282,443 hectares; Aboriginal reserves, 2,771,225 hectares; streets, surveyed roads and stock routes, 1,453,164 hectares; general reserves, 2,149,966 hectares; total, 11,336,124 hectares.

South Australia. Total area of surveyed roads, railways and other reserves, 9,285,134 hectares including 7,626,280 hectares set apart as Aboriginal reserves.

Western Australia. For State forests, 1,825,838 hectares; timber reserves, 71,295 hectares; other reserves, 37,201,480 hectares; total, 39,098,613 hectares.

Tasmania. For forest reserves, 2,228,000 hectares; national parks, 437,000 hectares; total, 2,665,000 hectares.

Northern Territory. For Aboriginal, defence and public requirements, 26,587,000 hectares.

Australian Capital Territory. For public parks and recreation reserves, 10,114 hectares.

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 10 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 about four-fifths 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 granted 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

('000 hectares)

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
1969	45,426	n.a.	136,253	60,431	(a)99,245	283	78,091	102	n.a.
1970	45,123	2,213	137,198	60,683	(a)99,961	282	79,736	102	425,298
1971	44,973	2,240	138,404	60,562	(b)101,995	357	80,588	98	429,217
1972	44,931	2,253	140,404	60,167	(b)101,921	247	80,967	96	430,986
1973	44,663	2,305	134,183	59,914	(b)101,471	212	77,016	84	419,848

(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 Australian Government 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 5,640,000 hectares 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 1973.

ALIENATION AND OCCUPATION OF CROWN LANDS 1973

State or Territory	Private lands: Alienated '000 hectares	Private lands: Alienated Per cent	Private lands: In process of alienation '000 hectares	Private lands: In process of alienation Per cent	Crown lands: Leased or licensed '000 hectares	Crown lands: Leased or licensed Per cent	Crown lands: Other(a) '000 hectares	Crown lands: Other(a) Per cent	Total area '000 hectares
N.S.W.(b)	25,328	31.6	1,745	2.2	45,226	56.4	7,844	9.8	80,143
Vic.(b)	13,547	59.5	133	0.6	2,305	10.1	6,776	29.8	22,762
Qld(c)	12,483	7.2	15,437	8.9	134,357	77.8	10,523	6.1	172,800
S.A.(b)	6,499	6.6	109	0.1	59,914	60.9	31,916	32.4	98,438
W.A.(c)	14,603	5.8	4,936	2.0	102,711	40.6	130,512	51.6	252,762
Tas.(b)	2,729	39.9	133	1.9	2,036	29.8	1,935	28.3	6,833
N.T.(b)(d)	87	0.1	..	..	77,695	57.7	56,838	42.2	134,620
A.C.T.(b)(e)	22	9.0	2	1.0	84	34.5	135	55.5	243
Australia	**78,298**	**9.8**	**22,495**	**2.9**	**424,328**	**58.2**	**246,479**	**31.2**	**768,601**

(a) Occupied by Crown; reserved; unoccupied; unreserved. (b) At 30 June. (c) At 31 December 1973. (d) Not comparable with previous years due to a review by the Department of the Northern Territory. (e) Includes Jervis Bay area.

RURAL LAND USE

Number and area of rural holdings

Statistics relating to the number and area of rural holdings are derived from the annual Agricultural Census conducted at 31 March each year.

Although the statistics are now expressed in metric units, a rural holding has been defined for the purpose of these statistics, as a holding of one acre (0.404686 hectares) or more in extent used for the production of agricultural products (including fruit and vegetables), or for the raising of livestock including poultry) and the production of livestock products. Holdings of less than one acre on which commercial market gardens, nurseries, poultry farms or hatcheries are operated are also generally included.

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

Year	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
NUMBER OF RURAL HOLDINGS									
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
1971–72	74,960	67,714	43,389	29,095	21,997	9,807	419	187	247,568
1972–73	74,587	66,890	42,329	29,001	21,128	9,733	415	172	244,255
TOTAL AREA OF RURAL HOLDINGS ('000 hectares)									
1968–69	69,209	15,856	153,358	65,603	111,764	2,667	72,011	140	490,609
1969–70	69,051	15,806	153,869	65,839	113,643	2,637	73,700	137	494,683
1970–71	69,229	15,760	154,693	65,796	114,569	2,631	74,401	136	497,216
1971–72	69,001	15,884	154,404	65,146	114,471	2,607	77,889	133	499,535
1972–73	68,849	15,771	155,136	65,372	113,961	2,592	78,011	124	499,815

Land utilisation on 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
('000 hectares)

Year	Area used for crops(a)	Land lying fallow(b)	Area under sown pastures and grasses	Balance of holdings(c)	Total area of holdings
1972–73—					
New South Wales	4,329	1,131	5,714	57,675	68,849
Victoria	1,934	804	6,456	6,577	15,771
Queensland	1,960	378	2,902	149,896	155,136
South Australia	2,084	294	3,230	59,765	65,372
Western Australia	3,855	356	6,786	102,964	113,961
Tasmania	80	11	856	1,645	2,592
Northern Territory	12	1	146	77,851	78,011
Australian Capital Territory	1	..	41	81	124
Australia	**14,256**	**2,975**	**26,130**	**456,454**	**499,815**
1971–72	14,240	2,807	27,705	454,783	499,535
1970–71	13,395	3,640	28,031	452,149	497,216
1969–70	15,638	2,884	26,217	449,944	494,683
1968–69	16,598	3,855	24,179	445,977	490,609

(a) Excludes (i) duplication on account of area double cropped, (ii) pastures and grasses cut for hay and seed which have been included in Area under sown pastures and grasses, and differs therefore from crop area figures shown later in this chapter. (b) Excludes short or summer fallow. (c) 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. Classifications of holdings by size of principal characteristics are available for each State for the years 1947–48, 1949–50 and 1955–56.

CROPS

In this section statistics relating to crop areas and production are obtained from the annual Agricultural Census. In most instances, the figures shown relate to 1972–73; in some cases however, figures for more recent periods are shown.

The census returns are collected in all States, the Northern Territory and the Australian Capital Territory, 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.

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 twelve seasons 1961–62 to 1972–73.

AREA OF CROPS(a): 1860–61 TO 1972–73

('000 hectares)

Year	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
1860–61	100	157	2	145	10	62	..	..	475
1870–71	156	280	21	325	22	64	..	..	868
1880–81	245	627	46	846	26	57	..	..	1,846
1890–91	345	822	91	847	28	64	..	..	2,197
1900–01	990	1,260	185	959	81	91	..	..	3,567
1910–11	1,370	1,599	270	1,112	346	116	..	..	4,813
1920–21	1,807	1,817	316	1,308	730	120	..	1	6,099
1930–31	2,756	2,718	463	2,196	1,939	108	1	2	10,184
1940–41	2,580	1,808	702	1,722	1,630	103	..	2	8,546
1950–51	1,927	1,836	841	1,543	1,882	117	n.a.	2	8,148
1960–61	3,255	2,363	1,237	2,185	2,781	144	1	3	11,969
1961–62	3,354	2,277	1,301	2,033	2,878	147	1	3	11,994
1962–63	3,603	2,557	1,412	2,224	3,028	160	1	3	12,987
1963–64	3,641	2,469	1,483	2,418	2,798	154	1	3	12,968
1964–65	4,182	2,621	1,605	2,414	3,037	163	2	4	14,028
1965–66	3,663	2,517	1,667	2,440	3,513	156	2	3	13,961
1966–67	5,027	2,738	1,864	2,626	3,568	180	2	4	16,007
1967–68	4,590	2,208	1,883	2,191	3,592	106	6	2	14,578
1968–69	5,509	2,529	2,071	2,596	3,838	110	6	3	16,665
1969–70	4,999	2,212	2,208	2,290	3,912	98	6	2	15,728
1070–71	3,965	1,746	1,829	1,998	3,826	84	2	1	13,450
1971–72	4,188	1,936	2,064	2,278	3,752	70	7	1	14,295
1972–73	4,382	1,948	2,019	2,084	3,856	83	12	1	14,386

(a) The classification of crops was revised in 1971–72 and adjustments made to statistics back to 1967–68. After 1966–67 lucerne for green feed, hay and seed, and pasture cut for hay are excluded.

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 country. Generally, cereal crops (excluding rice and sorghum) are grown in all States over wide areas, while other crops are confined to specific locations in a few States.

AREA OF CROPS, 1972-73
(Hectares)

Crop	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
Cereals for grain—									
Wheat	2,618,065	1,087,377	470,622	986,066	2,437,412	4,251	..	289	7,604,082
Barley—									
2-row	228,722	268,539	71,318	676,458	528,392	11,373	..	..	1,784,802
6-row	107,119	8,546	6,604	15,646	215,756	1,429	..	..	355,100
Oats	285,182	254,656	10,442	141,502	296,666	6,477	..	128	995,053
Grain sorghum	269,002	153	414,133	..	2,842	..	11,032	..	697,162
Maize	23,850	496	34,913	..	(a)	..	(a)	..	(b)59,259
Rye	2,928	2,615	(a)	15,200	7,427	28	..	..	(b)28,198
Rice	40,915	..	4,235	..	..	..	(a)	..	(b)45,150
Panicum and millet	340	656	26,163	..	..	..	..	..	27,159
Canary seed	1,638	(a)	4,855	243	165	..	..	..	(b)6,901
Legumes mainly for grain—									
Cow, field and poona peas	4,617	4,628	2,426	8,699	1,129	1,146	..	..	22,645
Soy beans	5,578	11	22,374	..	..	..	..	..	27,963
Navy beans	354	..	9,005	..	..	157	..	..	9,516
Other	1,521	40	..	584	44,341	31	2	..	46,519
Crops for hay—									
Wheat	37,310	28,053	4,459	20,074	30,478	991	..	(c)	(b)121,365
Barley	2,542	4,393	673	16,191	8,644	270	..	..	32,713
Oats	33,794	105,956	3,545	52,636	92,313	3,030	..	209	291,483
Rye	112	825	..	272	158	159	..	..	1,526
Other	303	126	4,275	..	1,146	..	321	2	6,173
Crops for green feed or silage—									
Wheat	24,083	2,229	16,877	795	3,641	637	..	(c)	(b)48,262
Barley	41,639	4,814	18,092	20,931	21,147	1,143	..	..	107,766
Oats	262,335	37,012	259,280	59,562	90,107	15,501	..	445	724,242
Forage sorghum	34,772	1,173	130,589	..	1,740	..	..	..	168,274
Grain sorghum	..	1,182	22,422	..	599	..	195	(c)	(b)24,398
Maize	3,844	636	2,959	..	223	15	..	..	7,677
Rye	2,888	547	16	3,261	1,750	129	..	29	8,620
Vegetables for animal feed	24,256	13,383	3,426	2,178	634	8,171	66	(c)	(b)52,114
Other	8,625	12,303	26,807	1,451	4,413	8,250	245	241	62,335
Sugar cane—									
Cut for crushing	9,361	..	232,338	..	..	..	..	..	241,699
Cut for plants	192	..	4,853	..	..	..	..	..	5,045
Other land under sugar cane	6,497	..	30,023	..	..	..	..	..	36,520
Tobacco	898	4,068	4,632	..	..	..	..	..	9,598
Peanuts	336	..	28,787	..	(a)	..	13	..	(b)29,136
Cotton	31,747	..	8,008	..	3,861	..	..	..	43,616
Sunflower	158,635	2,129	80,119	297	660	..	(a)	..	(b)241,840
Rapeseed	17,951	13,674	..	3,872	41,566	79	..	..	77,142
Linseed	6,762	5,843	2,907	534	254	..	..	..	16,300
Safflower	5,782	556	3,257	74	955	..	..	..	10,624
Fruit—									
Tree	27,852	25,451	12,568	16,652	8,448	6,608	39	16	97,634
Small and berry	62	314	131	78	217	615	..	..	1,417
Other	6,973	20	9,412	..	15	..	31	..	16,451
Grapevines	13,274	21,526	1,560	29,528	2,614	..	..	..	68,502
Vegetables	27,454	31,300	24,958	11,085	5,694	10,237	170	49	110,947
All other crops—									
Nurseries	855	1,117	271	161	137	56	2	3	2,602
Hops	..	453	..	..	(a)	627	..	..	(b)1,080
Broom millet	366	29	(a)	..	..	..	..	..	(b)395
Other crops n.e.i.	705	947	4,792	331	308	1,513	31	1	8,628
Total area of crops (excluding pastures)	**4,382,036**	**1,947,776**	**2,019,126**	**2,084,361**	**3,855,852**	**82,923**	**12,147**	**1,412**	**14,385,633**
Area of above double-cropped	52,940	13,402	59,618	294	605	3,052	39	97	130,047
Total area used for crops (excluding pastures)	*4,329,096*	*1,934,374*	*1,959,508*	*2,084,067*	*3,855,247*	*79,871*	*12,108*	*1,315*	*14,255,586*
Pastures and grasses cut for hay	230,117	377,333	48,162	120,996	91,178	53,937	1,788	784	924,295
Pastures and grasses harvested for seed	14,719	5,715	23,092	15,436	25,877	840	278	12	85,969
Total area used for crops (including pastures)	**4,573,932**	**2,317,422**	**2,030,762**	**2,220,499**	**3,972,302**	**134,648**	**14,174**	**2,111**	**15,265,850**

(a) Not available for publication, included in 'Other crops, n.e.i.'. (b) Incomplete; *see* footnotes to individual States.
(c) Not available separately, included in 'Other'.

AREA OF CROPS: AUSTRALIA
(hectares)

Crop	*1968–69*	*1969–70*	*1970–71*	*1971–72*	*1972–73*
Cereals for grain—					
Wheat	10,845,345	9,485,958	6,478,418	7,137,852	7,604,082
Barley—					
2-row	1,060,280	1,177,589	1,531,534	2,037,655	1,784,802
6-row	280,715	343,574	468,523	497,765	355,100
Oats	1,566,879	1,374,347	1,553,169	1,240,586	995,053
Grain sorghum	209,694	358,746	552,184	638,392	697,162
Maize	66,516	79,605	85,635	78,193	59,259
Rye	39,256	34,244	40,707	41,458	28,198
Rice	33,697	40,163	38,054	40,494	45,150
Panicum and millet	28,409	38,408	49,158	23,952	27,159
Canary seed	9,524	27,667	8,869	6,260	6,901
Legumes mainly for grain—					
Cow, field and poona peas	23,142	31,326	32,261	36,187	22,645
Soy beans	2,093	4,967	7,326	18,019	27,963
Navy beans	4,053	5,266	4,624	8,412	9,516
Other	..	14	272	(*a*)34,450	(*a*)46,519
Crops for hay—					
Wheat	107,648	138,942	75,782	80,501	121,365
Barley	22,100	24,098	23,375	19,680	32,713
Oats	288,161	252,604	236,541	234,486	291,483
Rye	3,614	3,286	2,887	1,780	1,526
Other	6,497	9,096	10,457	4,610	6,173
Crops for green feed or silage—					
Wheat	71,707	110,537	77,327	34,829	48,262
Barley	91,093	120,153	116,360	94,404	107,766
Oats	869,293	971,645	884,511	608,737	724,242
Forage sorghum	123,393	158,176	168,359	110,537	168,274
Grain sorghum				28,346	24,398
Maize	8,707	9,708	5,379	7,396	7,677
Rye	11,055	11,698	10,429	8,984	8,620
Vegetables for animal feed	23,216	21,439	14,267	47,184	52,114
Other	133,826	131,259	119,187	57,515	62,335
Sugar cane—					
Cut for crushing	230,056	212,790	220,521	233,737	241,699
Cut for plants	5,630	5,785	5,232	5,191	5,045
Other land under sugar cane	41,612	56,747	50,349	38,787	36,520
Tobacco	10,422	10,790	10,900	10,045	9,598
Peanuts	31,823	33,598	38,584	33,746	29,136
Cotton	34,350	31,706	34,534	39,649	43,616
Sunflower	13,642	25,997	75,568	295,011	241,840
Rapeseed	n.a.	4,865	42,887	86,950	77,142
Linseed	28,570	49,224	41,626	19,923	16,300
Safflower	18,767	10,825	27,674	33,809	10,624
Fruit—					
Tree	106,443	105,814	104,307	104,335	97,634
Small and berry	1,189	1,219	1,223	1,262	1,417
Other	18,004	18,200	17,742	17,492	16,451
Grapevines	57,898	60,848	63,783	66,515	68,502
Vegetables	120,494	119,214	107,206	117,016	110,947
All other crops—					
Nurseries	2,169	2,417	2,366	2,489	2,602
Hops	968	936	893	948	1,080
Broom millet	1,400	780	558	516	395
Other crops n.e.i.	12,053	12,200	8,577	8,594	8,628
Total area of crops (excluding pastures)	**16,665,403**	**15,728,470**	**13,450,125**	**14,294,679**	**14,385,633**
Area of above double-cropped	67,123	90,666	55,340	54,626	130,047
Total area used for crops (excluding pastures)	*16,598,280*	*15,637,804*	*13,394,785*	*14,240,053*	*14,255,586*
Pastures and grasses cut for hay	1,172,464	863,851	1,011,437	1,147,618	924,295
Pastures and grasses harvested for seed	138,706	137,209	133,068	108,393	85,969
Total area used for crops (including pastures)	**17,909,450**	**16,638,864**	**14,539,290**	**15,496,064**	**15,265,850**

(*a*) Mainly lupins for processing; not collected separately prior to 1971–72.

Production and yield per hectare of crops

PRODUCTION OF CROPS (EXCLUDING PASTURES), 1973

Crop		*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
Cereals for grain—										
Wheat	'000 tonnes	1,954	1,249	405	815	2,003	8	..	..	6,434
Barley—										
2-row	,,	168	207	74	498	478	17	..	..	1,441
6-row	,,	98	7	6	11	163	2	..	..	286
Oats	,,	196	238	8	74	212	7	..	..	736
Grain sorghum	,,	372	..	622	..	7	..	17	..	1,018
Maize	,,	67	2	70	..	(*a*)	..	(*a*)	..	(*b*)139
Rye	,,	1	1	(*a*)	3	3	..	..	..	(*b*)9
Rice	,,	292	..	16	..	..	..	(*a*)	..	(*b*)309
Panicum and millet	,,	..	1	26	..	..	..	..	..	26
Canary seed	,,	1	(*a*)	3	..	..	..	..	..	(*b*)4
Legumes mainly for grain—										
Cow, field and poona peas	tonnes	2,527	4,236	972	6,310	227	1,047	..	..	15,319
Soy beans	,,	7,661	14	30,262	..	..	..	(*a*)	..	(*b*)37,937
Navy beans	,,	76	..	1,424	..	..	299	..	..	1,799
Crops for hay—										
Wheat	,,	84,076	79,001	8,715	52,795	72,327	3,685	..	..	300,599
Barley	,,	5,475	11,104	1,580	29,805	19,598	1,103	..	..	68,665
Oats	,,	84,706	348,266	10,956	119,980	255,122	12,075	..	311	831,416
Rye	,,	216	2,648	..	472	590	594	..	..	4,520
Other	,,	889	556	12,992	..	3,554	..	878	..	18,869
Sugar cane cut for crushing	'000 tonnes	841	..	18,087	..	..	..	..	..	18,928
Tobacco	'000 kg	1,449	5,769	8,203	..	..	..	..	..	15,422
Peanuts	tonnes	504	..	37,992	..	(*a*)	..	..	..	(*b*)38,496
Cotton	'000 kg	71,906	..	13,464	..	11,271	..	..	..	96,641
Sunflower	tonnes	54,260	2,046	45,428	308	27	..	(*a*)	..	(*b*)102,069
Rapeseed	,,	10,606	8,016	..	2,205	8,526	4	..	..	29,357
Linseed	,,	1,889	5,471	1,948	1,316	64	..	..	..	10,688
Safflower	,,	1,538	328	2,126	46	135	..	..	..	4,173
Grapes	,,	111,106	228,676	4,719	243,897	9,970	..	..	..	598,368
Hops	'000 kg	..	663	..	..	(*a*)	1,450	..	..	(*b*)2,113
Broom millet—										
Grain	tonnes	84	10	(*a*)	..	..	..	..	..	(*b*)94
Fibre	,,	294	25	(*a*)	..	..	..	..	..	(*b*)319

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

PRODUCTION OF CROPS (EXCLUDING PASTURES): AUSTRALIA

Crop		*1968–69*	*1969–70*	*1970–71*	*1971–72*	*1972–73*
Cereals for grain—						
Wheat	'000 tonnes	14,804	10,547	7,890	8,510	6,434
Barley—						
2-row	,,	1,325	1,398	1,783	2,571	1,441
6-row	,,	321	300	567	495	286
Oats	,,	1,710	1,247	1,613	1,275	736
Grain sorghum	,,	294	547	1,297	1,228	1,018
Maize	,,	149	192	212	214	139
Rye	,,	16	11	22	22	9
Rice	,,	256	247	299	242	309
Panicum and millet	,,	19	34	58	24	26
Canary seed	,,	6	18	5	4	4
Legumes mainly for grain—						
Cow, field and poona peas	tonnes	24,044	26,550	27,301	39,002	15,319
Soy beans	,,	1,740	5,028	9,207	33,629	37,937
Navy beans	,,	846	2,531	1,121	6,504	1,799
Crops for hay—						
Wheat	,,	398,075	443,314	260,147	265,408	300,599
Barley	,,	72,324	72,575	68,475	62,926	68,665
Oats	,,	1,224,659	968,349	925,456	893,317	831,416
Rye	,,	16,058	14,037	13,573	7,817	4,520
Other	,,	16,851	15,310	5,915	17,075	18,869
Sugar cane, cut for crushing	'000 tonnes	18,708	15,784	17,645	19,391	18,928
Tobacco	'000 kg	15,455	17,034	17,128	16,015	15,422
Peanuts	tonnes	16,980	42,717	31,123	46,060	38,496
Cotton	'000 kg	103,337	84,913	56,751	131,971	96,641
Sunflower	tonnes	6,248	13,249	58,949	147,931	102,069
Rapeseed	,,	n.a.	4,464	33,619	54,614	29,357
Linseed	,,	19,809	36,673	30,805	10,229	10,688
Safflower	,,	10,341	4,164	9,351	15,398	4,173
Grapes	,,	553,411	757,629	549,378	831,878	598,368
Hops	'000 kg	2,172	2,048	1,706	1,847	2,113
Broom millet—						
Grain	tonnes	643	174	113	76	94
Fibre	,,	1,174	519	327	367	319

YIELD PER HECTARE OF CROPS (EXCLUDING PASTURES): AUSTRALIA

Crop		*1968–69*	*1969–70*	*1970–71*	*1971–72*	*1972–73*
Cereals for grains—						
Wheat	tonnes	1.365	1.112	1.218	1.192	0.846
Barley—						
2-row	„	1.250	1.187	1.164	1.262	0.807
6-row	„	1.143	0.875	1.211	0.994	0.806
Oats	„	1.091	0.907	1.038	1.028	0.740
Grain sorghum	„	1.404	1.526	2.350	1.924	1.460
Maize	„	2.241	2.407	2.471	2.736	2.343
Rye	„	0.414	0.332	0.544	0.529	0.305
Rice	„	7.587	6.143	7.859	5.979	6.834
Panicum and millet	„	0.671	0.897	1.177	0.984	0.974
Canary seed	„	0.587	0.640	0.578	0.635	0.554
Legumes mainly for grain—						
Cow, field and poona peas	„	1.039	0.848	0.846	1.078	0.676
Soy beans	„	0.831	1.012	1.257	1.866	1.357
Navy beans	„	0.209	0.481	0.242	0.773	0.189
Crops for hay—						
Wheat	„	3.698	3.191	3.443	3.297	2.477
Barley	„	3.273	3.012	2.929	3.197	2.099
Oats	„	4.250	3.833	3.912	3.810	2.852
Rye	„	4.443	4.272	4.701	4.392	2.962
Other	„	2.634	1.683	0.566	1.535	3.057
Sugar cane, cut for crushing	„	81.321	74.178	80.014	82.959	78.314
Tobacco	'000 kg	1.483	1.579	1.571	1.594	1.607
Peanuts	tonnes	0.534	1.271	0.807	1.365	1.321
Cotton	'000 kg	3.008	2.678	1.643	3.329	2.216
Sunflower	tonnes	0.458	0.510	0.780	0.501	0.422
Rapeseed	„	n.a.	0.918	0.784	0.628	0.381
Linseed	„	0.693	0.745	0.740	0.513	0.656
Safflower	„	0.551	0.385	0.338	0.455	0.393
Grapes(*a*)	„	10.734	14.555	10.266	14.721	10.014
Hops	'000 kg	2.244	2.188	1.910	1.948	1.956
Broom millet—						
Grain	tonnes	0.459	0.223	0.203	0.147	0.238
Fibre	„	0.839	0.665	0.586	0.711	0.808

(*a*) Yield per bearing hectare only.

Value of crop production

Further reference to the value of crop production and other industries in Australia as well as a brief explanation of the terms used may be found in Chapter 31, Miscellaneous.

GROSS VALUE OF CROPS, 1972-73

($'000)

Crop	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
Cereals for grain—									
Barley	16,880	11,352	4,632	27,506	29,523	983	..	..	90,876
Maize	4,664	96	3,924	..	..	..	..	..	8,684
Oats	12,237	8,345	676	3,974	5,793	511	..	4	31,540
Panicum, millet and setaria	16	178	2,096	..	..	..	..	..	2,290
Rice	23,674	..	1,321	..	..	..	(*a*)	..	(*b*)24,995
Rye	87	47	..	240	106	1	..	..	481
Sorghum	25,444	12	31,989	..	371	..	1,141	..	58,957
Wheat	103,872	68,263	21,527	44,588	109,399	402	..	21	348,072
Total cereals for grain	*186,874*	*88,292*	*66,166*	*76,308*	*145,192*	*1,896*	*1,141*	*25*	*565,895*
Fodder—									
Crops for hay	32,627	53,955	13,087	13,831	19,947	4,831	193	100	138,571
Green feed	14,209	(*c*)	17,359	(*d*)1,220	(*c*)	3,548	12	17	(*b*)36,365
Other stock fodder	287	489	175	705	23	112	..	..	1,791
Total fodder	*47,123*	*54,444*	*30,621*	*15,756*	*19,970*	*8,491*	*205*	*117*	*176,727*
Grass seed	3,032	723	2,113	3,023	2,129	79	42	(*a*)	(*b*)11,141
Industrial crops—									
Cotton	27,756	..	3,537	..	1,332	..	..	..	32,625
Flax for linseed	204	590	195	47	8	..	..	..	1,044
Hops	..	1,419	..	..	(*a*)	2,844	..	..	(*b*)4,263
Peanuts	200	..	10,334	..	5	..	..	..	10,539
Safflower	177	34	241	5	12	..	..	..	469
Sugar cane—									
Cut for crushing	7,661	..	222,547	..	..	..	..	..	230,208
Cut for plants	..	..	3,966	..	..	..	..	..	3,966
Sunflower	8,682	261	6,384	37	2	..	..	..	15,366
Tobacco (dried leaf)	3,492	13,918	20,486	..	..	..	..	..	37,896
Other	1,268	897	440	218	1,016	4	..	..	3,843
Total industrial crops	*49,440*	*17,119*	*268,130*	*307*	*2,375*	*2,848*	..	..	*340,219*
Vegetables for human consumption—									
Onions	2,156	1,336	2,197	2,421	573	764	1	6	9,454
Potatoes	11,648	16,478	6,059	5,796	6,272	4,480	51	(*a*)	(*b*)50,784
Tomatoes	20,880	4,503	9,141	7,071	2,387	265	28	(*a*)	(*b*)44,275
Other	23,326	17,118	16,341	10,053	5,622	5,389	165	151	78,165
Total vegetables	*58,010*	*39,435*	*33,738*	*25,341*	*14,854*	*10,898*	*245*	*157*	*182,678*
Grapes—									
Table use	1,832	2,476	1,756	384	382	..	..	..	6,830
Wine	6,151	2,415	37	18,167	426	..	..	..	27,196
Currants, dried	243	1,286	..	1,072	422	..	..	..	3,023
Raisins, dried	586	1,786	..	246	9	..	..	..	2,627
Sultanas, dried	4,001	20,009	..	1,180	6	..	..	..	25,196
Total grapes	*12,813*	*27,972*	*1,792*	*21,049*	*1,245*	..	..	..	*64,871*
Fruit (excl. grapes)	68,431	49,856	39,117	33,366	14,248	18,376	106	24	223,524
Nurseries and cut flowers	9,602	4,497	3,585	2,508	2,274	650	32	36	23,184
All other crops	881	357	6,875	110	1,130	455	1	2	9,811
Total	436,206	282,696	452,137	177,768	203,417	43,693	1,773	360	1,598,050

(*a*) Not available for publication; included in "All other crops". (*b*) Incomplete; see individual States. (*c*) No value placed on green feed. (*d*) Incomplete; excludes lucerne sown as pasture for grazing.

GROSS VALUE OF CROPS, AUSTRALIA
($'000)

Crop	*1968-69*	*1969-70*	*1970-71*	*1971-72*	*1972-73*
Cereals for grain—					
Barley	70,531	65,982	110,789	124,177	90,876
Maize	8,639	10,532	10,393	10,375	8,684
Oats	58,763	33,351	54,283	37,391	31,540
Panicum, millet and setaria	1,083	1,791	3,107	1,549	2,290
Rice(*a*)	14,358	14,533	13,720	11,942	24,995
Rye	683	518	1,048	817	481
Sorghum	13,861	24,121	57,382	51,092	58,957
Wheat	731,334	531,127	403,550	457,370	348,072
Total cereals for grain	*899,251*	*681,954*	*654,271*	*694,715*	*565,895*
Fodder—					
Crops for hay	166,284	114,742	115,797	107,376	138,571
Green feed(*a*)	32,577	35,369	29,743	22,860	36,365
Other stock fodder	7,363	6,290	4,837	3,708	1,791
Total fodder	*206,223*	*156,401*	*150,377*	*133,944*	*176,727*
Grass seed(*a*)	12,692	11,316	9,620	8,017	11,141
Industrial crops—					
Cotton	20,964	19,073	13,292	30,765	32,625
Flax for linseed	2,233	4,337	3,522	1,037	1,044
Hops(*a*)	3,788	3,588	3,133	3,621	4,263
Peanuts	3,152	8,985	7,998	12,234	10,539
Safflower	997	422	984	1,440	469
Sugar cane—					
Cut for crushing	156,008	148,054	173,300	207,388	230,208
Cut for plants	2,708	3,159	3,248	3,429	3,966
Sunflower	595	1,531	7,340	16,237	15,366
Tobacco (dried leaf)	38,528	38,930	42,528	40,995	37,896
Other	2,175	3,103	3,626	5,830	3,843
Total industrial crops	*231,146*	*231,181*	*258,970*	*322,978*	*340,219*
Vegetables for human consumption—					
Onions	6,366	6,692	7,768	11,452	9,454
Potatoes(*a*)	43,399	40,575	57,181	45,375	50,784
Tomatoes(*a*)	26,237	25,592	28,743	29,370	44,275
Other	62,181	66,153	75,358	75,972	78,165
Total vegetables	*138,186*	*139,013*	*169,053*	*162,172*	*182,678*
Grapes—					
Table use	5,161	7,092	6,483	7,153	6,830
Wine	18,549	23,016	20,048	25,080	27,196
Currants, dried	2,957	3,344	2,997	3,306	3,023
Raisins, dried	2,000	1,487	1,971	2,773	2,627
Sultanas, dried	15,933	23,773	14,317	27,991	25,196
Total grapes	*44,602*	*58,712*	*45,815*	*66,306*	*64,871*
Fruit (excl. grapes)	165,877	193,000	199,489	186,181	223,524
Nurseries and cut flowers	15,584	18,448	19,828	21,702	23,184
All other crops	3,703	4,398	4,554	11,767	9,811
Total	**1,717,268**	**1,494,419**	**1,511,982**	**1,607,786**	**1,598,050**

(*a*) Incomplete. *See* footnotes to previous table.

Values of crop production in the various States and Territories are shown 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 CROP PRODUCTION
STATES AND TERRITORIES, 1972-73
($'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	436,206	80,986	355,220	(b)36,629	318,591
Victoria	282,696	36,786	245,910	27,777	218,133
Queensland	452,137	43,223	408,914	81,480	327,434
South Australia	177,768	19,001	158,767	27,643	131,124
Western Australia	203,417	31,724	171,693	37,343	134,350
Tasmania	43,693	11,779	31,913	6,662	25,251
Northern Territory	1,773	..	1,773	..	1,773
Australian Capital Territory	360	80	281	29	252
Australia	**1,598,050**	**223,579**	**1,374,471**	**217,563**	**1,156,908**

(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, the latest decade bringing one of considerable expansion. 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.

It should be noted that from the 1972–73 season, production of wheat was reported in metric units. The *standard unit of reporting is a tonne* and consequently, figures relating to production of wheat are expressed in tonnes. Conversion of previous years series was made by using a factor of 1 tonne = 36.7437 bushels.

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. 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 and expressed, since the recording of wheat production in metric units in 1972–73, in kilograms per hectolitre. This standard is used as the basis for sales of each grade and varies from year to year and from State to State. Below is a table showing the standard weight of the main wheat varieties over a five year period.

AUSTRALIAN STANDARD WEIGHTS FOR PRINCIPAL GRADES

(*Source:* Australian Wheat Board)

(kilograms per hectolitre)

State and grade	*1969–70*	*1970–71*	*1971–72*	*1972–73*	*1973–74*
New South Wales—					
Prime hard	77.7	78.6	78.3	78.0	77.0
Northern hard	78.0	78.6	79.6	81.5	76.4
South-western F.A.Q.	78.6	77.4	78.3	80.5	76.0
Victoria—					
F.A.Q.	81.7	81.1	80.5	82.3	77.6
Queensland—					
Prime hard	80.5	79.6	78.6	80.2	76.3
Hard	79.2	78.6	(*a*)	76.2	78.0
Southern prime hard	(*a*)	(*a*)	79.2	(*a*)	(*a*)
South Australia—					
Hard	78.3	77.7	76.8	80.7	77.0
F.A.Q.	78.6	78.6	78.3	81.6	76.0
Western Australia—					
F.A.Q.	78.6	79.9	79.9	78.6	77.8

(*a*) Not fixed.

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.

In a normal season Australia 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

Bulk handling is general and has been in operation in all States for a considerable time. 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*)

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

('000 tonnes)

	30 November				
State	*1969*	*1970*	*1971*	*1972*	*1973*
New South Wales	5,786	6,368	5,763	5,823	5,797
Victoria(*b*)	3,538	3,602	3,884	3,884	3,893
Queensland	947	985	1,129	1,189	1,265
South Australia	2,599	2,582	2,555	2,545	2,595
Western Australia	2,280	5,525	5,851	5,898	6,556
Tasmania	29	29	29	29	29
Australia	**15,179**	**19,091**	**19,212**	**19,368**	**20,135**

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

Rural holdings growing wheat for grain

Particulars of the number of rural holdings growing wheat for grain during each of the years 1968–69 to 1972–73 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 RURAL HOLDINGS GROWING WHEAT FOR GRAIN(*a*)

State or Territory	*1968–69*	*1969–70*	*1970–71*	*1971–72*	*1972–73*
New South Wales	21,340	20,608	18,537	18,723	17,777
Victoria	11,722	11,618	9,669	10,273	10,002
Queensland	6,063	4,982	2,816	4,503	3,439
South Australia	9,884	9,529	8,548	8,997	8,578
Western Australia	8,964	8,922	8,677	8,559	8,334
Tasmania	239	203	403	160	147
Australian Capital Territory	27	16	9	8	8
Australia	**58,239**	**55,878**	**48,659**	**51,223**	**48,285**

(*a*) Approximately 8 hectares and over; recorded as 20 acres and over.

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. In 1968 the Australian Wheat Collection was established at Tamworth, New South Wales, to supply basic genetic material to Australian wheat breeders. Some 15,000 varieties are at present held in the collection.

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 1972–73 were as follows: New South Wales, Timgalen (13.9), Olympic (13.8), Heron (13.6); Victoria, Insignia (22.8), Olympic (21.4), Summit (18.3); Queensland, Gatcher (29.1), Mendos (21.3), Timgalen (17.4); South Australia, Halberd (45.2), Heron (15.1), Gabo (8.4); and Western Australia, Gamenya (62.5), Falcon (13.6), Insignia (4.9). A detailed table of wheat varieties sown appears in the annual bulletin *The Wheat Industry*, (*Preliminary*) (10.35).

Wheat area and production

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 AND PRODUCTION

Year	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*A.C.T.*	*Aust.*
				AREA ('000 HECTARES)				
1969–70	3,489	1,335	609	1,299	2,747	6	1	9,486
1970–71	2,216	760	334	802	2,361	4	..	6,478
1971–72	2,426	1,040	556	1,069	2,042	5	..	7,138
1972–73	2,618	1,087	471	986	2,437	4	..	7,604
1973–74p	2,884	1,262	397	1,432	2,978	3	..	8,956
				PRODUCTION ('000 TONNES)				
1969–70	4,430	2,274	405	1,610	1,815	10	2	10,547
1970–71	3,010	1,004	120	790	2,957	8	1	7,890
1971–72	2,410	1,797	722	1,407	2,165	8	1	8,510
1972–73	1,954	1,249	405	815	2,003	8	..	6,434
1973–74p	3,963	1,596	526	1,795	4,211	4	..	12,094

A graph showing the area sown to wheat for grain in Australia for the years 1900–01 to 1970–71 appears in Year Book No. 58, Plate 39, page 746, 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 from 1940–41 is shown in Plate 45, below.

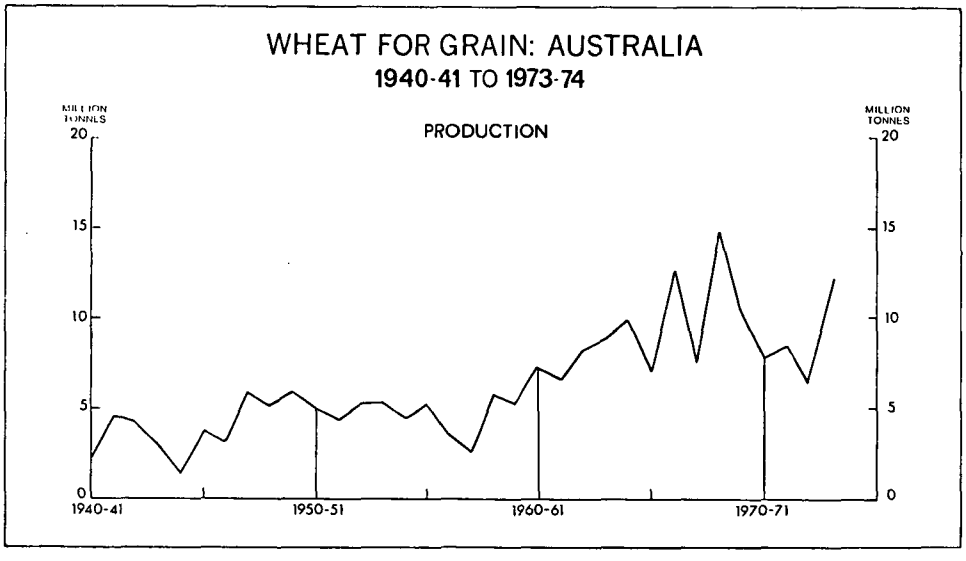

PLATE 45

Price of wheat

The Wheat Board's monthly basic export selling prices for f.a.q. bulk wheat, f.o.b. basis, are shown below.

MONTHLY EXPORT WHEAT PRICES(*a*)

($ per tonne)

Month	*1969–70*	*1970–71*	*1971–72*	*1972–73*	*1973–74*
July	50.89	46.99	52.50	49.05	92.46
August	50.11	47.40	51.53	51.17	131.91
September	48.46	49.19	49.88	61.18	138.98
October	48.46	50.94	48.92	71.52	134.57
November	48.46	51.99	48.55	73.99	134.67
December	48.46	52.27	48.13	83.09	134.94
January	48.13	53.19	47.95	82.44	141.92
February	48.13	52.87	47.95	72.52	148.31
March	47.49	52.87	47.95	70.18	150.74
April	46.99	52.68	48.73	70.23	149.27
May	46.85	52.50	48.96	73.90	123.78
June	47.03	52.31	48.69	83.13	110.23

(*a*) Australian Wheat Board average basis f.o.b. price quoted for f.a.q. bulk wheat. Much of the wheat exported is sold under contract for delivery over lengthy periods, and therefore, the prices shown do not necessarily reflect the prices received for all wheat shipped during the months shown.

Production and disposal of wheat in Australia

In the following tables details are given of Australian Wheat Board transactions, production and disposal of wheat during each of the years ended 30 November 1970 to 1973, and preliminary estimates for 1973–74.

RECEIVALS OF WHEAT BY THE AUSTRALIAN WHEAT BOARD

('000 tonnes)

	Year ended 30 November				
State	*1969–70*	*1970–71*	*1971–72*	*1972–73*	*1973–74*p
New South Wales	3,966	2,555	2,008	1,455	3,530
Victoria	2,337	894	1,753	1,169	1,508
Queensland	326	90	666	325	474
South Australia	1,516	681	1,306	711	1,671
Western Australia	1,598	2,712	1,927	1,775	3,988
Tasmania	5	3	5	4	2
Total	**9,747**	**6,935**	**7,665**	**5,439**	**11,173**

Stocks of wheat (including flour in terms of wheat) held by the Australian Wheat Board 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.

STOCKS OF WHEAT, AND FLOUR AS WHEAT

(*Source:* Australian Wheat Board)

('000 tonnes)

	30 November				
State	*1969*	*1970*	*1971*	*1972*	*1973*
New South Wales	2,304.1	2,629.3	1,504.7	489.2	175.5
Victoria	1,684.5	2,112.2	655.1	399.3	130.3
Queensland	185.1	61.7	2.5	25.7	19.7
South Australia	1,254.5	1,227.8	430.0	278.9	42.6
Western Australia	1,816.1	1,175.0	798.6	244.7	95.9
Tasmania	15.5	15.5	13.4	12.9	13.7
Total	**7,259.8**	**7,221.5**	**3,404.3**	**1,450.7**	**477.7**

Particulars of the production and disposal of wheat during the years ended 30 November 1969 to 1973 are shown in the following table.

PRODUCTION, DISPOSAL AND STOCKS OF WHEAT: AUSTRALIA

('000 tonnes)

	Year ended 30 November				
	1969	*1970*	*1971*	*1972*	*1973*
Opening stocks (including flour as wheat)(*a*)(*b*)	1,411	7,260	7,222	3,404	1,451
Production	14,804	10,546	7,890	8,510	6,434
Total available supplies	**16,215**	**17,806**	**15,112**	**11,914**	**7,885**
Exports—					
Wheat	5,960	7,569	8,595	7,426	3,855
Flour(*c*)	408	454	376	256	200
Breakfast foods and other products(*b*)(*c*)	52	60	79	77	82
Local consumption—					
Flour(*b*)(*c*)	1,211	1,236	1,246	1,276	1,272
Breakfast foods and other products(*b*)(*c*)	46	38	38	38	36
Stock feed wheat sales(*b*)	267	321	395	533	934
Seed	591	389	444	544	602
Balance (including retained on farm for other than seed use)	183	401	513	291	396
Closing stocks (including flour as wheat)(*a*)(*b*)	7,260	7,222	3,404	1,451	478
Total disposals	**15,978**	**17,690**	**15,090**	**11,892**	**7,855**
Excess (+) or deficiency (−) of disposals in relation to total available supplies(*d*)	−237	−116	−22	−22	−30

(*a*) Held at ports, depots, mills and sidings. (*b*) *Source:* Australian Wheat Board. (*c*) In terms of wheat. (*d*) Includes allowances 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

The *Wheat Industry Stablization Act* 1948 empowered the Minister to arrange with the Commonwealth Bank for advances to the Board, the advances being guaranteed by the Australian 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
($'000)

	68/69 Pool (1968–69 Harvest)	*69/70 Pool (1969–70 Harvest)*	*70/71 Pool(a) (1970–71 Harvest)*	*71/72 Pool(a) (1971–72 Harvest)*	*72/73 Pool(a) (1972–73 Harvest)*
Paid to growers	546,475	311,576	310,592	317,291	265,251
Rail freight	90,644	57,083	50,994	47,638	36,500
Expenses	65,014	54,321	36,394	32,713	37,900
Total payments	**702,133**	**422,980**	**397,980**	**397,642**	**339,651**
Value of sales delivered	(b)674,414	(c)396,219	(d)366,635	(e)358,198	(f)327,847

(a) Incomplete. (b) Subject to an additional $29,008,000 provided by the Australian Government and payment of $1,289,000 to Wheat Industry Research Fund. (c) Subject to an additional $27,538,000 provided by the Australian Government and payment of $778,000 to Wheat Industry Research Fund. (d) Subject to an additional $32,058,000 to be provided by the Australian Government and payment of $713,000 to Wheat Industry Research Fund. (e) Subject to an estimated additional $40,132,000 to be provided by the Australian Government and payment of $689,000 to the Wheat Industry Research Fund. (f) Subject to an estimated additional $12,360,000 to be provided by the Australian Government and payment of $556,000 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 four occasions since 1900; in 1902–3 the wheat harvest was only 336,874 tonnes, and wheat and flour equivalent to 339,323 tonnes of wheat were imported. An equivalent of 198,102 tonnes was imported in 1914–15 to supplement the yield of 680,000 tonnes produced in that season. Drought conditions in the Eastern States in 1945 necessitated the importation of feed grains from the U.S.A. including 20,000 tonnes of wheat. Owing to drought conditions in 1957–58 supplies of high protein wheat were insufficient for local requirements and, as a result, 40,415 tonnes were imported from Canada in 1958. No import of wheat has since been recorded.

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
($'000 f.o.b.)

	1968–69	*1969–70*	*1970–71*	*1971–72*	*1972–73*
Wheat(a)	258,334	337,570	433,000	418,529	273,096
Flour(b)	23,822	23,011	21,374	15,091	14,579
Total	**282,156**	**360,581**	**454,374**	**433,620**	**287,675**

(a) Includes both bulk and bagged. (b) White flour (plain and self-raising), sharps and wheatmeal for baking.

WHEAT: EXPORTS TO VARIOUS COUNTRIES, AUSTRALIA(*a*)
('000 tonnes)

Country to which exported	*1968–69*	*1969–70*	*1970–71*	*1971–72*	*1972–73*
Arab Republic of Egypt	..	..	1,313	1,801	777
Chile	105	79	183	297	509
German Democratic Republic	..	..	114	170	135
Germany, Federal Republic of	..	15	23	273	..
Iraq	..	56	436	192	..
Japan	1,147	1,014	821	1,466	752
Korea, Republic of	10	..	27	361	..
Kuwait	68	82	103	104	91
Malaysia	253	283	312	310	300
Peru	154	150	157	155	83
U.S.S.R.	..	..	..	502	907
United Kingdom	773	1,024	1,745	573	520
Other(*b*)	2,381	4,183	3,840	2,255	1,317
Total	**4,891**	**6,886**	**9,074**	**8,459**	**5,391**

(*a*) 1973–74 preliminary estimate 5,132,000 tonnes. (*b*) 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 in recent years. The figures relate to exports of white flour (plain and self-raising), sharps and wheatmeal for baking.

FLOUR(*a*): EXPORTS TO VARIOUS COUNTRIES, AUSTRALIA
(tonnes)

Country to which exported	*1968–69*	*1969–70*	*1970–71*	*1971–72*	*1972–73*
Burma	..	10,031	..	8,940	3,993
Fiji	32,045	31,409	33,631	33,948	31,606
Indonesia	53,156	62,950	51,063	7,892	..
Libya	7,700	10,506	13,575	11,243	..
Malawi	5,865	8,068	10,894	11,756	4,326
Mauritius	15,387	18,296	13,542	17,294	17,517
Oman	5,262	5,608	4,727	6,204	5,170
Papua New Guinea	16,472	18,432	21,407	19,521	19,567
Qatar	4,024	5,185	5,874	7,123	1,705
Saudi Arabia	13,625	7,177	10,570	9,530	10,017
Sri Lanka	129,731	89,194	85,018	14,911	13,523
Union of Arab Emirates	9,811	14,854	18,071	17,951	23,176
Other(*b*)	50,985	41,185	32,488	30,191	54,015
Total	**344,063**	**322,895**	**300,860**	**196,504**	**184,615**

(*a*) Plain white and self-raising flour, sharps and wheatmeal for baking. (*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 1972–73 the Canadian harvest occurred from August to September 1972 and the Australian harvest from October 1972 to February 1973.

WHEAT: AREA, PRODUCTION, AND YIELD PER HECTARE IN VARIOUS COUNTRIES AND REGIONS(*a*)

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

Country and region	*Area*			*Production*			*Yield per hectare*		
	1970–71	*1971–72*	*1972–73*	*1970–71*	*1971–72*	*1972–73*	*1970–71*	*1971–72*	*1972–73*
	'000 hectares	'000 hectares	'000 hectares	'000 tonnes	'000 tonnes	'000 tonnes	tonnes	tonnes	tonnes
Africa	9,465	9,060	9,650	8,280	8,920	9,840	0.875	0.985	1.020
Asia—									
China, People's Republic of (*b*)	24,300	24,400	24,400	24,500	24,000	26,000	1.008	0.984	1.066
India	16,626	18,241	19,139	20,093	23,833	26,410	1.209	1.307	1.380
Pakistan	6,349	5,978	5,871	7,399	6,476	6,579	1.165	1.083	1.121
Turkey(*c*)	8,658	8,700	8,730	10,000	13,250	12,200	1.155	1.523	1.398
Total Asia(a)	*66,745*	*68,400*	*70,600*	*72,150*	*76,500*	*84,200*	*1.081*	*1.118*	*1.193*
Europe—									
France	3,746	3,978	3,958	12,922	15,482	18,123	3.450	3.892	4.579
Germany, Federal Republic of(*c*)	1,493	1,544	1,626	5,662	7,142	6,608	3.792	4.626	4.064
Italy	4,138	3,910	3,804	9,689	9,994	9,421	2.342	2.556	2.477
Spain(*c*)	3,756	3,655	3,587	4,062	5,455	4,562	1.082	1.493	1.272
Total Europe(a)	*27,266*	*27,798*	*27,719*	*66,886*	*81,248*	*81,887*	*2.453*	*2.923*	*2.954*
Canada	5,052	7,854	8,640	9,022	14,413	14,514	1.786	1.835	1.680
United States	17,630	19,293	19,135	36,783	44,029	42,046	2.086	2.282	2.197
Total North and Central America(a)	*23,400*	*27,750*	*28,490*	*47,995*	*60,160*	*58,393*	*2.051*	*2.168*	*2.050*
Oceania—									
Australia	6,632	7,253	7,773	8,150	8,775	6,735	1.229	1.210	0.867
Total Oceania(a)	*6,728*	*7,369*	*7,872*	*8,474*	*9,195*	*7,083*	*1.260*	*1.248*	*0.900*
South America—									
Argentina	3,701	4,295	4,965	4,920	5,680	7,900	1.329	1.323	1.591
Total South America(a)	*6,875*	*7,880*	*8,810*	*8,690*	*9,750*	*10,340*	*1.264*	*1.237*	*1.174*
U.S.S.R. (Europe and Asia)	65,200	64,035	58,500	99,664	98,760	85,800	1.529	1.542	1.467
World total(*a*)	205,679	212,292	211,641	312,139	344,533	337,543	1.518	1.622	1.595

(*a*) Totals include estimates for countries not listed. (*b*) Unofficial. (*c*) Includes spelt.

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 1972–73 Australia's share of the world wheat exports has averaged 14 per cent.

WORLD EXPORTS OF WHEAT, AND WHEAT FLOUR IN TERMS OF WHEAT 1968-69 TO 1972-73

(*Source:* International Wheat Council—*Review of the World Wheat Situation*)

('000 tonnes)

Year and country of primary destination	*Exporting country*							
	Argentina	*Australia*	*Canada*	*E.E.C.*	*U.S.A.*	*U.S.S.R.*	*Other*	*Total*
1972–73p—								
Africa—								
Arab Republic of Egypt	..	729	30	1,643	283	..	363	3,048
Other	33	112	506	1,369	1,441	..	589	4,050
Total Africa	*33*	*841*	*536*	*3,012*	*1,724*	..	*952*	*7,098*
Asia(*a*)—								
China, People's Republic of	..	324	4,374	..	591	..	..	5,289
Iran	..	..	..	..	503	..	100	603
Indonesia	..	75	49	76	495	..	4	699
Japan	80	717	1,364	..	3,377	..	24	5,562
Korea, Republic of	..	..	..	12	1,621	..	..	1,633
Kuwait	..	106	..	..	..	..	..	106
Lebanon	..	18	101	50	85	..	43	297
Malaysia	..	346	19	1	12	..	4	382
Saudi Arabia	..	56	3	90	149	..	..	298
Singapore	..	178	20	..	13	..	..	211
Other	1,000	651	1,229	1,149	4,379	300	144	8,852
Total Asia	1,080	2,471	7,159	1,378	11,225	300	319	23,932
Europe(*a*)—								
Norway	..	32	..	29	93	..	128	282
United Kingdom	..	468	1,272	716	542	..	168	3,166
Germany (East)	..	135	..	..	178	400	230	943
Other	374	34	1,205	370	3,592	403	319	6,297
Total Europe	*374*	*669*	*2,477*	*1,115*	*4,405*	*803*	*845*	*10,688*
North and Central America	..	1	740	111	1,285	200	49	2,386
Oceania	..	97	..	37	*4*	..	..	138
South America—								
Chile	402	492	..	5	17	..	13	929
Peru	..	83	183	3	563	..	..	832
Other	1,621	..	373	4	2,492	..	110	4,600
Total South America	*2,023*	*575*	*556*	*12*	*3,072*	..	*123*	*6,361*
U.S.S.R.	..	908	4,168	704	9,468	..	651	15,899
All other	..	..	12	156	809	..	10	987
Total 1972–73	**3,510**	**5,562**	**15,648**	**6,525**	**31,992**	**1,303**	**2,949**	**67,489**
1968–69(*b*)	2,800	5,400	8,700	5,000	14,700	5,400	3,000	45,000
1969–70	2,100	7,300	9,000	7,200	16,500	5,900	2,300	50,300
1970–71	1,700	9,500	11,600	3,100	19,800	7,100	1,000	53,700
1971–72	1,323	8,660	13,716	4,656	16,907	5,478	1,543	52,283

(*a*) Excludes U.S.S.R., details of which are shown separately. (*b*) Years prior to 1968–69 include European Economic Community intratrade.

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 761–2 due in part to the use by the International Wheat Council of a slightly different factor to convert flour to wheat equivalent.

Oats

Oats is traditionally a cereal of moist temperate regions. However improved varieties and management practices have enabled oats to be grown over a wide range of soil and climatic conditions. It has excellent feed value and produces a greater bulk of growth than other winter cereals. It needs less cultivation than other winter cereals and responds to superphosphate and nitrogen in districts where it is usual to apply fertilisers. Oats has a variety of uses—as a pasture plant when rough sown into stubble or heavy clover pastures, as a fodder 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. The Victorian board was disbanded

in 1972 and marketing reverted to a voluntary pooling arrangement. In the same year legislation to constitute a board was passed in South Australia. It has not yet commenced to operate. In Western Australia the grain is sold through a voluntary pool.

Oats area, production and yield per hectare

Oats is usually next in importance to wheat among the grain crops cultivated in Australia. However, while wheat grown for grain in 1972–73 accounted for 66 per cent of the area of all crops, oats grown for grain represented only 9 per cent.

OATS FOR GRAIN: AREA, PRODUCTION AND YIELD PER HECTARE

	N.S.W.	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*A.C.T.*	*Aust.*
AREA ('000 HECTARES)								
1968–69	479	401	22	209	442	14	..	1,567
1969–70	366	358	30	150	461	13	..	1,374
1970–71	405	399	24	195	520	9	..	1,553
1971–72	261	329	21	169	454	6	..	1,241
1972–73	285	255	10	142	297	6	..	995
PRODUCTION ('000 TONNES)								
1968–69	498	548	20	216	416	11	..	1,710
1969–70	349	470	17	121	281	8	..	1,247
1970–71	456	467	8	153	520	9	..	1,613
1971–72	221	449	18	166	414	7	..	1,275
1972–73	196	238	8	74	212	7	..	736
YIELD PER HECTARE (TONNES)								
1968–69	1.039	1.367	0.912	1.034	0.942	0.831	1.002	1.091
1969–70	0.955	1.315	0.566	0.804	0.608	0.920	1.260	0.907
1970–71	1.125	1.169	0.345	0.783	1.001	0.934	1.064	1.038
1971–72	0.847	1.364	0.857	0.982	0.912	1.097	0.851	1.028
1972–73	0.689	0.936	0.789	0.525	0.715	1.103	0.516	0.740

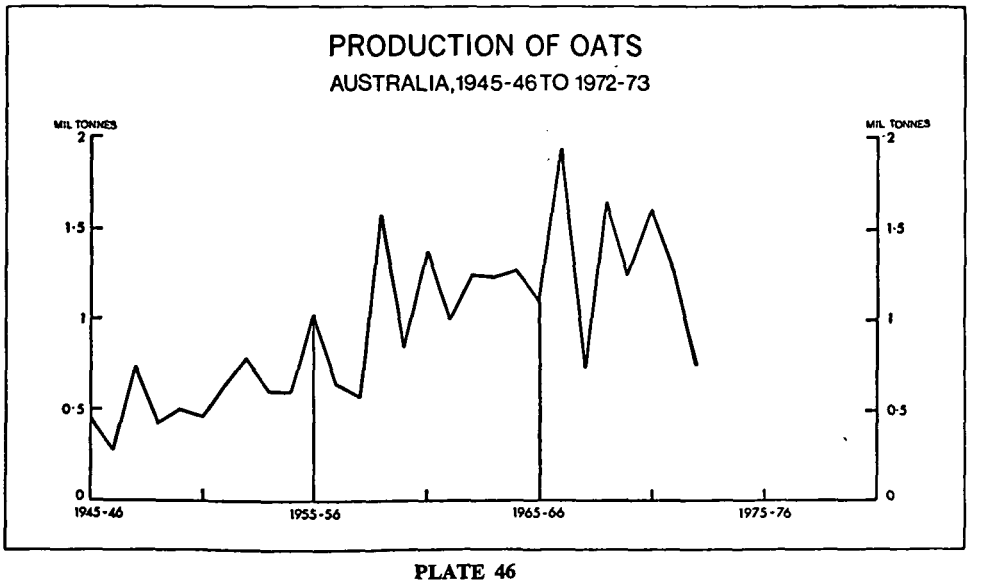

PLATE 46

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 to 1970–71 is shown in Year Book No. 58, Plate 39, page 746. The production of oats from 1945–46 to 1972–73 is shown in plate 46, page 765.

Production of oats in 1972–73, 736,000 tonnes, was 62 per cent below the record production in 1966–67. Yield per hectare was 0.740 tonnes, which is below the record yield per hectare of 1.128 tonnes in 1966–67.

Exports of Oats

OATS: EXPORTS, AUSTRALIA

		1968–69	*1969–70*	*1970–71*	*1971–72*	*1972–73*
Quantity	tonne	333,361	219,283	555,917	328,979	114,534
Value	$'000 f.o.b.	13,042	7,559	23,827	12,425	5,016

In 1972–73 the principal countries of destination were Japan (90,975 tonnes), Italy (15,156 tonnes), Malaysia (2,700 tonnes) and the United Kingdom (1,540 tonnes).

World production of oats

The world production of oats for the 1973–74 season, according to estimates by the Bureau of Agricultural Economics, Canberra, amounted to 54 million tonnes. This represents a 5 per cent increase in production over the previous year. The main producers are the Union of Soviet Socialist Republics, the United States, Canada, West Germany and Poland, with Australia producing about 2.5 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 is 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 or sold for malting.

Crops sown for malting purposes require a combination of light textured soil of moderate fertility, reliable rainfall, and mild weather during ripening. The main barley-growing areas in Australia are situated in South Australia (South Adelaide Plains, Eyre and Yorke Peninsulas), but considerable quantities are grown also in New South Wales, Victoria, Queensland and Western Australia. There are State statutory marketing boards operating in all mainland States.

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.
1968–69 TO 1972–73

Pool	*Quantity received*	*Quantity sold*	*Total advances per tonne(a)*	*Net payments to growers*
	tonnes	tonnes	$	$'000
No. 30 (1968–69 Crop)	618,734	617,328	42.68	21,765
„ 31 (1969–70 „)	712,837	711,749	37.43	21,191
„ 32 (1970–71 „)	827,829	826,083	48.54	34,551
„ 33 (1971–72 „)	1,135,065	1,132,104	42.49	38,302
„ 34 (1972–73 „)	441,949	442,001	56.01	21,949

(*a*) 2-row No. 1 Grade (bulk) less freight.

Barley area, production and yield per hectare

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 1972–73, was 2,140,000 hectares, which was 16 per cent less than the previous record area of 2,535,000 hectares in 1971–72. The production of barley for grain in 1972–73, 1,727,000 tonnes, was 44 per cent less than the previous record production of 3,066,000 tonnes in 1971–72. The area, production and yield per hectare of barley for grain in the several States for the years 1968–69 to 1972–73 are shown in the following table. Separate details for 2-row and 6-row varieties are shown for all States for 1972–73.

BARLEY FOR GRAIN: AREA, PRODUCTION AND YIELD PER HECTARE

Year	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*A.C.T.*	*Aust.*
	AREA ('000 HECTARES)							
1968–69	197	166	173	572	224	11	..	1,341
1969–70	219	197	169	560	364	12	..	1,521
1970–71	301	269	91	693	632	13	..	2,000
1971–72	373	296	159	784	911	13	..	2,535
1972–73—								
2-row	229	269	71	676	528	11	..	1,785
6-row	107	9	7	16	216	1	..	355
Total	**336**	**277**	**78**	**692**	**744**	**13**	..	**2,140**

BARLEY FOR GRAIN: AREA, PRODUCTION AND YIELD PER HECTARE—*continued*

Year	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*A.C.T.*	*Aust.*
PRODUCTION ('000 TONNES)								
1968–69	254	202	292	670	208	20	..	1,646
1969–70	280	258	172	691	273	25	..	1,699
1970–71	429	318	61	742	769	30	..	2,351
1971–72	346	395	249	1,047	1,000	28	..	3,065
1972–73—								
2-row	168	207	74	498	478	17	..	1,441
6-row	98	7	6	11	163	2	..	286
Total	**266**	**214**	**80**	**509**	**640**	**19**	..	**1,727**
YIELD PER HECTARE (TONNES)								
1968–69	1.292	1.217	1.689	1.173	0.931	1.890	..	1.228
1969–70	1.276	1.310	1.020	1.234	0.751	2.068	..	1.117
1970–71	1.426	1.183	0.672	1.071	1.217	2.310	..	1.175
1971–72	0.927	1.336	1.568	1.336	1.098	2.202	..	1.209
1972–73—								
2-row	0.736	0.770	1.028	0.736	0.904	1.457	..	0.807
6-row	0.911	0.798	0.925	0.711	0.753	1.500	..	0.806
Total	**0.792**	**0.771**	**1.026**	**0.735**	**0.861**	**1.462**	..	**0.807**

For Australia, 83 per cent of the area of barley for grain in 1972–73 was sown with 2-row barley. The proportion, however, varied considerably in the several States. The utilisation of barley during the season ended November 1973 was as follows: exports, 676,000 tonnes; pearl barley, 1,625 tonnes; seed 126,000 tonnes.

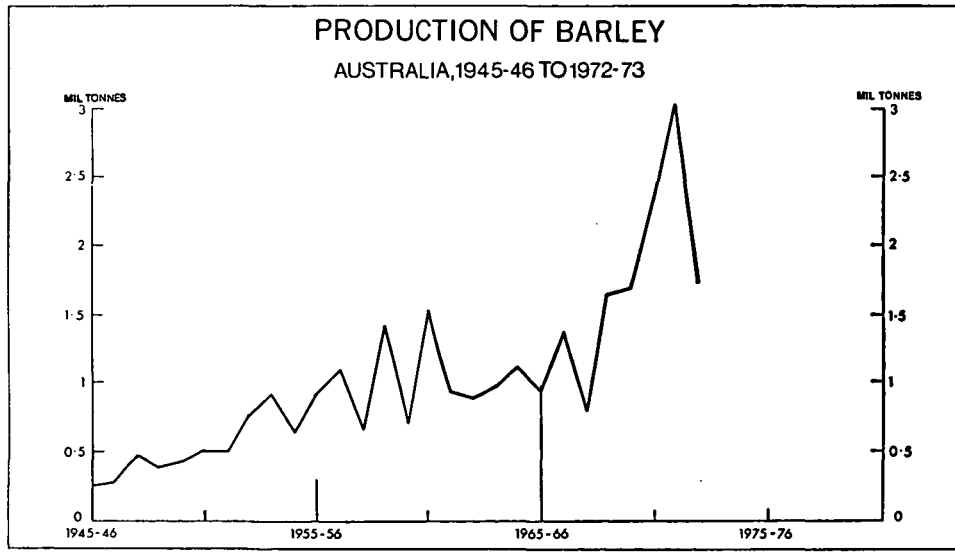

PLATE 47

The production of barley in Australia since 1945–46 is shown in plate 47, previous page 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 to 1970–71 is shown in Year Book No. 58, plate 39, page 746.

Exports of barley

Western Australia is the principal exporting State, and Taiwan, Japan, the United Kingdom, the Republic of Korea and the Federal Republic of Germany were the principal countries to which barley was shipped in 1972–73. Particulars of exports of Australian-produced barley for the years 1968–69 to 1972–73 are shown in the following table.

BARLEY: EXPORTS, AUSTRALIA

		1968–69	*1969–70*	*1970–71*	*1971–72*	*1972–73*
Quantity	tonne	450,669	632,304	1,122,970	1,816,765	804,122
Value	$'000 f.o.b.	18,246	22,766	50,820	74,344	38,512

In addition to exports of barley grain, there are also exports of Australian pearl and Scotch barley, the total for 1972–73 amounting to 26,000 kgs, valued at $7,000, the main country of consignment being Indonesia.

Barley malt

Details of the recorded usage of barley and the production of barley malt in the years 1968–69 to 1972–73 are given in the following table.

BARLEY MALT: GRAIN USED AND MALT PRODUCED, AUSTRALIA

		1968–69	*1969–70*	*1970–71*	*1971–72*	*1972–73*
Barley used	'000 kg	319,011	312,094	n.a.	n.a.	n.a.
Malt produced	'000 kg	251,580	260,815	311,073	366,502	334,914

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 170,342 tonnes (value $19,193,000) and 154,640 tonnes (value $17,057,000) were recorded in 1971–72 and 1972–73 respectively.

World production of barley

In comparison with the barley production of other countries that of Australia is extremely small. The main producers in 1972 were the Union of Soviet Socialist Republics, Canada, the United States of America, France and the United Kingdom. The People's Republic of China is also normally a major producer, but recent details are not available. Australian production in 1973–74 was approximately 2 per cent of the world total.

According to preliminary estimates made by the Bureau of Agricultural Economics, Canberra, world production of barley in the year 1973 amounted to 155 million tonnes. This compared with the production of 136 million tonnes in the previous year.

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Sorghum

The sorghums are summer growing crops which are used in three ways: grain sorghum for grain; sweet or fodder sorghum, sudan grass and more recently columbus grass for silage, green feed and grazing; and brook millet for brooms and brushware.

The growing of grain sorghum on an extensive scale did not attain a position of prominence until the last two decades. Operations are highly mechanised and rapid increases in production have resulted in a substantial increase in exports. The grain is used primarily as stockfeed and is an important source for supplementing other coarse grains for this purpose.

The climatic conditions of Queensland and northern New South Wales are particularly suited to the growing of sorghums. In Queensland grain sorghum production is concentrated in the Burnett, Dawson-Callide areas and in the Central Highlands. In New South Wales the north-western slopes and the Murrumbidgee Irrigation Areas are the main areas. The crop is also being developed in north Queensland, in the Northern Territory, and in 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 commenced operations in New South Wales with the marketing of the 1972 crop.

GRAIN SORGHUM: AREA, PRODUCTION AND YIELD PER HECTARE

	Area			*Production(a)*			*Yield per hectare(a)*		
Year	*N.S.W.*	*Qld*	*Aust.(b)*	*N.S.W.*	*Qld*	*Aust.(b)*	*N.S.W.*	*Qld*	*Aust.(b)*
	hectares	hectares	hectares	'000 tonnes	'000 tonnes	'000 tonnes	tonnes	tonnes	tonnes
1968–69	55,420	150,233	209,694	107	185	294	1,929	1,230	1,404
1969–70	99,221	258,015	358,746	164	381	547	1,649	1,478	1,526
1970–71	180,365	368,717	552,184	487	806	1,297	2,697	2,186	2,350
1971–72	207,793	423,234	638,392	371	833	1,228	1,786	1,969	1,924
1972–73	269,002	414,133	697,162	372	622	1,018	1,382	1,502	1,460

(*a*) 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 1968–69 and 1969–70.

Maize

Like sorghum, maize is a summer cereal demanding specific soil and climatic conditions. For grain, growing is almost entirely confined to the south-east regions 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, the cereal provides a stock feed for dairy cattle, fat stock, poultry 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 hectare 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.

A State statutory board controls marketing in the Atherton Tablelands area of Queensland. Elsewhere, marketing is in the hands of private merchants.

Maize area, production and yield per hectare

MAIZE FOR GRAIN: AREA, PRODUCTION AND YIELD PER HECTARE

Year	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
AREA (HECTARES)									
1968–69	22,049	470	43,981	..	16	..	..	..	66,516
1969–70	32,691	463	46,186	..	265	..	..	..	79,605
1970–71	33,313	535	51,725	..	62	..	..	..	85,635
1971–72	33,243	375	44,546	..	29	..	..	..	78,193
1972–73	23,850	496	34,913	..	(*a*)	..	(*a*)	..	(*b*)59,259
PRODUCTION ('000 TONNES)(*c*)									
1968–69	78	2	69	..	..	..	..	..	149
1969–70	102	2	88	..	..	..	..	..	192
1970–71	106	2	104	..	..	..	..	..	212
1971–72	114	2	97	..	..	..	..	..	214
1972–73	67	2	70	..	(*a*)	..	(*a*)	..	(*b*)139
YIELD PER HECTARE (TONNES)(*c*)									
1968–69	3.551	3.900	1.567	..	1.063	..	..	..	2.241
1969–70	3.112	3.946	1.903	..	0.623	..	..	..	2.407
1970–71	3.195	2.950	2.002	..	0.645	..	..	..	2.471
1971–72	3.443	5.117	2.188	..	3.828	..	..	..	2.736
1972–73	2.822	3.036	2.005	..	(*a*)	..	(*a*)	..	2.343

(*a*) Not available for publication. (*b*) Incomplete; *see* footnotes to individual States. (*c*) 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 1972–73 was 2.240 tonnes per hectare.

Exports of maize

MAIZE: EXPORTS, AUSTRALIA

		1968–69	*1969–70*	*1970–71*	*1971–72*	*1972–73*
Quantity	tonne	181	682	22,375	38,469	9,191
Value	$'000 f.o.b.	15	51	1,203	2,283	493

World production of maize

According to figures issued by the Bureau of Agricultural Economics, Canberra, world production of maize in the year 1973–74 season amounted to an estimated 312 million tonnes. This compared with production in the previous year of 284 million tonnes.

The United States of America is the most important maize-producing country in the world, and accounted for 46 per cent (144 million tonnes) of total world production in 1973–74.

Rice

The principal rice-growing areas of the world are confined almost entirely to Asia, although limited quantities are grown in other countries. In Australia rice was first cultivated at the Yanco Experimental Farm in New South Wales, but it was not grown commercially until 1924–25, when 309 tonnes were produced from 62 hectares. 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 area sown in the Murrumbidgee Irrigation Areas 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. In 1972–73, the largest purchasers of Australian rice were Papua New Guinea, Hong Kong and Fiji. Details relating to area, production, and Australian-produced exports for recent years are shown in the following table.

RICE: AREA, PRODUCTION AND EXPORTS, AUSTRALIA(*a*)

Year	*No. of holdings growing rice(b)*	*Area*	*Production (paddy rice)* — *Quantity*	*Average yield (paddy) per hectare*	*Imports*	*Exports*
		hectares	'000 tonnes	tonnes	tonnes	tonnes
1968–69	1,464	33,697	256	7.587	1,463	111,222
1969–70	1,804	40,163	247	6.143	1,541	128,766
1970–71	1,880	38,054	299	7.859	438	102,428
1971–72	1,541	40,494	248	6.134	384	180,555
1972–73	1,437	45,150	309	6.834	414	157,611

(*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*) Approximately 8 hectares and over; recorded as 20 acres and over.

Fodder crops

Hay

As well as crops grown specifically for grain, considerable areas of Australia are devoted to fodder crops. These crops are utilised either for grazing (as green feed), or conserved as hay, ensilage, etc.

This development of fodder conservation as a means of supplementing pasture and natural sources of stockfeed is the result of the comparatively unreliable nature of rainfall in Australian agricultural and pastoral areas.

HAY: AREA, PRODUCTION AND YIELD PER HECTARE

Season	*N.S.W.*	*Vic.*	*Qld*	*S.A*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
AREA ('000 HECTARES)									
1968–69	116	132	15	98	60	7	..	1	428
1969–70	72	102	32	73	144	4	..	..	428
1970–71	47	80	17	84	116	4	1	..	349
1971–72	65	88	13	78	95	2	..	..	341
1972–73	74	139	13	89	133	4	..	..	453
PRODUCTION ('000 TONNES)									
1968–69	448	608	53	377	210	31	..	2	1,728
1969–70	292	503	79	275	344	21	..	1	1,514
1970–71	185	355	26	284	401	21	..	1	1,274
1971–72	193	363	48	296	332	13	..	..	1,247
1972–73	175	442	34	203	351	17	1	..	1,224
YIELD PER HECTARE (TONNES)									
1968–69	3.871	4.599	3.511	3.861	3.469	4.795	2.880	3.226	4.037
1969–70	4.028	4.928	2.508	3.748	2.384	5.020	..	3.678	3.536
1970–71	3.935	4.443	1.576	3.367	3.456	5.019	0.600	3.931	3.650
1971–72	2.978	4.108	3.833	3.813	3.507	5.240	2.727	1.753	3.655
1972–73	2.368	3.169	2.644	2.277	2.646	3.923	2.735	1.474	2.701

HAY: AREA OF VARIOUS TYPES GROWN 1972–73

(Hectares)

State or Territory	*Oats*	*Wheat*	*Other*	*Total*
New South Wales	33,794	37,310	2,957	74,061
Victoria	105,956	28,053	5,344	139,353
Queensland	3,545	4,459	4,948	12,952
South Australia	52,636	20,074	16,463	89,173
Western Australia	92,313	30,478	9,948	132,739
Tasmania	3,030	991	429	4,450
Northern Territory	..	..	321	321
Australian Capital Territory	209	(*a*)	2	211
Australia	**291,483**	**(*b*) 121,365**	**40,412**	**453,260**

(*a*) Not available separately, included in 'Other'. (*b*) Incomplete; *see* footnotes to individual States.

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 1972–73 exports amounting to 11,715 tonnes, valued at $544,000, were made, principally to Kuwait, Iran, Singapore and New Caledonia. Imports of hay are not recorded separately, but are considered to be negligible.

GREEN FEED OR SILAGE: AREA

('000 hectares)

Year	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
1968–69	440	104	507	114	118	49	..	..	1,332
1969–70	513	98	608	120	152	43	..	..	1,535
1970–71	495	105	487	132	144	32	..	..	1,396
1971–72	325	57	364	85	144	22	1	..	998
1972–73	402	73	480	88	124	34	1	1	1,204

SILAGE: PRODUCTION

(Tonnes)

Period	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
Production during—									
1968–69 season	211,999	342,775	18,513	93,400	46,199	72,352	(*a*)	100	(*b*) 785,338
1969–70 „	433,589	294,058	58,317	41,840	39,168	53,291	(*a*)	1,676	(*b*) 921,939
1970–71 „	383,289	215,263	126,990	46,549	69,907	47,343	(*a*)	67	(*b*) 889,408
1971–72 „	240,521	246,118	78,202	58,651	76,395	64,377	1,270	1,301	766,835
1972–73 „	180,648	148,494	51,357	22,878	50,567	25,017	5,269	211	484,441

(*a*) Not collected. (*b*) Incomplete; *see* footnotes to individual States.

Soybeans

The soybean is cultivated widely throughout the world in temperate zones where hot damp summers provide adequate growing conditions. Although large quantities of beans are directly consumed in countries such as Japan, China and Indonesia, the greater part of world output is crushed for meal and oil. Major soybean producing countries are the United States of America, Brazil and People's Republic of China.

The greater part of Australian production takes place in the Darling Downs, Burnett and Lockyer districts of Queensland and the Moree and Gunnedah districts of New South Wales. Production has risen rapidly in recent years to reach 37,937 tonnes in 1972–73.

Lupins

The lupin is an annual legume with a growing season closely following that of winter cereals. It prefers well drained soil but is otherwise fairly adaptable. In the past a small amount has been grown for grazing but a recent rapid expansion has followed the development in Australia of lupins with alkaloid-free seed. The seed has a high protein content and is finding use as a substitute for soya protein in human and animal food preparations. The main producing area is in the south-west of Western Australia where production reached 15,126 tonnes in 1972–73.

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 C.S.R. 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.

Bulk handling of sugar

Bulk handling and mechanised loading and unloading of raw sugar is now in operation throughout the Australian sugar industry. The comparatively small New South Wales sugar industry was converted to bulk handling in 1954. In Queensland, 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. Extensions at Bundaberg and Mourilyan, second sheds at Bundaberg, Townsville, Lucinda and Cairns and also two extra sheds at Mackay have been opened subsequently to give a total bulk storage capacity of 1,471,000 tonnes. Bulk receiving facilities are in operation at all Australian refineries.

Mechanisation

In Queensland the proportion of the crop mechanically harvested had risen from 2.7 per cent in 1960 to virtually 100 per cent by 1973. Mechanical harvesting is being used on an increasing scale in New South Wales and it is expected that about two thirds of the 1974 season crop will be harvested in this way.

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 recent seasons is shown in the following table. The areas shown in the table exclude a very small area cut for green feed prior to 1971–72. 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*)

(Hectares)

	New South Wales			*Queensland*			*Australia*			
Year	*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*
1968–69	8,974	7,522	242	221,082	34,090	5,388	230,056	41,612	5,630	277,298
1969–70	8,028	7,887	197	204,762	48,860	5,588	212,790	56,747	5,785	275,322
1970–71	9,010	8,045	191	211,511	42,304	5,041	220,521	50,349	5,232	276,102
1971–72	9,330	7,418	268	224,407	31,369	4,923	233,737	38,787	5,191	277,715
1972–73	9,361	6,497	192	232,338	30,023	4,853	241,699	36,520	5,045	283,264

(*a*) Excludes areas cut for green fodder prior to 1971–72.

Production of cane and sugar

The production of sugar cane in 1972–73 was 18,928,000 tonnes, which was 463,000 tonnes below the previous record production in 1971–72. The production of raw sugar from 1945–46 is shown in plate 48, following.

SUGAR CANE: PRODUCTION OF CANE AND RAW SUGAR
(Tonnes)

Year	New South Wales		Queensland		Australia	
	Cane	Sugar(a)	Cane	Sugar(a)	Cane	Sugar(a)
1968–69	1,013,828	122,313	17,694,476	2,646,118	18,708,304	2,768,431
1969–70	848,637	99,289	14,935,717	2,114,437	15,784,354	2,213,726
1970–71	1,178,683	149,234	16,466,134	2,375,543	17,644,817	2,524,777
1971–72	980,196	123,813	18,410,310	2,669,622	19,390,506	2,793,435
1972–73	841,106	121,140	18,087,205	2,714,062	18,928,311	2,835,202

(a) Raw sugar at 94 net titre.

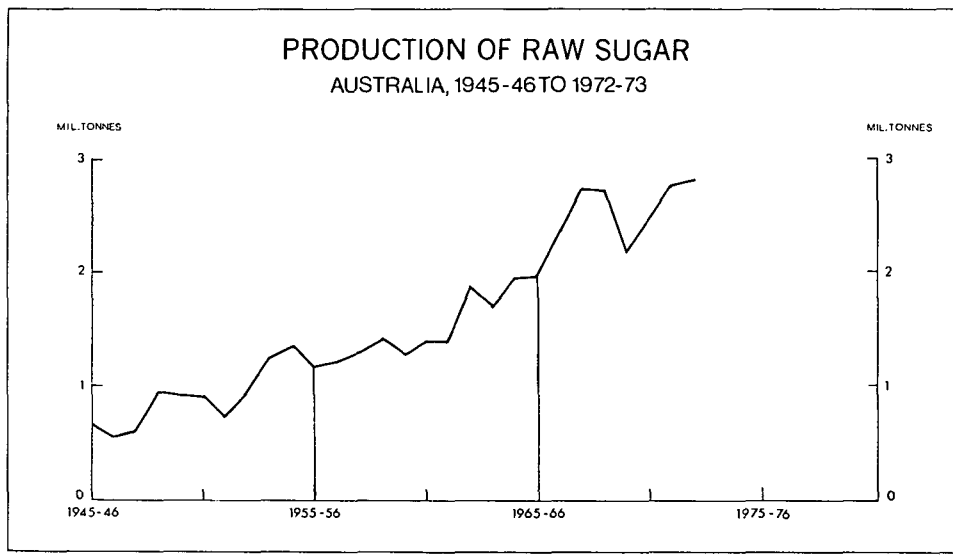


PLATE 48

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 hectare for recent years 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 HECTARE
(Tonnes)

Year	New South Wales			Queensland			Australia		
	Cane per hectare crushed	Sugar per hectare crushed	Cane to each tonne of sugar	Cane per hectare crushed	Sugar per hectare crushed	Cane to each tonne of sugar	Cane per hectare crushed	Sugar per hectare crushed	Cane to each tonne of sugar
1968–69	112.97	13.63	8.29	80.04	11.97	6.69	81.32	12.03	6.76
1969–70	105.71	12.37	8.55	72.94	10.33	7.06	74.18	10.40	7.13
1970–71	130.82	16.56	7.90	77.85	11.23	6.93	80.01	11.45	6.99
1971–72	105.06	13.27	7.92	82.04	11.90	6.89	82.96	11.95	6.94
1972–73	89.85	12.94	6.94	77.85	11.68	6.67	78.31	11.73	6.68

Production and utilisation of sugar

Details of the production and utilisation of sugar are shown below. Consumption is shown in terms of refined sugar, including that consumed in manufactured products.

SUGAR: PRODUCTION AND UTILISATION, AUSTRALIA

Year	Changes in stocks(a)	Production (raw)(b)	Exports(c)	Miscellaneous uses(d)	Consumption in Australia(e)	
					Total	Per head
	'000 tonnes	'000 tonnes	'000 tonnes	'000 tonnes	'000 tonnes	kg
1968–69 . . .	n.a.	2,604.3	2,062.2	n.a.	594.1	48.8
1969–70 . . .	n.a.	2,201.9	1,386.6	n.a.	618.9	49.7
1970–71 . . .	n.a.	2,451.7	1,596.8	n.a.	636.3	50.8
1971–72 . . .	n.a.	2,579.3	2,033.0	n.a.	645.6	50.2
1972–73 . . .	n.a.	2,729.8	2,134.7	n.a.	664.4	50.8

(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 quantity of sugar (commodity codes 102.12, 13, 38, 40) recorded as used in factories amounted to 365,756 tonnes in 1968–69, 379,373 tonnes in 1969–70, 412,414 tonnes in 1971–72 and 410,433 tonnes in 1972–73. Statistics for 1970–71 are not available. Particulars of sugar used in establishments not classified as factories are not available and consequently these quantities are deficient to that extent. In 1972–73 the reported consumption by factories engaged in the production of fruit and vegetable products (ASIC 2131, 2132) amounted to 65,235 tonnes by those producing milk, confectionery and cocoa products (ASIC 212, 2181) to 96,816 tonnes, by beer, wine and brandy producers (ASIC 2192, 2194) to 44,162 tonnes and by factories producing soft drinks, cordials and syrups (ASIC 2191) to 119,183 tonnes. Of the remainder 34,661 tonnes was used in the production of biscuits, cakes and pastries (ASIC 2162, 2163), 31,740 tonnes in the production of cereal foods and the preparation of flour and baking mixes (ASIC 2111, 2153, 2184, 2723) and 18,636 tonnes used in various other industries.

Sugar prices and returns

The current prices of sugar in Australia and details of net returns for raw sugar are shown in the following tables.

SUGAR: PRICES IN AUSTRALIA

Year	Raw sugar, 94 net titre: Average return per tonne received by millers and growers for—			Refined sugar		
	Home consumption	Exports(a)	Whole crop(a)	Date of determination	Wholesale price to retailer per tonne	Retail price capital cities per kg
	$	$	$		$	cents
1969–70(b) . .	140.84	79.55	98.18			
1970–71(c) . .	138.08	86.44	100.72			
1971–72(c) . .	136.51	99.35	108.61	19.6.67	203.46	23
1972–73(c) . .	134.93	112.26	117.96			
1973–74(c) . .	132.40	129.55	130.38			

(a) Includes 'excess' sugar. (b) Excludes repayable Australian Government arranged loan. (c) Includes repayment of Australian Government loan.

RAW SUGAR(*a*): NET RETURNS, AUSTRALIA

(*Source:* The Queensland Sugar Board)

Year	*Proportion exported*	*Net value of exports per tonne*	*Average price per tonne for whole crop*	*Estimated value of crop*
	per cent	$	$	$'000
1968–69	76.23	62.04	80.80	223,638
1969–70	69.61	79.55	98.18	217,279
1970–71	72.36	86.44	100.72	254,191
1971–72	75.09	99.35	108.61	303,290
1972–73	74.87	112.26	117.96	332,184

(*a*) 94 net titre.

The estimated 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 1973–74 amounted to $976,000 and also payment of the first instalment of the repayable Australian Government arranged loan. 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 two-thirds and one-third respectively.

Exports of sugar

RAW AND REFINED SUGAR: EXPORTS, AUSTRALIA

		1968–69	*1969–70*	*1970–71*	*1971–72*	*1972–73*
Quantity	tonnes	2,061,739	1,386,200	1,571,250	2,007,983	2,084,430
Value	$'000 f.o.b.	122,214	116,120	149,647	210,593	249,759

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.

Tobacco area and production

The area planted to tobacco in 1972–73 was 23.9 per cent below the record area established in 1962-63. Production at 15,421,000 kg was 11.1 per cent below the previous record established in 1970-71.

TOBACCO: AREA AND PRODUCTION

Year	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
AREA (HECTARES)									
1968–69	886	3,936	5,600	..	..	..	..	..	10,422
1969–70	1,108	4,458	5,224	..	..	..	..	..	10,790
1970–71	1,231	4,242	5,427	..	..	..	..	..	10,900
1971–72	1,273	3,844	4,928	..	..	..	..	..	10,045
1972–73	898	4,068	4,632	..	..	..	..	..	9,598
PRODUCTION OF DRIED LEAF ('000 kg)									
1968–69	1,125	5,477	8,853	..	..	..	..	..	15,455
1969–70	1,389	7,038	8,607	..	..	..	..	..	17,034
1970–71	1,270	6,902	8,956	..	..	..	..	..	17,128
1971–72	1,855	5,765	8,395	..	..	..	..	..	16,015
1972–73	1,449	5,769	8,203	..	..	..	..	..	15,421

Imports and exports of tobacco

Imports of tobacco and tobacco manufactures into Australia during 1972–73 were valued at $27.6 million. This included 10.3 million kg of unmanufactured tobacco valued at $16.7 million. Exports of tobacco and tobacco manufactures during 1972–73 were valued at $3,673,000, including Australian produce, $2,820,000.

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. Nearly all Australian cotton is now grown with the assistance of irrigation and 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 was 192,000 bales with an export surplus of some 75,000 bales. The 1973 cotton crop was reduced by floods and insect damage to 139,713 bales and again in 1974 floods lowered production to an estimated 132,009 bales.

Cotton area, production and yield per hectare

COTTON: AREA, PRODUCTION AND YIELD PER HECTARE

Year	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
				AREA (HECTARES)					
1968–69	24,188	..	5,394	..	4,768	..	..	..	34,350
1969–70	22,930	..	5,406	..	3,370	..	..	..	31,706
1970–71	26,403	..	5,213	..	2,918	..	..	..	34,534
1971–72	29,310	..	6,897	..	3,442	..	..	..	39,649
1972–73	31,747	..	8,008	..	3,861	..	..	..	43,616
				PRODUCTION (UNGINNED) ('000 kg)					
1968–69	78,816	..	12,748	..	11,773	..	..	..	103,337
1969–70	62,951	..	12,183	..	9,779	..	..	..	84,913
1970–71	38,611	..	8,705	..	9,435	..	..	..	56,751
1971–72	100,822	..	18,585	..	12,564	..	..	..	131,971
1972–73	71,906	..	13,464	..	11,271	..	..	..	96,641
				YIELD PER HECTARE (kg)					
1968–69	3,258	..	2,363	..	2,469	..	..	..	3,008
1969–70	2,745	..	2,254	..	2,902	..	..	..	2,678
1970–71	1,462	..	1,670	..	3,233	..	..	..	1,643
1971–72	3,440	..	2,695	..	3,650	..	..	..	3,328
1972–73	2,265	..	1,681	..	2,919	..	..	..	2,216

Production of ginned cotton for 1967–68, 31,935,000 kg; 1968–69, 33,582,000 kg; 1969–70, 31,874,000 kg; and 1971–72, 38,966,000 kg. Figures for 1970–71 are not available.

The gross value of cotton for each of the five years from 1968–69 to 1972–73 was $20,964,000; $19,073,000; $13,292,000; $30,765,000; and $32,625,000 respectively.

Imports and exports of raw cotton

RAW COTTON(*a*): IMPORTS AND EXPORTS, AUSTRALIA

		1968–69	*1969–70*	*1970–71*	*1971–72*	*1972–73*
Imports—						
Quantity	'000 kg	5,668	4,707	6,995	8,939	3,830
Value	$'000 f.o.b.	3,766	3,002	4,313	5,784	2,673
Exports—						
Quantity	'000 kg	3,733	11,541	7,416	2,421	22,290
Value	$'000 f.o.b.	1,890	5,124	3,431	1,555	11,347

(*a*) Excludes linters.

Uganda and Tanzania were the principal importing countries, taking 2,345,000 kg and 696,000 kg respectively in 1972–73.

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

	Area (hectares)			*Production ('000 kg)*		
Year	*N.S.W.*	*Qld*	*Aust.*	*N.S.W.*	*Qld*	*Aust.*
1968–69	74	31,749	(a)31,823	95	16,885	(a)16,980
1969–70	94	33,504	(a)33,598	205	42,512	(a)42,717
1970–71	158	38,403	(a)38,584	262	30,846	(a)31,123
1971–72	227	33,479	(a)33,746	242	45,774	(a)46,060
1972–73	336	28,787	(a)29,136	504	37,992	(a)38,496

(a) Incomplete; excludes Northern Territory for 1968–69 and 1969–70 and Western Australia for the three years 1970–71 to 1972–73.

The gross value of the 1972–73 crop was $10,539,000 which was approximately $1,695,000 less than in 1971–72. Total supplies available for consumption in Australia in 1972–73 were 19,074 tonnes in shell equivalent. Exports of peanuts and peanut products for the year were 11,092 tonnes.

Flax for linseed

The flax plant is a summer-growing annual. Varieties have been developed for the production of either fibre or linseed. Linseed, 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 1972–73 was 16,688 tonnes.

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.

FLAX FOR LINSEED: AREA AND PRODUCTION

Year	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Aust.*
Area (hectares)—						
1968–69	6,137	5,789	8,684	415	7,545	28,570
1969–70	20,014	7,640	8,706	395	12,469	49,224
1970–71	20,538	6,830	3,556	281	10,421	41,626
1971–72	9,391	3,694	1,872	172	4,794	19,923
1972–73	6,762	5,843	2,907	534	254	16,300
Production (tonnes of linseed)—						
1968–69	2,656	5,161	6,230	356	5,406	19,809
1969–70	14,732	9,502	5,793	361	6,285	36,673
1970–71	17,189	6,472	1,968	258	4,918	30,805
1971–72	3,713	3,388	1,301	92	1,735	10,229
1972–73	1,889	5,471	1,948	1,316	64	10,688

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 in the south-east, and the Scottsdale-Ringarooma district in the north-east 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 recent years. Exports of hops are negligible and are not recorded separately.

HOPS: PRODUCTION AND DISPOSAL, AUSTRALIA

Year	*Production(a)*	*Imports*	*Net available supplies(b)*	*Quantity used in breweries*
	'000 kg	'000 kg	'000 kg	'000 kg
1968–69	2,172	76	2,248	1,731
1969–70	2,048	18	2,066	1,755
1970–71	1,706	18	1,724	1,761
1971–72	1,847	20	1,867	1,553
1972–73	2,113	37	2,150	1,294

(*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 4,464 tonnes in 1969–70 to 25,037 tonnes in 1972–73 but declined to 12,750 tonnes for 1973–74 as a result of disease problems.

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

Safflower is best cultivated either in the warm temperate zones or as a winter crop in the tropical or sub-tropical regions, on moderately fertile, weed-free, clay or sandy loams. Adequate moisture is required up to the flowering stage, after which it is relatively drought resistant. The soil preparation and sowing techniques are similar to those employed for small grains; it is usually harvested by headers 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.

SAFFLOWER: AREA AND PRODUCTION

Year	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
				AREA (HECTARES)					
1968–69	977	81	17,640	..	69	..	..	..	18,767
1969–70	6,484	20	3,834	(a)	487	..	..	..	(b)10,825
1970–71	19,834	5,071	2,053	170	546	..	..	..	27,674
1971–72	18,675	1,272	12,482	197	1,183	..	..	..	33,809
1972–73	5,782	556	3,257	74	955	..	..	..	10,624
				PRODUCTION (TONNES)					
1968–69	271	23	10,026	..	21	..	..	..	10,341
1969–70	2,828	3	1,224	(a)	109	..	..	..	(b)4,164
1970–71	8,291	1,395	371	83	142	..	..	..	10,282
1971–72	10,592	722	3,462	81	541	..	..	..	15,398
1972–73	1,538	328	2,126	46	135	..	..	..	4,173

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

Imports of crude safflower seed oil in 1971–72 and 1972–73 totalled 3,117,000 litres and 2,791 tonnes 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 cultivation of sunflowers has developed rapidly in recent years to make it one of the major oilseed crops.

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 13,248 tonnes in 1969–70 to 147,525 tonnes in 1971–72 and production fell to 102,069 tonnes in 1972–73.

Vegetables for human consumption

Area, production and trade

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. 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 *Crop Statistics* (10.58). Details of the estimated consumption of vegetables for a series of years are given in the chapter Miscellaneous.

VEGETABLES FOR HUMAN CONSUMPTION: AUSTRALIA

Vegetable	1970–71		1971–72		1972–73	
	Area sown	Production	Area sown	Production	Area sown	Production
	hectares	tonnes	hectares	tonnes	hectares	tonnes
Asparagus	1,876	5,278	1,991	6,711	2,450	6,756
Beans, french and runner	7,494	33,878	7,972	38,105	7,512	33,441
Beetroot	766	19,367	831	23,346	832	22,801
Cabbages and brussel sprouts	2,547	71,192	2,715	80,228	2,630	69,534
Carrots	3,046	84,731	2,950	89,222	2,935	81,624
Cauliflowers	2,651	78,795	2,682	78,586	2,568	72,163
Celery	386	15,560	438	17,281	390	17,466
Cucumbers	934	11,006	1,092	13,798	1,089	13,800
Lettuce	2,179	26,108	2,191	27,108	2,183	27,247
Onions	4,331	92,951	4,419	100,352	4,464	93,234
Parsnips	495	11,415	469	10,357	436	9,118
Peas, green	16,267	81,288	21,468	118,345	21,540	114,136
Potatoes	38,619	746,973	40,401	821,802	36,607	692,606
Tomatoes	7,357	176,258	8,316	189,163	7,656	178,870
Turnips, swede and white	787	8,803	857	10,586	803	10,405
All other	17,471	..	18,224	..	16,852	..
Total	**107,206**	..	**117,016**	..	**110,947**	..

Processed vegetables

Total production of canned vegetables in 1972–73 amounted to 104,170,000 kg. The principal type produced were baked beans (including pork and beans), 23,680,000 kg; beetroot, 22,465,000 kgs; green peas (excluding mint processed peas), 11,056,000 kg; tomatoes, 4,889,000 kg; asparagus, 5,918,000 kg; and sweet corn, 5,172,000 kg. Production of potato crisps, chips and flakes during 1972–73 was 15,658,000 kg.

There has been rapid development in the quick-frozen vegetable industry. Data were collected for the first time in 1957–58, when 6,280,000 kg of frozen vegetables were produced, made up principally of 4,595,000 kg of peas and 1,152,000 kg of beans. In 1972–73 the production was 90,808,000 kg, of which 39,524,000 kg were peas, 17,797,000 kg were beans and 21,198,000 kg were potatoes.

Exports and imports of vegetables

Overseas exports of fresh and frozen vegetables during 1972–73 amounted to 24,878,000 kg valued at $3,920,000; dried vegetables, 6,395,000 kg valued at $2,623,000; preserved vegetables, 423,000 kg valued at $263,000; and other prepared or preserved vegetables, 1,454,000 kg valued at $713,000.

Imports of fresh and frozen vegetables during 1972–73 amounted to 11,382,000 kg valued at $3,128,000.

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 or approvals which operate in most States provide supplies of seed. In Australia potatoes are used almost entirely for human consumption primarily in the fresh forms although in recent years increasing quantities of potatoes have been used for processing.

POTATOES: AREA, PRODUCTION AND YIELD PER HECTARE

Year	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
AREA (HECTARES)									
1968–69	11,831	16,179	7,493	3,093	2,666	4,638	(a)	6	(b)45,906
1969–70	10,467	16,092	7,168	3,246	2,562	3,791	11	4	43,341
1970–71	8,944	14,150	6,445	2,898	2,528	3,640	9	5	38,619
1971–72	9,987	13,986	7,365	2,775	2,684	3,593	11	(a)	(b)40,401
1972–73	9,134	13,120	5,960	2,673	2,378	3,330	12	(a)	(b)36,607
PRODUCTION (TONNES)									
1968–69	163,404	304,775	124,964	69,110	75,630	73,278	(a)	133	(b)811,294
1969–70	144,327	284,040	117,308	79,886	68,242	67,994	(a)	(a)	(b)761,797
1970–71	145,688	276,569	110,403	72,526	69,150	72,591	(a)	46	(b)746,973
1971–72	171,081	306,708	132,618	71,741	68,420	70,370	144	(a)	(b)821,802
1972–73	130,301	258,892	92,164	69,483	63,282	78,286	198	(a)	(b)692,606
YIELD PER HECTARE (TONNES)									
1968–69	13.812	18.837	16.677	22.344	28.368	15.799	(a)	22.166	(b)17.673
1969–70	13.789	17.651	16.366	24.611	26.636	17.936	(a)	(a)	(b)17.577
1970–71	16.289	19.546	17.130	25.026	27.354	19.943	(a)	9.200	(b)19.342
1971–72	17.130	21.930	18.007	25.853	25.492	19.585	13.091	(a)	(b)20.341
1972–73	14.265	19.733	15.464	25.994	26.611	23.509	16.500	(a)	(b)18.920

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

The production of potatoes from 1945–46 is shown in plate 49, below.

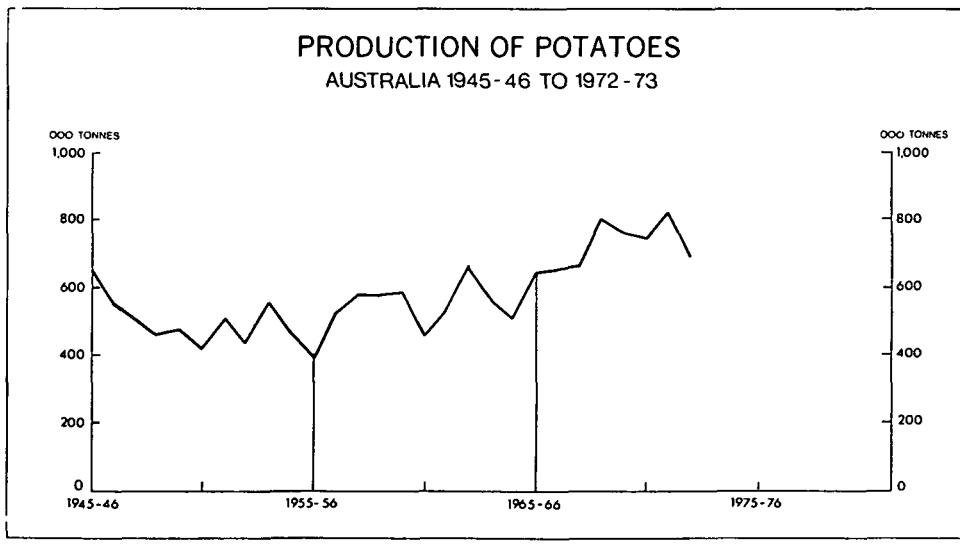


PLATE 49

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.

Consumption and export of potatoes. The annual consumption of potatoes in Australia during each of the three years 1970–71 to 1972–73 amounted to 686,700 tonnes, 758,900 tonnes and 635,900 tonnes respectively or 54.3 kg, 58.8 kg and 48.6 kg respectively per head of population. These figures exclude the quantities used for seed, which averaged about 48,000 tonnes annually over this period. Details showing exports and imports for recent years are given in the following table.

POTATOES: EXPORTS AND IMPORTS, AUSTRALIA

	Exports		*Imports*	
Year	*Quantity*	*Value*	*Quantity*	*Value*
		$'000		$'000
	tonnes	f.o.b.	tonnes	f.o.b.
1968–69	12,792	966	241	12
1969–70	20,914	1,474	..	..
1970–71	11,659	978	..	..
1971–72	11,952	1,039	..	..
1972–73	10,558	952	..	..

Australia's principal markets are Papua New Guinea, Singapore, New Caledonia and Sri Lanka.

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 occupied mainly with pears and apricots.

Area and production of fruit

The total area under fruit in Australia in 1972–73 was 115,500 hectares, 9.7 per cent less than the record area established in 1965–66.

FRUIT (EXCLUDING GRAPEVINES): AREA(*a*)
(hectares)

Year	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
1968–69	38,319	28,974	21,348	18,007	10,267	8,672	36	13	125,636
1969–70	38,576	28,685	21,468	18,131	9,766	8,563	29	15	125,233
1970–71	37,702	26,958	22,157	18,332	9,627	8,432	49	15	123,272
1971–72	39,215	27,206	22,424	17,191	9,129	7,822	88	14	123,089
1972–73	34,887	25,785	22,111	16,730	8,680	7,223	70	14	115,500

(*a*) Bearing and not bearing.

ORCHARD FRUIT (INCLUDING EDIBLE TREE NUTS), TOTAL NUMBER OF TREES 1972–73

('000)

	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Pome—									
Apples	1,596	1,606	1,302	645	1,171	2,412	..	5	8,737
Pears	258	1,633	124	200	87	145	..	..	2,447
Quinces	1	5	(a)	2	..	..	..	..	(b)9
Citrus—									
Oranges	2,617	653	259	1,465	356	..	1	..	5,351
Lemons and limes	350	121	44	110	43	..	..	..	668
Mandarins	197	60	244	81	56	..	..	..	638
Grapefruit	131	50	24	76	14	..	1	..	297
Stone—									
Apricots	136	307	52	454	18	45	..	..	1,011
Cherries	375	197	(a)	68	8	9	..	(a)	(b)657
Nectarines	44	55	50	27	9	3	..	..	188
Peaches	599	1,280	161	412	66	4	..	(a)	(b)2,521
Plums and prunes	488	167	155	80	84	4	..	(a)	(b)978
Nuts—									
Almonds	2	36	..	662	3	..	..	..	703
Macadamia	49	..	143	..	..	..	..	..	192
Walnuts	1	9	..	6	2	..	..	..	18
Other orchard n.e.i.—									
Custard apples	1	..	16	..	(a)	..	..	..	(b)17
Figs	2	3	(a)	7	1	..	..	..	(b)13
Mangoes	..	..	57	..	1	..	1	..	59
Olives	15	96	..	56	19	..	..	(a)	(b)187

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

ORCHARD FRUIT (INCLUDING EDIBLE TREE NUTS), PRODUCTION 1972–73

(Tonnes)

	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Pome—									
Apples	65,588	90,870	37,643	27,939	56,386	133,807	..	105	412,338
Pears	15,112	122,732	4,013	10,475	4,643	6,161	..	3	163,139
Quinces	65	210	(a)	151	3	6	..	..	(b)435
Citrus—									
Oranges	153,273	44,378	19,232	125,706	8,976	..	13	..	351,578
Lemons and limes	14,444	5,772	4,579	4,603	2,539	..	9	..	31,946
Mandarins	6,089	2,610	11,448	2,755	1,184	..	3	..	24,089
Grapefruit	6,266	2,907	984	5,657	308	..	7	..	16,129
Stone—									
Apricots	5,680	12,836	1,236	7,535	551	323	..	..	28,161
Cherries	4,464	4,340	(a)	1,059	50	33	..	..	(b)9,946
Nectarines	1,278	1,388	1,163	1,024	328	54	..	..	5,235
Peaches	28,092	56,641	3,697	22,851	2,167	62	..	..	113,510
Plums and prunes	12,276	1,722	4,560	1,271	3,862	81	..	..	23,772
Nuts—									
Almonds	1	4	..	1,501	1	..	..	..	1,507
Macadamia	21	..	34	..	..	..	..	..	56
Walnuts	4	46	..	18	7	..	..	..	75
Other orchard n.e.i.—									
Custard apples	1	..	382	..	(a)	..	..	..	(b)383
Figs	51	41	(a)	265	14	..	..	..	(b)371
Mangoes	9	..	1,604	..	12	..	34	..	1,659
Olives	359	1,024	..	799	218	..	..	..	2,400

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

BERRY AND OTHER FRUITS (EXCLUDING GRAPEVINES) 1972–73

	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
TOTAL AREA BEARING AND NOT BEARING (HECTARES)									
Small and berry fruit—									
Currants (black, red)	..	..	..	(a)	..	321	..	..	(b)321
Raspberries	..	57	..	8	..	216	..	..	281
Strawberries	51	173	121	67	13	27	..	..	452
Other	11	84	10	3	2	51	..	..	161
Other fruit—									
Bananas	6,816	..	2,601	..	181	..	21	..	9,619
Papaws	40	..	353	..	..	..	2	..	395
Passionfruit	60	20	240	..	36	..	..	..	356
Pineapples	57	..	6,218	..	(a)	..	6	..	(b)6,281
PRODUCTION (TONNES)									
Small and berry fruit—									
Currants (black, red)	..	..	..	(a)	..	905	..	..	(b)905
Raspberries	..	136	..	26	..	1,466	..	..	1,628
Strawberries	340	1,352	933	582	142	112	..	..	3,461
Other fruit—									
Bananas	83,972	..	34,542	..	5,076	..	242	..	123,832
Papaws	124	..	2,705	..	..	..	17	..	2,846
Passionfruit	291	16	1,973	..	87	..	..	..	2,367
Pineapples	499	..	125,838	..	(a)	..	16	..	(b) 1,263

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

Principal fruit crops

PRINCIPAL FRUIT CROPS: PRODUCTION AND GROSS VALUE OF PRODUCTION, AUSTRALIA

Year	Apples	Apricots	Bananas	Oranges	Peaches	Pears	Pineapples	Plums and prunes
	PRODUCTION ('000 TONNES)							
1968–69	422	44	125	264	108	107	121	24
1969–70	424	40	131	234	113	190	121	26
1970–71	443	53	131	322	123	188	141	31
1971–72	360	32	128	291	117	184	154	23
1972–73	412	28	124	352	114	163	126	24
	GROSS VALUE OF PRODUCTION ($'000)							
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
1971–72	50,310	7,764	20,958	30,423	15,876	19,448	9,629	5,228
1972–73	65,782	6,929	28,217	33,647	17,505	23,674	12,202	5,973

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. Fruit usage in factories in 1968–69 and 1969–70 amounted to 466,000 tonnes and 494,000 tonnes respectively. Statistics for 1970–71 are not available. During 1972–73 output of jams conserves, fruit spreads, etc., amounted to 33,166,000 kg, while output of preserved fruit amounted to 273,897,000 kg. Of the latter figure, peaches accounted for 93,172,000 kg, pears 60,925,000 kg, pineapples 33,107,000 kg and mixed fruits 49,333,000 kg.

Details of the estimated consumption of fruit and fruit products for a series of years are shown in the chapter, Miscellaneous.

Imports and exports of fruit and fruit products

The imports of fresh fruit into Australia are negligible, while those of dried fruit consists mainly of dates, approximately 90 per cent of which are obtained from Iraq and Iran, the bulk of the remainder coming from Turkey and the People's Republic of China. 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 1972–73 amounted to $32,274,000 for fresh and chilled fruit, and $28,500,000 for dried fruit. Apples constitute over half of the fresh fruit exported, although exports of pears and citrus fruits are considerable.

FRESH AND CHILLED FRUIT: EXPORTS, AUSTRALIA

Year	*Apples*		*Pears*		*Citrus*		*Total value(a)*
	Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	
	'000 kg	$'000 f.o.b.	'000 kg	$'000 f.o.b.	'000 kg	$'000 f.o.b.	$'000 f.o.b.
1968–69	130,242	19,964	21,161	4,107	30,986	4,423	29,427
1969–70	134,628	20,410	36,888	6,486	21,825	3,216	31,019
1970–71	142,073	21,881	34,486	6,411	26,998	3,721	32,971
1971–72	98,326	15,889	34,434	6,969	34,712	4,824	28,680
1972–73	116,974	18,016	42,309	9,141	32,554	4,682	32,929

(*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, are shown below.

DRIED TREE FRUIT(*a*): IMPORTS AND EXPORTS, AUSTRALIA

Year	*Imports*		*Exports*	
	Quantity	*Value*	*Quantity*	*Value*
	'000 kg	$'000 f.o.b.	'000 kg	$'000 f.o.b.
1968–69	4,688	933	2,548	2,120
1969–70	5,368	1,162	2,225	1,730
1970–71	3,906	989	2,281	1,537
1971–72	3,830	1,046	3,422	2,208
1972–73	4,897	1,165	2,917	2,313

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

Exports of jams and jellies in 1972–73 were 3,348,000 kg valued at $1,175,000, compared with 2,853,000 kg, valued at $1,132,000 in 1971–72. Imports of jams and jellies in 1972–73 were 1,445,000 kg, valued at $654,000, compared with 1,829,000 kg, valued at $812,000 in 1971–72.

EXPORTS OF CANNED OR BOTTLED FRUIT: AUSTRALIA

Year	Peaches		Pears		Fruit salad		Apricots		Total Value(a)
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	
	'000 kg	$'000 f.o.b.	'000 kg	$'000 f.o.b.	'000 kg	$'000 f.o.b.	'000 kg	$'000 f.o.b.	$'000 f.o.b.
1968–69	57,232	14,533	41,612	11,361	16,919	5,345	6,337	1,726	37,842
1969–70	56,485	14,783	37,204	10,708	15,105	5,104	5,646	1,611	37,231
1970–71	49,986	13,971	51,377	14,380	21,377	7,201	6,697	1,924	42,891
1971–72	47,729	13,202	37,825	10,809	18,159	6,337	5,470	1,623	36,462
1972–73	69,112	18,638	53,386	15,499	19,855	6,845	6,843	2,102	48,223

(a) Includes exports of all other canned or bottled fruit.

Exports of pulped fruit during 1972–73 amounted to 1,730,000 kg valued at $633,000.

The total value of preserved fruit and fruit preparations (including fruit juices) imported into Australia during 1972–73 was $2,717,000. The value of exports of fruit juices in 1972–73 was $2,854,000.

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 1972–73 season in Victoria and South Australia constituted 75 per cent of the total area of the vineyards.

VINEYARDS: AREA(a)
(Hectares)

Year	N.S.W.	Vic.	Qld	S.A.	W.A.	Aust.
1968–69	9,206	19,817	1,420	24,513	2,942	57,898
1969–70	10,287	20,169	1,463	26,239	2,690	60,848
1970–71	11,247	20,612	1,556	27,653	2,715	63,783
1971–72	12,655	20,794	1,571	28,769	2,726	66,515
1972–73p	13,274	21,526	1,560	29,528	2,614	68,502

(a) Bearing and not bearing.

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 1973–74, production of unfortified wines exceeded fortified wines by 64 million litres.

Production and consumption of wine and brandy

In 1973–74 the total production of wine (beverage and distillation) in Australia was 294.7 million litres, while total consumption of beverage wine was 148.1 million litres (11.2 litres per head of population). Similar particulars for 1972–73 are 279.9 million litres and 130.0 million litres (9.9 litres per head of population) respectively.

WINE: PRODUCTION(*a*)
('000 litres)

Year	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Aust.(b)*
1968–69	41,437	28,112	(*c*)	165,502	(*c*)	239,474
1969–70	55,104	31,935	(*c*)	203,139	(*c*)	294,400
1970–71	46,409	30,079	(*c*)	173,899	(*c*)	254,965
1971–72	66,545	35,835	(*c*)	183,276	(*c*)	290,239
1972–73	61,580	25,840	(*c*)	188,315	(*c*)	279,943

(*a*) Beverage and distillation wine. (*b*) Includes Tasmania. (*c*) Confidential—not available for publication.

BRANDY: PRODUCTION, SOUTH AUSTRALIA AND AUSTRALIA
('000 litres alcohol)

Year	*S.A.*	*Aust.(a)*
1968–69	876	2,855
1969–70	1,114	3,486
1970–71	3,496	3,849
1971–72	1,479	4,485
1972–73	3,064	3,589

(*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 Papua New Guinea. During 1972–73 these countries received 718,000 litres, 1,372,000 litres and 468,000 litres respectively. Exports of Australian-produced wine and imports of wine for recent years are shown in the following table.

WINE: EXPORTS AND IMPORTS, AUSTRALIA

Year	*Quantity*			*Value f.o.b.*		
	Sparkling ('000 litres)	*Other ('000 litres)*	*Total ('000 litres)*	*Sparkling ($'000)*	*Other ($'000)*	*Total ($'000)*
			EXPORTS			
1968–69	332	7,869	8,201	314	3,086	3,400
1969–70	377	5,510	5,887	348	2,565	2,913
1970–71	395	6,169	6,564	391	3,188	3,579
1971–72	386	7,587	7,973	401	3,844	4,245
1972–73	547	4,110	4,657	550	2,670	3,220
			IMPORTS			
1968–69	395	1,668	2,063	495	1,379	1,874
1969–70	473	1,482	1,955	597	1,323	1,920
1970–71	536	1,850	2,386	780	1,801	2,581
1971–72	555	1,927	2,482	781	2,070	2,851
1972–73	672	2,237	2,909	1,002	2,523	3,525

During 1972–73 Italy supplied 769,000 litres valued at $745,000, Portugal 719,000 litres valued at $583,000 and France 429,000 litres valued at $1,095,000.

Exports of Australian-produced brandy in 1972–73 amounted to 218,000 litres alcohol, valued at $451,000. Imports of brandy, mainly from France, amounted to 1,119,000 litres alcohol, valued at $2,120,000.

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.

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. Since the International Sultana Agreement was terminated in 1971 a Conference of Sultana (Raisin) Producing Countries has been held annually to maintain a high level of co-operation between the major producing countries.

DRIED VINE FRUIT: PRODUCTION

(Tonnes)

	N.S.W.		*Vic.*		*S.A.*		*W.A.*		*Aust.*	
Year	*Raisins (a)*	*Currants*	*Raisins (a)*	*Currants*	*Raisins (a)*	*Currants*	*Raisins (a)*	*Currants*	*Raisins (a)*	*Currants*
1968–69	7,955	435	38,504	2,730	1,771	2,297	8	1,892	48,238	7,354
1969–70	14,344	661	68,146	3,437	3,220	3,378	8	1,085	85,718	8,561
1970–71	9,389	640	41,237	3,083	1,334	3,201	29	1,513	51,989	8,437
1971–72	15,182	583	71,521	3,244	8,551	3,098	37	1,232	95,291	8,157
1972–73	7,443	373	40,158	2,323	3,712	2,026	36	936	51,349	5,658

(*a*) Includes sultanas and lexias.

DRIED VINE FRUIT(*a*): EXPORTS, AUSTRALIA

	Raisins, sultanas and lexias		*Currants*		*Total*	
Year	*Quantity*	*Value f.o.b.*	*Quantity*	*Value f.o.b.*	*Quantity*	*Value f.o.b.*
	tonnes	$'000	tonnes	$'000	tonnes	$'000
1968–69	58,874	18,240	3,492	1,203	62,366	19,443
1969–70	41,230	13,347	2,838	979	44,068	14,326
1970–71	55,663	17,140	4,261	1,322	59,924	18,462
1971–72	51,678	16,120	4,590	1,378	56,268	17,498
1972–73	69,974	25,213	2,617	897	72,591	26,110

(*a*) Excludes quantities exported as mincemeat.

The chief countries importing Australian dried vine fruits are the United Kingdom, Canada, New Zealand and the Federal Republic of Germany. The quantities exported to these countries in 1972–73 were 17,386 tonnes, 19,025 tonnes, 7,043 tonnes and 9,250 tonnes respectively.

Table grapes

Grapes for table use are grown in all States except Tasmania, but the area of this type was only about 3 per cent of the productive area of vines in 1972–73.

LIVESTOCK AND LIVESTOCK PRODUCTS

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 1861 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 1861 to 1961, and from 1969 onwards in single years, are given in the following table, and are shown continuously since 1880 on the graph on plate 50, page 795.

LIVESTOCK: AUSTRALIA, 1861 TO 1973
('000)

Year	*Horses*	*Cattle*	*Sheep*	*Pigs*	*Year*	*Horses*	*Cattle*	*Sheep*	*Pigs*
1861	432	3,958	20,135	351	1941	1,666	13,256	122,694	1,797
1871	717	4,276	41,594	543	1951	999	15,229	115,596	1,134
1881	1,069	7,527	62,184	816	1961	598	17,332	152,679	1,615
1891	1,522	10,300	97,881	891	1969	n.a.	20,611	174,605	2,253
1901	1,610	8,640	70,603	950	1970	456	22,162	180,080	2,398
1911	2,166	11,745	98,066	1,026	1971	n.a.	24,373	177,792	2,590
1921	2,416	13,500	81,796	764	1972	n.a.	27,373	162,910	3,199
1931	1,793	11,721	110,568	1,072	1973	n.a.	29,130	140,109	3,257

While livestock numbers (particularly sheep) have increased substantially since 1861, 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, 1973 (29,130,000); sheep 1970 (180,080,000); and pigs, 1973 (3,257,000).

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.

Sheep

Distribution throughout Australia

With the exception of a short period in the early eighteen-sixties, when the flocks in Victoria outnumbered those of New South Wales, the latter State has occupied the premier position in sheep-raising. Western Australia is the second largest sheep raising State followed by Victoria. Sheep numbers reached a peak in Australia in 1970. They then declined up to March 1973 as producers turned off large numbers for slaughter and moved from wool-growing towards beef production; in 1974, however, the numbers increased to 145,173,000.

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 1880 onwards appear on plates 50 and 51 of this Year Book (pages 795 and 797).

NUMBER OF SHEEP
('000)

Year ended 31 March	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
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
1972	62,000	29,496	14,604	17,970	34,405	4,237	7	192	162,910
1973	52,037	24,186	13,346	15,651	30,919	3,824	3	143	140,109

The percentage distribution of sheep and lambs in the several States in 1973 was: New South Wales, 37; Victoria, 17; Queensland, 10; South Australia, 11; Western Australia, 22; and Tasmania, 3.

Movement in sheep numbers

SHEEP AND LAMBS: ANALYSIS OF MOVEMENT IN NUMBERS, AUSTRALIA
('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*
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
1972	177,792	51,705	807	52,659	13,121	162,910
1973	162,910	39,787	1,135	46,960	14,573	140,029

(*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 802.

Classification of sheep according to age, sex, and breed

SHEEP, BY AGE AND SEX: AUSTRALIA
('000)

Description	*31 March 1969*	*1970*	*1971*	*1972*	*1973*
Rams (1 year and over)	2,184	2,200	2,177	2,060	1,844
Breeding ewes (1 year and over)	83,607	85,474	84,381	75,611	68,715
Other ewes (1 year and over)	6,424	6,483	7,521	9,089	6,694
Wethers (1 year and over)	45,178	45,441	45,269	39,777	34,694
Lambs and hoggets (under 1 year)	37,212	40,482	38,443	36,374	28,162
Total sheep and lambs	**174,605**	**180,080**	**177,792**	**162,910**	**140,109**

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

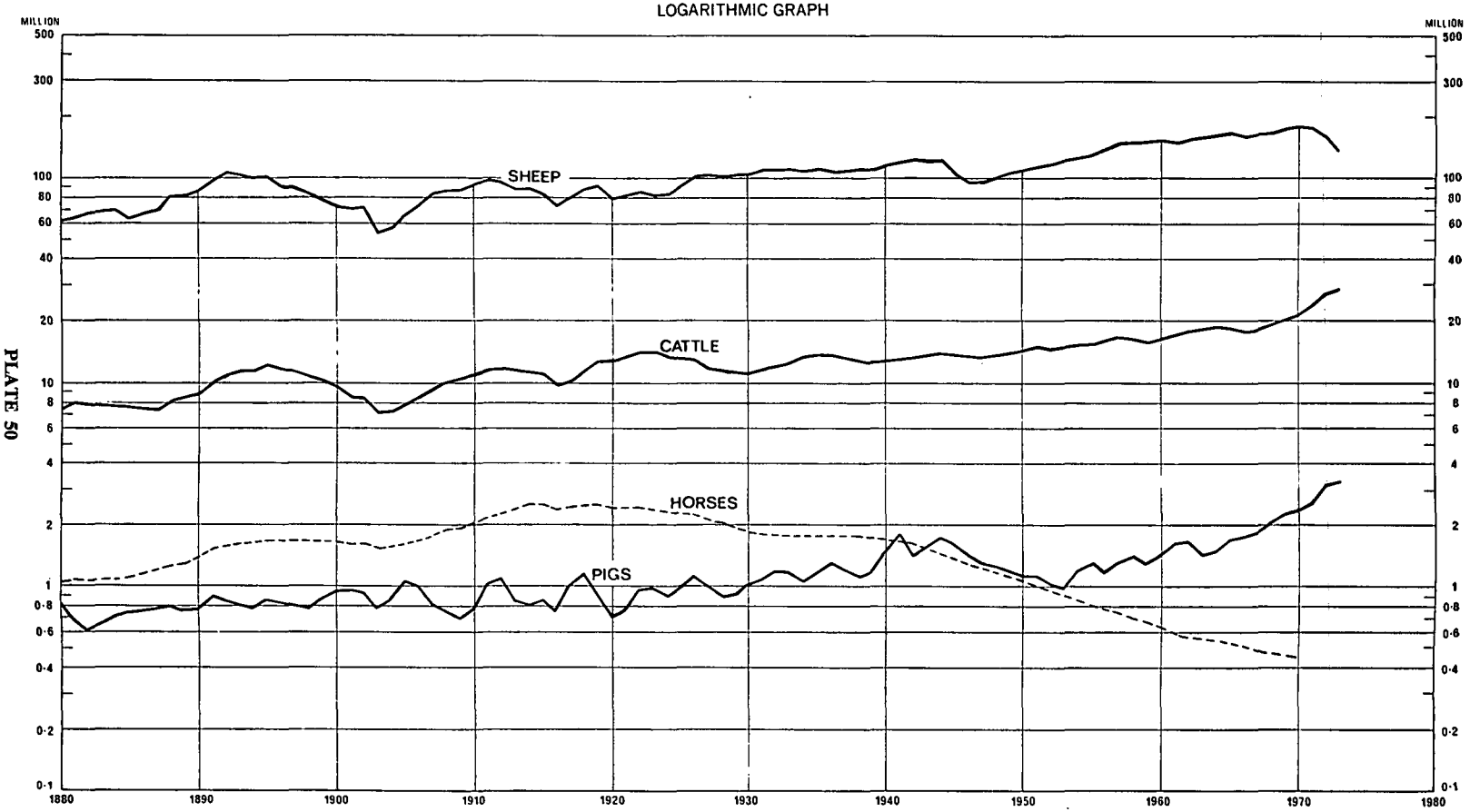
SHEEP, BY PRINCIPAL BREED: 31 MARCH 1971
('000)

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.

LIVESTOCK: AUSTRALIA, 1880 TO 1973

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

FIGURES FOR HORSES HAVE NOT BEEN COLLECTED SINCE 1970

PLATE 50

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. More than 90 per cent 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 802.

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 has 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 fluctuated between 55.7 per cent and 57.7 per cent. It was 56.4 per cent in 1972–73.

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 and carbonised wool exported during 1972–73 was about 6.8 per cent of total raw wool exports 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 797). 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 recent years. A graph showing the production of wool in relation to sheep numbers from 1880 onwards appears on plate 51, page 797.

PRODUCTION OF WOOL (GREASY BASIS)

('000 kg)

Year	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
1968–69	305,512	165,267	112,041	108,011	170,394	21,299	50	934	883,506
1969–70	340,125	193,779	89,065	124,741	152,624	21,861	50	1,159	923,405
1970–71	314,317	195,444	76,554	117,537	158,969	21,671	36	1,000	885,528
1971–72	281,759	192,449	83,160	117,922	178,162	21,063	24	822	875,361
1972–73	226,186	172,449	70,915	100,931	146,860	18,154	10	555	736,060

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 one per cent) or is exported on skins (about 9 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

Year	*Shorn (including crutchings)*	*Dead and fell-mongered*	*Exported on skins*	*Total production*	
				Quantity	*Value*
	'000 kg	'000 kg	'000 kg	'000 kg	$'000
1968–69	804,328	11,441	67,737	883,506	838,651
1969–70	839,084	10,057	74,264	923,405	735,233
1970–71	801,168	7,818	76,540	885,528	537,504
1971–72	776,969	8,133	90,258	875,361	660,456
1972–73	643,599	7,594	84,865	736,060	1,242,629

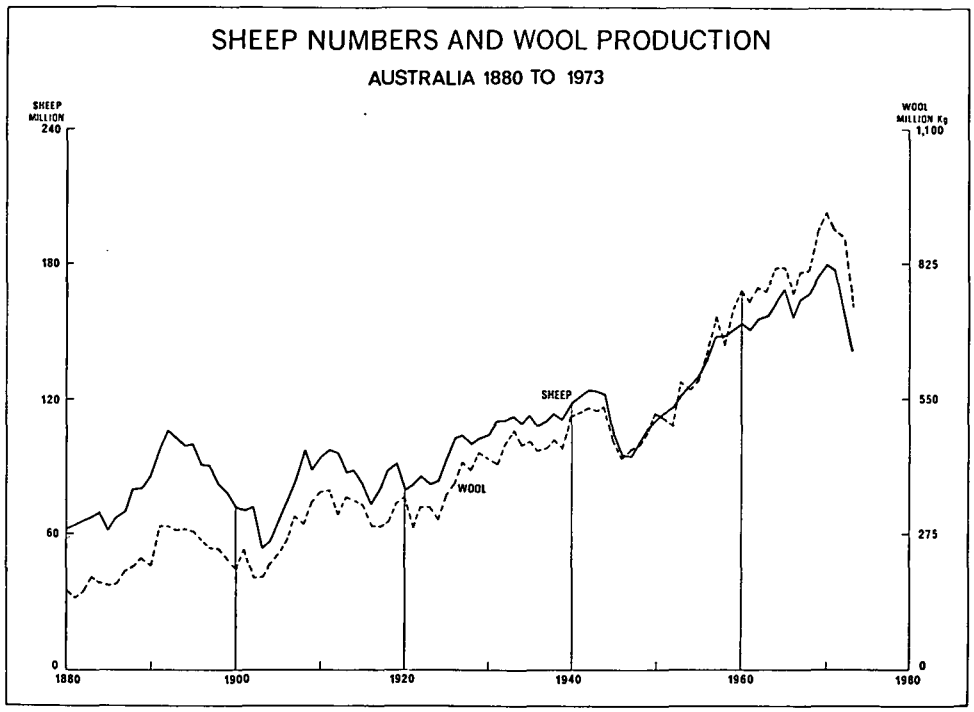


PLATE 51

Average fleece weight

AVERAGE WEIGHT OF FLEECES SHORN (SHEEP AND LAMBS) (kg)

State or Territory	*Sheep*					*Lambs*				
	1968–69	*1969–70*	*1970–71*	*1971–72*	*1972–73*	*1968–69*	*1969–70*	*1970–71*	*1971–72*	*1972–73*
New South Wales	4.56	4.93	4.55	4.36	4.34	1.61	1.62	1.61	1.55	1.45
Victoria	4.44	4.84	4.67	4.52	4.45	1.34	1.37	1.39	1.36	1.24
Queensland	5.10	4.69	4.69	4.99	4.99	1.96	1.92	2.05	2.16	2.11
South Australia	6.08	6.27	5.69	6.00	5.98	1.78	1.86	1.75	1.85	1.72
Western Australia	5.31	4.70	4.68	5.10	4.64	1.57	1.35	1.38	1.57	1.38
Tasmania	4.81	4.85	4.67	4.70	4.41	1.20	1.15	1.19	1.26	1.12
Northern Territory	4.89	4.89	4.29	6.00	3.86	..	..	..	..	..
Australian Capital Territory	3.87	5.12	4.26	4.13	4.07	0.75	0.82	0.95	1.22	1.02
Australia	**4.90**	**4.99**	**4.74**	**4.78**	**4.67**	**1.59**	**1.55**	**1.54**	**1.58**	**1.45**

Classification of wool according to quality

The following table provides a detailed analysis of wool sold at auction, according to quality, for the 1972–73 season. These data are compiled by the Wool Corporation on the basis of catalogues of auction sales. 'Quality' is a measure of the fineness and texture of wool for spinning purposes.

CLASSIFICATION OF GREASY WOOL SOLD AT AUCTION(*a*): AUSTRALIA
1972-73 SEASON

(Bales of approximately 136 kg)

Predominating quality (mean microns)	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*Aust.*
19 and finer	75,903	37,948	2,892	622	2,248	5,402	125,015
20–21	275,503	229,660	80,567	32,652	213,430	8,310	840,122
22–23	400,993	318,327	242,923	232,856	295,535	29,256	1,519,890
Total, 23s and finer	*752,399*	*585,935*	*326,382*	*266,130*	*511,213*	*42,968*	*2,485,027*
24–25	83,221	167,412	45,119	152,073	78,182	29,075	555,082
26–27	66,749	123,142	8,970	50,009	25,551	16,588	291,009
28–32	86,015	129,743	4,147	18,516	9,860	13,226	261,507
33 and coarser	28,583	51,554	1,301	4,500	3,549	5,457	94,944
Oddments	13,673	11,357	10,511	6,268	26,667	2,285	70,761
Grand total	**1,030,640**	**1,069,143**	**396,430**	**497,496**	**655,022**	**109,599**	**3,758,330**

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

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.

Between 80 and 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 program is drawn up by the Joint Wool Selling Organisation representing wool growers, wool buyers, the Australian Wool Corporation, selling brokers, and unions on the basis of 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.

The balance of the clip is sold mainly through private sale, that is, after direct negotiation between the grower and the buyer. Since September 1971 a further alternative, sale by tender, has been available using the principle of sealed bidding. Companies engaged in this activity employ objective measurement techniques for wool, which can allow substantial savings in handling costs over traditional methods of wool selling by auction.

Wool marketing Committee of Enquiry

Details of this enquiry and its findings are included in previous issues of the Year Book.

Price and value

During 1972–73 the price of greasy and scoured wool sold in the selling centres of Australia averaged 183.77c per kg compared with the average price of 75.25c per kg in 1971–72 and 64.68c per kg in 1970–71. 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 1972–73 it was $1,242,629,000 or 24.0 per cent of the gross value of production of rural industries.

ESTIMATED GROSS VALUE OF TOTAL WOOL PRODUCTION(a)
($'000)

Season	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
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
1971–72	222,598	134,514	61,732	85,701	137,269	18,001	13	628	660,456
1972–73	429,825	254,434	123,512	164,577	231,599	37,481	17	1,224	1,242,629

(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 1973 amounted to 114.1 million kg (greasy basis) of which 23.8 million kg (12.9 million kg as greasy and 10.9 million kg as scoured and carbonised) was held by woollen mills, wool scourers and fellmongers, and 90.4 million kg, assumed to be all greasy, was held by brokers and dealers. Of the wool held by brokers and dealers 18.4 million kg was unsold wool and 72.0 million kg 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.

ESTIMATED CONSUMPTION OF RAW WOOL: AUSTRALIA
('000 kg)

	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*
1968–69	58,718	1,148	59,866	33,402	545	33,948
1969–70	59,459	1,148	60,606	33,824	545	34,369
1970–71	60,904	1,148	62,052	34,646	545	35,191
1971–72	54,108	1,148	55,256	30,965	545	31,510
1972–73	57,703	1,148	58,851	33,023	545	33,568

As considerable quantities of tops, noils and yarn are exported from Australia, the series on raw wool consumption shown above is over-stated to this extent. The series '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. 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
('000 kg)

Year	*Greasy basis*				*Clean equivalent*			
	Worsted yarn used (a) (b)	*Woollen yarn used (b)*	*Scoured wool used for felt manufacture (including hats)*	*Total*	*Worsted yarn used (a) (b)*	*Woollen yarn used (b)*	*Scoured wool used for felt manufacture (including hats)*	*Total*
1968–69	15,202	15,742	1,148	32,091	8,852	9,676	545	19,073
1969–70	17,782	17,170	1,148	36,100	11,000	10,392	545	21,937
1970–71	19,655	17,063	1,148	37,865	12,160	10,327	545	23,032
1971–72	21,575	18,556	1,148	41,279	12,098	10,996	545	23,640
1972–73	19,303	20,235	1,148	40,686	10,826	11,991	545	23,362

(*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 1972–73, 44 per cent went to Japan, 9 per cent to France, 7 per cent to Italy, 6 per cent to the Federal Republic of Germany, 5 per cent to the United Kingdom and 5 per cent to the U.S.S.R.

EXPORTS OF GREASY AND SLIPE WOOL: AUSTRALIA
('000 kg actual weight)

Country of consignment	*1968–69*	*1969–70*	*1970–71*	*1971–72*	*1972–73*
Belgium-Luxembourg	38,332	38,720	44,144	27,472	26,824
France	59,178	60,325	62,342	78,346	57,343
Germany, Federal Republic of	43,701	46,056	46,117	52,036	41,022
India	15,427	19,148	16,915	15,223	6,868
Italy	59,060	61,400	42,451	52,327	43,278
Japan	240,477	258,195	254,680	285,239	299,163
Poland	15,631	15,343	12,711	18,355	22,555
Taiwan	10,146	12,345	14,226	15,692	15,691
United Kingdom	52,175	62,303	34,172	33,011	29,736
U.S.S.R.	28,131	30,570	38,795	21,328	30,264
Yugoslavia	8,528	12,069	16,655	8,671	19,665
Other	95,058	95,457	67,493	81,605	73,820
Total	**665,844**	**711,931**	**650,701**	**689,305**	**666,229**

EXPORTS OF SCOURED AND WASHED AND CARBONISED WOOL: AUSTRALIA
('000 kg actual weight)

Country of consignment	*1968–69*	*1969–70*	*1970–71*	*1971–72*	*1972–73*
Canada	999	1,240	956	911	814
France	1,055	616	1,061	1,622	691
Germany, Federal Republic of	3,064	2,448	3,795	3,619	3,624
Hong Kong	2,057	1,972	1,799	1,458	2,131
Iran	1,865	2,214	1,896	3,117	2,041
Italy	3,362	3,773	3,522	4,840	2,679
Japan	1,653	1,665	965	1,443	3,119
Korea, Republic of	1,221	1,075	729	759	1,679
Taiwan	685	1,435	2,176	1,063	1,523
United Kingdom	6,123	6,053	6,105	5,823	6,335
United States of America	8,641	6,512	2,550	1,831	2,967
U.S.S.R.	3,512	6,966	1,046	10,246	2,284
Other	4,476	4,971	6,170	5,304	4,387
Total	**38,713**	**40,940**	**32,770**	**42,036**	**34,274**

EXPORTS OF CARDED OR COMBED WOOL, NOILS AND WOOLWASTE: AUSTRALIA
('000 kg actual weight)

	1968–69	1969–70	1970–71	1971–72	1972–73
Carded or combed—Tops	10,942	9,940	8,892	9,949	9,070
Other	3	4	14	90	67
Noils	1,536	1,183	1,367	1,453	1,179
Waste	906	962	1,455	2,545	1,844

The following table shows the estimated greasy weights of exports of raw and semi-processed wool. As the figures in the table are expressed on a 'greasy' basis, they differ from those in the preceding tables which represent actual weight shipped.

EXPORTS OF WOOL—GREASY BASIS: AUSTRALIA
('000 kg)

	1968–69	1969–70	1970–71	1971–72	1972–73
Raw wool—					
Greasy and slipe	667,588	712,985	650,875	689,619	667,995
Scoured and washed and carbonised	61,500	65,600	52,298	66,947	54,720
Exported on skins	67,737	74,264	76,540	90,258	84,865
Total raw wool	*796,825*	*852,849*	*779,713*	*846,824*	*807,580*
Semi-processed wool—					
Tops	17,800	19,100	17,073	18,903	17,300
Yarn	91	126	243	331	159
Total raw and semi-processed wool	**814,716**	**872,075**	**797,029**	**866,058**	**825,039**

Overseas trade in sheepskins

EXPORTS OF SHEEPSKINS WITH WOOL: AUSTRALIA

	Quantity ('000 kg)			*Value ($'000 f.o.b.)*		
Country of consignment	*1970–71*	*1971–72*	*1972–73*	*1970–71*	*1971–72*	*1972–73*
France	76,733	85,763	75,473	29,886	33,573	69,103
Germany, Federal Republic of	5,086	6,304	5,886	2,641	2,752	4,425
Italy	18,394	18,651	16,486	8,488	6,922	15,686
Netherlands	1,571	2,438	2,620	609	842	1,189
Spain	862	2,999	2,649	380	1,029	1,852
United Kingdom	4,330	5,002	6,501	1,743	1,584	5,493
Yugoslavia	6,872	6,099	4,686	3,068	1,551	2,630
Other	3,683	5,035	8,615	2,454	2,688	6,112
Total	**117,532**	**132,291**	**122,916**	**49,269**	**50,941**	**106,490**
Number of skins ('000)	**36,181**	**40,015**	**39,931**	..	..	..

In 1972–73 a total of 3,223,000 sheepskins without wool were exported, valued at $2,906,000. Of these, sheepskins without wool to the value of $528,000 (18 per cent) were shipped to the United States of America, $240,000 (8 per cent) to the United Kingdom and $595,000 (20 per cent) to France.

Value of wool exported

The value of wool (other than wool on sheepskins) exported from Australia during 1972–73 was 19 per cent of the total value of exports of merchandise of Australian origin, while the proportion for the five years ended 1972–73 averaged 12 per cent. The values for the five years ended 1972–73, together with the principal countries to which wool was exported, are shown in the following table.

VALUE OF WOOL EXPORTS: AUSTRALIA(*a*)
($'000)

Country of consignment	*1968–69*	*1969–70*	*1970–71*	*1971–72*	*1972–73*
Belgium-Luxembourg	32,692	28,023	24,484	16,139	33,267
France	59,973	53,592	42,143	53,087	82,441
Germany, Federal Republic of	48,987	48,190	39,209	45,456	67,052
Italy	69,654	63,621	33,762	41,984	67,829
Japan	263,179	257,023	198,269	220,300	495,310
United Kingdom	63,832	62,732	30,055	32,401	55,869
United States of America	49,417	36,383	12,672	13,136	18,093
U.S.S.R.	40,104	43,212	35,349	29,860	70,269
Other	166,434	167,679	127,629	129,585	264,114
Total	**794,272**	**760,455**	**543,572**	**581,948**	**1,154,244**

(*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 1972–73 Australia produced 33 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 22 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
(*Source* for countries other than Australia: Reports published by Australian Meat Board and by the Commonwealth Secretariat, London)

	Sheep numbers (million)			*Wool production (million kg—greasy basis)*		
Country	*1970–71*	*1971–72*	*1972–73(a)*	*1970–71*	*1971–72*	*1972–73(a)*
Australia	**178**	**163**	**140**	**891**	**880**	**736**
New Zealand	59	61	57	334	322	322
Argentina	41	40	42	200	189	194
South Africa	32	30	33	123	113	107
United States of America	20	19	18	85	82	77
Uruguay	19	16	17	78	54	60
United Kingdom	19	19	20	46	48	47
U.S.S.R.	138	140	139	419	429	419
Other	541	534	543	579	569	603
World total	**1,047**	**1,022**	**1,009**	**2,755**	**2,686**	**2,565**

(*a*) Provisional.

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 1973 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, 1973

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

(Million kg)

Importing country	*Quantity imported from(a)—* *Australia*	*New Zealand*	*Argentina*	*South Africa*	*Other countries*	*Total imports*
Japan	261	31	5	17	2	316
United Kingdom	27	43	10	16	55	151
France	56	36	7	13	9	121
Belgium	20	15	2	..	16	53
Germany, Federal Republic of	15	11	5	11	17	59
United States of America(*b*)	5	14	2	2	4	27

(*a*) Actual weight of greasy and scoured wool. (*b*) Imports are in terms of estimated clean content of greasy and scoured wool.

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.

Mutton and lamb

Sheep slaughtered

SHEEP (INCLUDING LAMBS) SLAUGHTERED

('000)

Year	*Slaughterings passed for human consumption* *N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*	*Total slaughterings including boiled down*
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	2,906	5,101	4,416	1,394	2	196	45,397	45,709
1971–72	16,641	20,084	3,418	5,144	6,001	1,475	4	218	52,983	53,444
1972–73	12,598	14,529	2,452	4,539	5,548	1,278	..	190	41,133	41,399

Production of mutton and lamb

PRODUCTION OF MUTTON AND LAMB (CARCASS WEIGHT)

(Tonnes)

Year	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
1968–69	227,540	251,952	48,982	57,738	68,801	22,812	1	2,275	680,101
1969–70	237,250	282,169	51,526	79,428	78,048	24,048	2	2,520	754,991
1970–71	262,717	312,471	50,180	91,923	78,642	26,072	33	3,211	825,249
1971–72	289,557	380,447	58,896	91,504	105,117	27,188	65	3,554	956,328
1972–73	214,041	264,159	40,570	76,263	92,916	22,528	2	2,916	713,395

Value of sheep slaughtered

GROSS VALUE OF SHEEP SLAUGHTERED(*a*), 1972–73

($'000)

N.S.W.	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
105,148	106,809	8,245	49,438	35,953	8,622	1	372	314,588

(*a*) Includes adjustment for net exports (overseas and interstate) of livestock.

GROSS VALUE OF SHEEP SLAUGHTERED: AUSTRALIA
($'000)

1968–69	*1969–70*	*1970–71*	*1971–72*	*1972–73*
181,577	214,378	178,431	215,747	314,588

Consumption of mutton and lamb

In 1959–60 consumption of mutton and lamb, at 46.7 kg 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 37.6 kg per head. The 1972–73 figure was 33.5 kg per head or 5.8 kg per head less than beef and veal.

PRODUCTION AND DISPOSAL OF MUTTON AND LAMB (CARCASS WEIGHT): AUSTRALIA

Year	*Net change in stocks ('000 tonnes)*	*Production ('000 tonnes)*	*Exports(a) ('000 tonnes)*	*For canning ('000 tonnes)*	*Apparent consumption in Australia*	
					Total ('000 tonnes)	*Per head per year (kg)*
MUTTON						
1968–69	+2	372	131	7	232	19.1
1969–70	+1	441	222	8	211	17.0
1970–71	+5	470	201	14	250	19.7
1971–72	+2	596	317	14	263	20.4
1972–73	−7	435	238	11	193	14.8
LAMB						
1968–69	+1	308	44	..	263	21.7
1969–70	−1	314	48	..	267	21.5
1970–71	+1	355	52	..	302	23.8
1971–72	+2	360	43	..	315	24.4
1972–73	−4	278	38	..	244	18.7

(*a*) Includes carcass equivalent of boneless mutton exported.

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.

MEAT (INCLUDING CURED AND CANNED) AND EDIBLE OFFAL AVAILABLE FOR CONSUMPTION: AUSTRALIA
(kg 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)*
1968–69	41.4	91.1	21.7	7.3	5.1	2.4	3.5	102.6
1969–70	38.8	17.0	21.5	7.6	5.2	2.4	3.7	98.1
1970–71	39.7	19.7	23.8	6.9	5.1	2.6	4.6	104.9
1971–72	39.5	20.4	24.4	6.9	5.9	2.6	5.0	107.0
1972–73	39.3	14.8	18.7	7.9	5.7	2.5	5.5	97.0

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

Exports of frozen mutton and lamb

EXPORTS OF FROZEN MUTTON AND LAMB(*a*): AUSTRALIA

Year	*Exports of frozen mutton*		*Exports of frozen lamb*		*Exports of frozen mutton and lamb*	
	Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
	'000 kg	$'000 f.o.b.	'000 kg	$'000 f.o.b.	'000 kg	$'000 f.o.b.
1968–69	76,005	32,213	29,485	13,216	105,490	45,429
1969–70	136,489	60,912	41,408	20,470	177,897	81,382
1970–71	130,910	52,192	43,623	21,878	174,533	74,070
1971–72	200,937	89,283	37,632	17,774	238,569	107,057
1972–73	156,737	100,562	31,657	17,920	188,394	118,482

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

In 1972–73 the principal buyers of Australian frozen mutton and lamb were Japan (79,999,000 kg, valued at $52,956,000); the United States of America (15,976,000 kg, valued at $10,701,000); Greece (13,972,000 kg, valued at $8,161,000); and the United Kingdom (26,875,000 kg, valued at $15,103,000).

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 in areas 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 continuous increase in the total number of cattle in Australia since 1967. Total cattle numbers in March 1974 were 31.2 million compared with 29.1 million in 1973. Total dairy cattle numbers are currently 4.0 million.

For a graph showing the number of cattle in Australia from 1880 onwards *see* plate 50 page 795.

NUMBER OF CATTLE

('000)

Year ended 31 March	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
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
1972	7,410	5,457	9,022	1,495	1,975	829	1,166	20	27,373
1973	7,918	5,464	9,795	1,583	2,182	900	1,237	19	29,101

Maps showing the distribution of beef and dairy cattle in Australia have been published in previous issues of the Year Book.

Classification of cattle

CATTLE CLASSIFIED ACCORDING TO PURPOSE, AGE AND SEX: 31 MARCH 1973 ('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	11	31	9	4	3	3	..	..	60
Beef breeds	125	77	177	28	38	12	34	..	489
Total	*136*	*107*	*186*	*32*	*41*	*15*	*34*	..	*549*
Proportion of Aust. total (per cent)	24.7	19.5	33.8	5.8	7.5	2.7	6.2	..	100.0
Cattle used or intended for production of—									
Milk or cream for sale—									
Cows in milk and dry	465	1,284	390	141	97	155	..	1	2,523
Heifers—									
1 year and over	122	324	100	38	37	36	..	..	655
Calves (under 1 year)	96	323	77	35	5	41	..	..	601
Milk or cream for use on rural holdings—									
House cows and heifers	57	20	31	7	6	4	..	..	124
Total	*740*	*1,951*	*593*	*221*	*175*	*236*	..	*2*	*3,902*
Proportion of Aust. total (per cent)	18.9	49.8	15.1	5.6	4.5	6.0	..	..	100.0
Cattle for other purposes (a)—									
Cows and heifers (1 year and over)	3,666	1,735	4,508	706	1,013	286	742	10	12,660
Calves (under 1 year) (b)	2,286	1,098	2,262	442	541	248	222	6	7,100
Other (1 year and over) i.e. steers, bullocks, spayed cows, etc.	1,091	602	2,247	182	413	116	239	2	4,889
Total	*7,043*	*3,435*	*9,017*	*1,330*	*1,967*	*650*	*1,203*	*17*	*24,650*
Proportion of Aust. total (per cent)	28.6	13.9	36.6	5.4	8.0	2.6	4.9	0.1	100.0
Total cattle and calves for all purposes	**7,919**	**5,493**	**9,795**	**1,583**	**2,182**	**900**	**1,237**	**19**	**29,101**
Proportion of Aust. total (per cent)	27.2	18.9	33.6	5.4	7.5	3.1	4.3	0.1	100.0

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

CATTLE CLASSIFIED ACCORDING TO PURPOSE, AGE AND SEX: AUSTRALIA ('000)

	31 March				
Classification	*1969*	*1970*	*1971*	*1972*	*1973*
Bulls (1 year and over) used or intended for service—					
Dairy breeds	77	69	65	63	60
Beef breeds	323	363	414	462	489
Total	*400*	*432*	*479*	*525*	*549*
Cattle used or intended for production of—					
Milk or cream for sale—					
Cows (in milk and dry)	2,700	2,673	2,601	2,565	2,523
Heifers—					
1 year and over	769	703	687	660	655
Calves (under 1 year)	624	631	614	591	601
Milk or cream for use on rural holdings—					
House cows and heifers	165	156	145	128	124
Total	*4,258*	*4,164*	*4,047*	*3,945*	*3,902*
Cattle for other purposes(*a*)—					
Cows and heifers (1 year and over)	8,333	9,249	10,370	11,873	12,660
Calves (under 1 year) (*b*)	4,218	4,805	5,669	6,555	7,100
Other (1 year and over), i.e. steers, bullocks, spayed cows, etc.	3,403	3,512	3,808	4,475	4,889
Total	*15,954*	*17,566*	*19,847*	*22,903*	*24,650*
Total cattle and calves for all purposes	**20,611**	**22,162**	**24,373**	**27,373**	**29,101**

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

Exports and imports of cattle

In 1972–73 the number of cattle exported was 9,522, valued at $2,975,000 (1971–72, 3,081 valued at $855,000). 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: F.A.O. *Production Yearbook*)

('000)

Country	*Year*	*Number*
India(*a*)	1972	176,750
United States of America	1972	117,862
U.S.S.R.	1972	102,434
Brazil(*b*)	1972	98,500
China, Peoples Republic of(*a*)	1972	63,295
Argentina(*b*)	1972	54,000
Pakistan(*a*)	1972	20,170
Australia	**1973**	**29,130**
Ethiopia(*a*)	1972	26,450
Mexico	1972	25,827
France	1972	21,746
Colombia	1972	22,400
Germany, Federal Republic of	1972	13,638
United Kingdom	1972	13,483
Turkey(*a*)	1972	12,653
South Africa, Republic of(*a*)	1972	12,400

(*a*) F.A.O. estimate. (*b*) Unofficial figure.

Cattle slaughtered

CATTLE (INCLUDING CALVES) SLAUGHTERED

('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.*	
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
1971–72	1,717	2,074	1,708	291	389	185	77	20	6,461	6,514
1972–73	2,349	2,560	2,005	393	478	261	78	25	8,148	8,199

Production of beef and veal

PRODUCTION OF BEEF AND VEAL (CARCASS WEIGHT)

(Tonnes)

Year	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
1968–69	220,496	216,276	346,212	36,188	68,838	28,383	16,500	1,922	934,815
1969–70	277,743	253,578	314,745	40,703	73,057	31,509	16,406	2,677	1,010,418
1970–71	282,370	307,520	302,185	43,494	64,336	29,877	14,317	3,179	1,047,278
1971–72	305,705	336,503	344,814	50,069	77,290	34,795	15,418	3,295	1,167,889
1972–73	416,418	416,463	384,088	64,254	90,052	47,471	15,178	4,021	1,437,945

Value of beef cattle slaughtered

GROSS VALUE OF BEEF CATTLE SLAUGHTERED(*a*)
($'000)

N.S.W.	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
301,483	(*b*)246,568	(*b*)266,563	56,218	53,599	26,254	28,690	569	979,944

(*a*) Includes adjustment for net exports (overseas and interstate) of livestock. (*b*) Includes dairy cattle slaughtered.

GROSS VALUE OF BEEF CATTLE SLAUGHTERED(*a*): AUSTRALIA
($'000)

1968–69	*1969–70*	*1970–71*	*1971–72*	*1972–73*
514,409	589,755	610,146	685,185	979,944

(*a*) Includes dairy cattle slaughtered in Victoria and Queensland.

Consumption of beef and veal

The highest post-war consumption of beef and veal (including canned beef and veal) was 60.2 kg 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 40.1 kg. In 1972–73 consumption per head was 41.5 kg, of which 39.3 kg was carcass meat and 2.1 kg was canned meat (in terms of carcass equivalent).

A table showing the consumption of all types of meat appears on page 804.

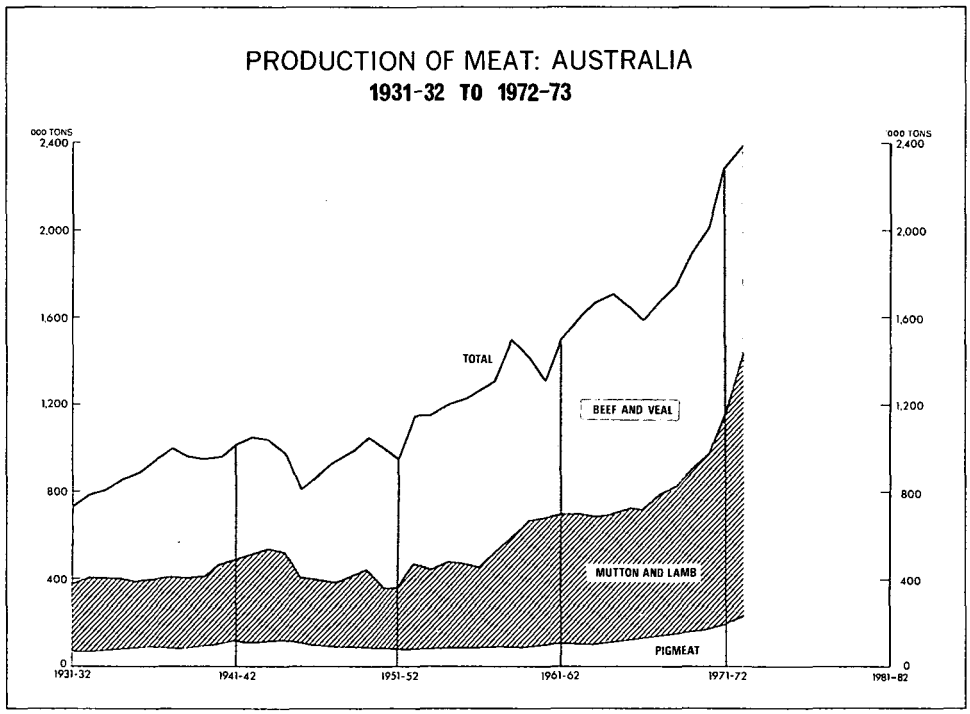


PLATE 52

PRODUCTION AND DISPOSAL OF BEEF AND VEAL (CARCASS WEIGHT) AUSTRALIA

Year	Net change in stocks	Production	Exports(a)	For canning	Apparent consumption in Australia	
					Total	Per head per year
	'000 tonnes	'000 tonnes	'000 tonnes	'000 tonnes	'000 tonnes	kg
1968–69	+12	935	386	34	503	41.4
1969–70	+ 5	1,010	489	35	481	38.8
1970–71	+ 2	1,047	499	45	502	39.7
1971–72	+11	1,168	594	55	508	39.5
1972–73	+ 4	1,438	872	49	514	39.3

(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 1971–72 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 1972–73, the principal markets for Australian beef and veal exports were the United States (318,686,000 kg, valued at $352,736,000); United Kingdom (100,144,000 kg, valued at $100,971,000); and Japan (88,146,000 kg, valued at $113,624).

EXPORTS OF FROZEN AND CHILLED BEEF AND VEAL(a): AUSTRALIA

Year	Exports of frozen and chilled beef				Exports of frozen veal		Exports of frozen and chilled beef and frozen veal	
	Bone-in		Boneless					
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
	'000 kg	$'000 f.o.b.	'000 kg	$'000 f.o.b.	'000 kg	$'000 f.o.b.	'000 kg	$'000 f.o.b.
1968–69	3,274	3,045	248,916	204,247	3,805	3,681	255,995	210,973
1969–70	13,376	9,068	309,168	277,858	5,354	5,200	327,898	292,126
1970–71	32,342	21,277	300,762	275,806	5,631	5,768	338,755	302,851
1971–72	17,960	13,627	373,662	364,669	9,883	10,615	401,505	388,911
1972–73	12,291	13,509	521,704	577,731	26,590	29,246	560,585	620,486

(a) Actual weight shipped, not carcass equivalent.

Exports and imports of cattle hides

The export trade in cattle hides and calfskins during 1972–73 was distributed among the main importing countries as follows; Japan, $17,955,000, Poland, $12,696,000, the Federal Republic of Germany, $12,661,000, and Italy, $4,194,000. The total quantity exported was 117,045,000 kg, valued at $77,452,000.

The quantity of cattle hides, including calfskins, imported into Australia during the year 1972–73 amounted to 405,000 kg, valued at $299,000. The chief source of supply was New Zealand.

The dairying industry

Australian dairy cattle have shown steady improvement in quality, as demonstrated by milk 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.

A significant development in recent years has been the shift away from on-farm separation and delivery of cream to factories, to a widespread system of refrigerated bulk milk delivery. The Australian Government is encouraging this transformation by providing interest-free loans under the Australian Dairy Adjustment Program.

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.

Cattle for milk production

DAIRY BREED BULLS, AND COWS AND HEIFERS USED OR INTENDED FOR PRODUCTION OF MILK OR CREAM, 31 MARCH 1969 TO 1973

At 31 March	Bulls dairy breed(a)	Cows and heifers used or intended 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	
1973—					
New South Wales	11,181	464,943	121,915	95,872	57,127
Victoria	29,985	1,273,820	321,124	320,758	19,599
Queensland	9,128	389,919	99,582	72,698	30,575
South Australia	4,415	140,990	37,982	35,163	6,614
Western Australia	2,689	96,896	37,175	35,139	5,823
Tasmania	2,860	154,823	36,380	40,957	3,889
Northern Territory	11	251	86	67	94
Australian Capital Territory	20	874	330	210	260
Australia	**60,289**	**2,522,516**	**654,574**	**600,864**	**123,981**
1972	63,094	2,565,111	660,200	591,350	128,353
1971	64,919	2,601,138	687,104	613,985	144,567
1970	69,297	2,673,358	702,982	631,383	156,305
1969	76,617	2,700,329	768,699	624,250	164,546

(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.

Production of milk

The quantity of milk produced by a dairy cow can be as high as 4,500 litres 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 1,400 litres per annum. Largely owing to an improvement in the quality of the cattle and the increased application of scientific methods the 1,400 litre average has been exceeded in each year since 1924. In the last five years an average of 2,578 litres per cow per annum has been obtained. In 1972–73 the average yield was 2,653 litres. 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 sufficently reliable to show the general trend.

AVERAGE MILK PRODUCTION PER COW
(litres)

Year	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
1968–69	1,786	3,020	1,390	3,220	2,484	2,943	n.a.	2,217	2,390
1969–70	2,112	3,216	1,700	3,293	2,483	2,955	718	2,720	2,642
1970–71	1,980	3,201	1,601	3,204	2,427	2,836	832	2,590	2,600
1971–72	1,838	3,209	1,668	3,094	2,480	2,853	973	2,276	2,603
1972–73	2,232	3,153	1,689	2,848	2,350	2,690	891	2,087	2,653

In the following table particulars of the production of whole milk in the various States and Territories are shown. Victoria is the principal milk-producing State, and in 1972–73 the output from that State, 4,054 million litres, represented 57 per cent of total production. Output from New South Wales in 1972–73 was 1,198 million litres (17 per cent of the total) and that of Queensland 735 million litres (10 per cent). Production in the remaining States and Territories accounted for 16 per cent.

TOTAL PRODUCTION OF WHOLE MILK
('000 litres)

Year	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
1968–69	1,268,046	3,715,474	780,502	467,374	264,682	464,445	441	4,081	6,965,041
1969–70	1,413,270	4,028,362	870,126	482,958	254,005	469,216	441	4,268	7,522,642
1970–71	1,237,346	4,062,063	770,350	469,775	255,840	449,792	318	3,514	7,248,995
1971–72	1,170,819	3,973,122	767,866	457,732	254,682	451,127	318	3,201	7,078,867
1972–73	1,198,286	4,053,677	734,866	425,720	241,010	426,869	318	2,672	7,083,418

Milking machines

Statistics relating to the number of milking machines on rural holdings at 31 March from 1969 to 1973, and State details for 1973, are shown in the section Agricultural Machinery.

Value of whole milk production

GROSS VALUE OF WHOLE MILK PRODUCTION(*a*): 1972–73
($'000)

N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
105,815	237,670	54,550	25,963	18,482	22,549	70	522	465,621

(*a*) Includes subsidy.

GROSS VALUE OF WHOLE MILK PRODUCTION(*a*): AUSTRALIA
($'000)

1968–69	1969–70	1970–71	1971–72	1972–73
382,935	413,466	429,805	463,710	465,621

(*a*) Includes subsidy.

UTILISATION OF WHOLE MILK: 1972-73
('000 litres)

	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Milk used for—									
Butter	380,572	2,648,553	315,311	101,006	107,997	264,392	..	..	3,817,830
Cheese	75,567	447,588	85,909	174,297	15,723	72,342	..	..	871,426
Processed milk products	106,905	467,039	(a)	...	3,579	(a)	...	...	652,621
Other purposes	635,243	490,497		150,417	113,712		318	2,672	1,741,541
Total	1,198,286	4,053,677	734,866	425,720	241,010	426,869	318	2,672	7,083,418

(a) Not available for publication.

In 1972–73, 53.9 per cent of the total milk supply was used for butter, 12.3 per cent for cheese, 9.2 per cent for processed milk products, and 24.6 per cent for other purposes.

PRODUCTION AND UTILISATION OF WHOLE MILK: AUSTRALIA
('000 litres)

Year	Total production	Quantity used for— Factory butter	Factory cheese	Processed milk products(a)	Other purposes(b)
1968–69	6,965,041	4,127,293	720,941	449,814	1,667,002
1969–70	7,522,642	4,642,033	730,088	470,783	1,679,750
1970–71	7,248,995	4,212,516	746,240	586,814	1,703,417
1971–72	7,078,867	4,055,604	754,840	586,405	1,682,019
1972–73	7,083,418	3,817,830	871,426	652,621	1,741,541

(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.

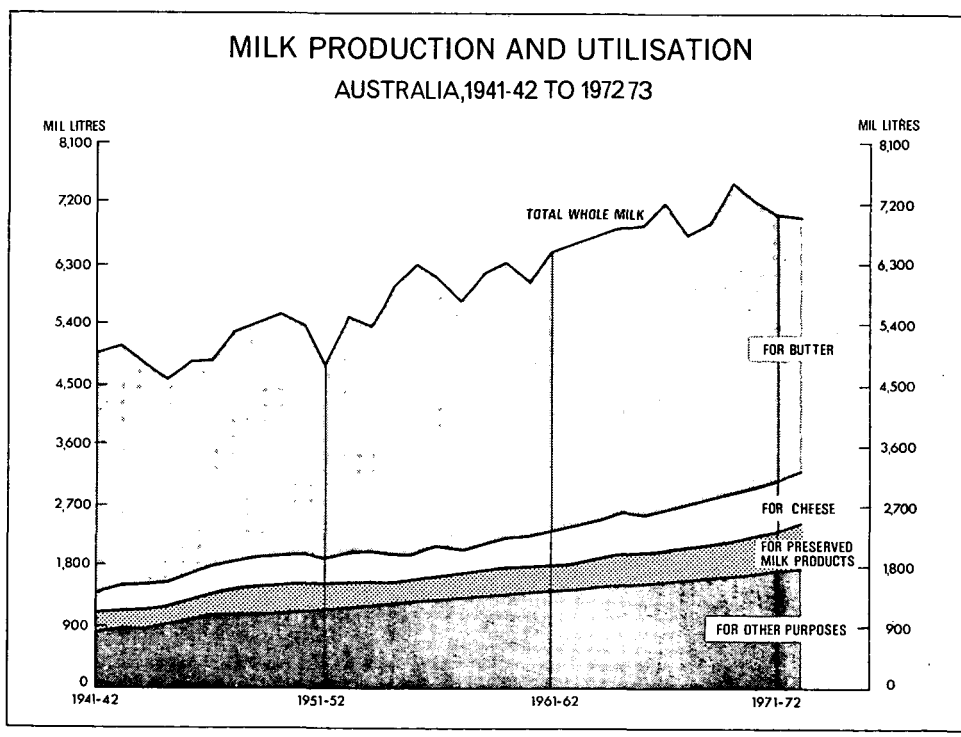


PLATE 53

Production of butter, cheese and processed milk products

In 1972–73 factories classified to the industry group Milk Products comprising ASIC 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 374 and were distributed among the States as follows: New South Wales, 95; Victoria, 135; Queensland, 58; South Australia, 40; Western Australia, 23; Tasmania, 20; Northern Territory, 1; and Australian Capital Territory, 2.

Factory production of butter in 1972–73 was 184,857,000 kg. This was 38,101,000 kg (17.1 per cent) below the record of 222,958,000 kg attained in 1969–70.

BUTTER PRODUCTION IN FACTORIES
('000 kg)

Year	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*Aust.*
1968–69	23,665	126,392	19,466	6,483	6,291	15,860	198,157
1969–70	28,964	141,611	22,629	7,751	5,870	16,133	222,958
1970–71	21,288	135,844	18,773	6,617	5,425	15,273	203,220
1971–72	19,325	129,897	18,022	6,196	5,937	16,029	195,406
1972–73	17,541	128,029	15,857	5,161	5,349	12,921	184,857

Factory production of cheese in 1972–73 reached a record level of 93,441,000 kg, which was 12,570,000 kg (13.4 per cent) more than the previous record of 1971–72.

NON-PROCESSED CHEESE PRODUCTION IN FACTORIES
('000 kg)

Year	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*Aust.*
1968–69	5,572	34,147	8,080	19,192	(*a*)	(*a*)	74,830
1969–70	8,571	33,440	9,295	17,827	1,774	5,396	76,303
1970–71	7,700	35,804	7,687	18,906	1,917	5,551	77,566
1971–72	7,486	38,788	8,251	18,444	1,979	5,923	80,871
1972–73	9,262	49,001	8,753	17,315	1,870	7,240	93,441

(*a*) Not available for publication.

FACTORY PRODUCTION OF NON-PROCESSED CHEESE BY VARIETIES: AUSTRALIA
('000 kg)

	1968–69	*1969–70*	*1970–71*	*1971–72*	*1972–73*
Fetta	492	589		567	496
Cheddar	66,277	67,878		58,415	69,977
Cottage	1,185	1,485		1,554	2,065
Edam, Blue Vein, Grating	3,729	2,777	n.a.	(*b*)	(*b*)
Soft	(*a*)	(*a*)			
Gouda	394	471		2,989	3,469
Other	2,753	3,103		17,346	17,438
Total cheese	**74,830**	**76,303**	**77,566**	**80,871**	**93,445**

(*a*) Not collected separately. (*b*) Included with 'Other'.

Processed milk products are manufactured mainly in Victoria, which produced 73 per cent of the total (in terms of whole milk equivalent) in 1972–73. New South Wales accounted for 16 per cent and the remaining States for 11 per cent.

PRODUCTION OF PROCESSED MILK PRODUCTS: AUSTRALIA
('000 kg)

	1968–69	*1969–70*	*1970–71*	*1971–72*	*1972–73*
Condensed, concentrated and evaporated milk—					
Full cream—					
Sweetened(*a*)	18,349	16,126	16,696	16,705	14,301
Unsweetened	40,601	57,128	61,797	47,832	46,288
Skim	9,067	21,190	14,997	11,489	10,986
Ice cream mix (liquid)	3,283	4,040	4,404	3,561	2,309
Infants', invalid and health beverages—					
Infants' milk powder	7,926	9,248	7,931	11,734	11,679
Other(*b*)	16,746	15,624	16,046	15,265	15,028
Casein	29,475	32,267	28,480	30,517	23,222
Powdered milk—					
Full cream—					
Spray	23,700	22,468	25,100	27,978	35,601
Roller	608	511	534	786	728
Skim—					
Without added ingredients—					
Spray	56,053	76,754	74,768	75,065	98,734
Roller	6,867	6,225	5,884	7,253	6,481
With added ingredients—					
Baker's powder	2,615	3,716	3,024	2,478	2,300
Other	6,080	7,311	7,831	7,884	10,088
Buttermilk or mixed skim and buttermilk—					
Spray	6,767	9,953	9,216	6,138	9,559
Roller	8,627	8,413	7,959	8,390	6,118
Total powdered milk	*111,317*	*135,351*	*134,316*	*135,972*	*169,609*

(*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 1960 are shown in the following table. The prices included are those determined by the Australian Dairy Industry Council for choicest grade bulk butter and cheddar cheese up to May 1973. In July 1974 the Council accepted the recommendation of the Prices Justification Tribunal for increases in the domestic bulk wholesale prices to 118.50 cents per kg for butter and 92.59 cents per kg for cheese effective from 7 August 1974.

WHOLESALE PRICES OF BUTTER AND CHEDDAR CHEESE: AUSTRALIA
(cents per kg)

Date from which prices became effective	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*
Butter—						
1 July 1960	98.76	98.76	98.76	98.76	98.76	98.76
19 June 1964	101.96	101.96	101.96	101.96	101.96	101.96
14 February 1966	102.51	102.51	102.51	102.51	102.51	102.51
31 March 1969	107.48	107.48	107.48	107.48	107.48	107.48
3 August 1971	111.88	111.88	111.88	111.88	111.88	111.88
7 August 1974	118.50	118.50	118.50	118.50	118.50	118.50
Cheddar cheese—						
1 July 1960	58.32	58.32	58.32	58.32	58.32	58.32
19 June 1964	60.17	60.17	60.17	60.17	60.17	60.17
14 February 1966	60.63	60.63	60.63	60.63	60.63	60.63
7 November 1966	65.04	65.04	65.04	65.04	65.04	65.04
10 November 1970	67.24	67.24	67.24	67.24	67.24	67.24
3 August 1971	69.45	69.45	69.45	69.45	69.45	69.45
8 November 1971	76.06	76.06	76.06	76.06	76.06	76.06
15 May 1972	82.67	82.67	82.67	82.67	82.67	82.67
7 May 1973	88.18	88.18	88.18	88.18	88.18	88.18
7 August 1974	92.59	92.59	92.59	92.59	92.59	92.59

Local consumption of butter and cheese

Following the cessation of butter rationing after the 1939–45 War, consumption per head rose to 14.2 kg in 1951–52. However, in later years it gradually declined, and in 1972–73, at 8.3 kg per head, it reached its lowest level since the war. Consumption of cheese per head has risen steadily in recent years and by 1972–73 it attained a record figure of 4.6 kg per head.

PRODUCTION AND DISPOSAL OF BUTTER AND CHEESE: AUSTRALIA

Year	Change in stocks(a) ('000 kg)	Factory production ('000 kg)	Exports(b) ('000 kg)	Apparent consumption in Australia	
				Total ('000 kg)	Per head per year (kg)
BUTTER					
1968–69	+ 4,133	198,157	77,432	116,591	9.6
1969–70	+ 4,675	222,958	102,546	115,737	9.3
1970–71	− 6,879	203,220	93,071	117,028	9.3
1971–72	+21,708	195,406	61,656	112,041	8.7
1972–73	− 3,100	184,857	78,957	109,000	8.3
CHEESE					
1968–69	+ 5,674	74,830	25,625	43,530	3.6
1969–70	−10,214	76,303	40,914	45,604	3.7
1970–71	−10,680	77,566	36,547	51,700	4.1
1971–72	− 6,302	80,871	33,378	53,795	4.2
1972–73	+ 3,204	93,441	29,600	60,634	4.6

(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 1969 to 1974.

BUTTER AND CHEDDAR CHEESE: RATES REALISED ON SALES, AVERAGE EQUALISATION RATES AND RATES OF COMMONWEALTH SUBSIDY UNDER DAIRYING INDUSTRY ACTS

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

(Cents per kg)

Year	Rates realised on sales				Average equalisation rate	Rate of subsidy	Rate of overall return to manufacturer
	Intrastate	Interstate	Manufacturing	Overseas			
Butter—							
1968–69	97.92	93.57	63.02	52.49	76.60	11.84	88.44
1969–70	101.42	95.59	63.31	53.00	75.20	10.62	85.82
1970–71	101.25	96.85	63.25	51.59	76.57	18.50	95.07
1971–72	(a)	(a)	(a)	(a)	(b)83.65	(b)17.62	(b)101.27
1972–73	(a)	(a)	(a)	(a)	(b)79.23	(b)12.21	(b)91.44
1973–74	(a)	(a)	(a)	(a)	(b)75.78	(b)7.44	(b)83.22
Cheddar cheese—							
1968–69		62.01		34.89	48.89	5.65	54.54
1969–70		62.15		38.99	51.19	5.07	56.26
1970–71		63.80		36.44	52.40	8.35	60.75
1971–72		(a)		(a)	(b)61.02	8.41	69.43
1972–73		(a)		(a)	(b)64.36	5.83	70.19
1973–74		(a)		(a)	(b)63.58	(b)3.55	67.13

(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

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

(Cents per kg)

Year	*Rate of overall return to manufacturer*	*Estimated manufacturing cost*	*Return to dairy farmer*
1968–69	88.44	10.47	77.96
1969–70	85.82	10.82	74.99
1970–71	95.07	11.37	83.69
1971–72	(*a*)101.27	(*a*)11.37	(*a*)89.89
1972–73	(*a*)91.44	(*a*)11.81	(*a*)79.63
1973–74	(*a*)83.22	(*a*)13.18	(*a*)70.86

(*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 1972–73 amounted to 57.8 million kg, compared with 35.5 million kg in 1971–72. Exports of cheese in these years were 29.6 million kg and 33.3 million kg respectively. The principal importing country for Australian butter in 1972–73 was the United Kingdom, accounting for 55.6 per cent of total exports. In 1972–73 Japan was the principal importing country for Australian cheese with 52.0 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.

BULK BUTTER AND CHEESE GRADED FOR EXPORT: AUSTRALIA

Grade	*Quantity ('000 kg)*			*Per cent*		
	1970–71	*1971–72*	*1972–73*	*1970–71*	*1971–72*	*1972–73*
BUTTER(*a*)						
Choicest quality	58,547	32,925	48,986	87.2	88.9	93.1
First quality	6,487	3,252	2,897	9.7	8.8	5.5
Second and pastry quality(*b*)	2,067	863	723	3.1	2.3	1.4
Total	**67,100**	**37,040**	**52,606**	**100.0**	**100.0**	**100.0**
CHEESE						
Bulk cheddar—						
Choicest quality	10,946	11,910	10,682	30.8	34.2	30.9
First quality	12,830	8,168	7,439	36.2	23.4	21.5
Second quality(*b*)	1,010	751	683	2.8	2.1	2.0
Other cheese	10,737	18,573	15,750	30.2	40.3	45.6
Total	**35,522**	**34,866**	**34,554**	**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

	Quantity ('000 kg)			*Value ($'000 f.o.b.)*		
	1970–71	*1971–72*	*1972–73*	*1970–71*	*1971–72*	*1972–73*
Butter(*a*)	70,508	35,529	57,828	38,148	31,093	47,966
Cheese(*b*)—						
Processed(*c*)	8,574	9,271	8,092	6,772	8,727	8,359
Other—						
Cheddar and epicure cheddar	25,009	19,748	17,627	10,116	10,805	10,597
Parmesan (incl. parmigiano and reggiono)	70	166	91	82	178	132
Other	4,643	4,145	3,759	2,088	2,710	2,601
Total cheese	*38,296*	*33,330*	*29,568*	*19,058*	*22,421*	*21,689*
Other milk products(*b*)—						
Preserved, condensed, concentrated, etc.—						
Sweetened	4,044	4,239	2,042	1,234	1,521	900
Unsweetened	5,408	4,442	2,588	1,445	1,409	978
Infants' and invalids' food (essentially of milk)(*d*)	6,806	6,636	8,435	4,330	4,622	5,996
Casein	26,898	29,787	15,013	11,562	16,602	10,882
Dried or powdered—						
Full cream	16,976	14,864	19,487	8,544	9,400	14,352
Skim	49,824	41,884	48,030	9,184	13,879	18,700

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

Buffaloes

Buffaloes were introduced into northern Australia, at Melville Island in 1825 and the Cobourg Peninsula (Fort Wellington) in 1827 during the attempts to establish settlements. In 1838 and later years shipments of buffaloes, mainly from Timor and the other Indonesian islands, were landed at Victoria Settlement. As buffaloes were ideally suited to the tropical region of the Northern Territory they survived when the early settlements were abandoned, and multiplied rapidly, spreading as far south as Katherine. It is estimated that there are now more than 200,000 buffaloes in the Northern Territory.

Initially buffaloes were hunted for their hides. The demand for hides reached a peak in 1937 when about 17,000 buffaloes were slaughtered. Over the next 20 years the demand for hides declined considerably and there is no longer any demand for buffalo hide.

Commercial production of buffalo meat began in 1960 when a buffalo abattoir was established at Marrakai Creek, Northern Territory. The meat was used for pet food at first and in the following year slaughtering for human consumption commenced. During 1973–74, 22,724 buffaloes were slaughtered for meat production valued at $1,607,000.

The buffalo is not a domestic animal and the Government receives a royalty payment for each beast killed. The buffalo is easily domesticated and rarely reverts to the wild state. Continuing efforts are being made to domesticate buffaloes. The numbers of domesticated buffaloes on Northern Territory rural holdings, as recorded by the annual agricultural censuses at 31 March each year were: 1970, 3,229; 1971, 4,862; 1972, 7,843; 1973, 5,199; 1974, 4,418.

During 1974, for the first time, buffaloes were exported overseas for breeding purposes, 400 being sent to Venezuela and 200 to New Guinea. Venezuela has ordered a further 200 and a contract has been negotiated with Nigeria for the supply of buffalo for breeding purposes. Australia is the only recognised supplier of breeding buffaloes because of the absence of foot and mouth disease.

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 Australian Government sources. Funds currently available for research are $237,400.

The research program 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 Agriculture relating to the rate of levy and expenditure from the Pig Industry Research Trust Fund.

Distribution throughout Australia

At 31 March 1973 the number of pigs in Australia reached a record level of 3,259,397 which represented an increase of 60,714 (1.9 per cent) on the previous record at 31 March 1972 (3,198,683).

NUMBER OF PIGS

At 31 March	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*Aust.(a)*
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
1972	1,059,331	589,992	534,502	478,874	427,061	103,934	4,862	3,198,683
1973	1,064,678	585,227	541,827	499,461	476,316	85,114	6,662	3,259,397

(a) Incomplete; excludes Australian Capital Territory.

A long-term comparison of pig numbers is given earlier in 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 1880 onwards appears on plate 50 of this Year Book (*see* page 795).

Pigs slaughtered

PIGS SLAUGHTERED
('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.*	
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	3,729
1971–72	1,094	1,051	794	436	367	165	4	17	3,928	3,942
1972–73	1,324	1,210	964	527	538	152	5	24	4,743	4,763

Production of pigmeat, bacon and ham

PRODUCTION OF PIGMEAT (CARCASS WEIGHT)
(tonnes)

Year	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
1968–69	47,055	37,170	39,799	16,194	14,229	7,137	107	471	162,162
1969–70	49,819	41,002	37,878	20,082	16,986	8,008	87	392	174,254
1970–71	50,230	45,560	37,424	22,536	16,734	8,531	104	534	181,653
1971–72	49,722	51,506	41,151	23,095	19,963	8,267	130	644	194,478
1972–73	59,644	60,486	49,760	27,482	30,360	7,389	168	884	236,173

PRODUCTION OF BACON AND HAM (CURED CARCASS WEIGHT)

(tonnes)

Year	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	Aust.
1968–69	15,013	10,030	15,433	4,062	5,504	1,416	51,459
1969–70	16,203	12,082	14,294	4,681	5,769	1,403	54,330
1970–71(a)—							
(bone in)	10,877	4,479	5,616	1,115	1,678	915	24,681
(bone out)	4,973	8,788	5,620	3,506	3,124	545	26,556
1971–72—							
(bone in)	10,488	3,449	5,062	1,051	1,406	755	22,210
(bone out)	5,849	10,049	7,088	3,934	3,562	767	31,249
1972–73—							
(bone in)	11,611	3,176	6,548	1,252	1,446	746	24,779
(bone out)	6,622	11,598	7,950	3,828	3,765	729	34,492

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

Value of pigs slaughtered

GROSS VALUE OF PIGS SLAUGHTERED, 1972-73

($'000)

N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
39,884	25,490	23,886	14,739	14,725	4,821	182	3	123,730

GROSS VALUE OF PIGS SLAUGHTERED: AUSTRALIA

($'000)

1968–69	1969–70	1970–71	1971–72	1972–73
86,842	96,066	104,992	111,199	123,730

Consumption of pigmeat, bacon and ham

The apparent consumption of pigmeat increased from 6.9 kg per head in 1971–72 to 7.9 kg in 1972–73. A table showing the consumption of all types of meat is shown on page 804.

PRODUCTION AND DISPOSAL OF PIGMEAT (CARCASS WEIGHT)

Year	Change in stocks(a)	Production	Exports	Curing and canning	Apparent consumption (as pork or smallgoods) in Australia	
					Total	Per head per year
	'000 tonnes	'000 tonnes	'000 tonnes	'000 tonnes	'000 tonnes	kg
1968–69	+0.4	162.2	1.2	71.4	89.1	7.3
1969–70	−0.2	174.3	5.2	75.3	94.1	7.6
1970–71	−0.9	181.7	1.7	93.3	87.6	6.9
1971–72	+1.7	194.5	3.8	100.1	88.8	6.9
1972–73	+1.8	236.2	20.1	111.0	103.2	7.9

(a) Includes allowance for imports.

PRODUCTION AND DISPOSAL OF BACON AND HAM (CURED CARCASS WEIGHT) AUSTRALIA

Year	Change in stocks	Production	Exports	Canning	Apparent consumption in Australia	
					Total	Per head per year
	'000 tonnes	'000 tonnes	'000 tonnes	'000 tonnes	'000 tonnes	kg
1968–69	..	51.5	0.2	8.2	43.1	3.5
1969–70	+0.3	54.3	0.2	7.4	46.5	3.7
1970–71	..	67.2	0.3	8.2	58.7	4.6
1971–72	+0.1	72.3	0.3	8.0	63.9	5.0
1972–73	..	80.1	0.3	8.2	71.6	5.5

A table showing the consumption of all types of meat appears on page 804.

Exports of pigs and pig products

EXPORTS OF PIGS AND PIG PRODUCTS: AUSTRALIA

		Quantity			Value ($'000 f.o.b.)		
		1970–71	1971–72	1972–73	1970–71	1971–72	1972–73
Bacon and ham (including canned)	'000 kg	398	384	401	593	604	575
Lard	'000 kg	105	15	14	23	7	6
Frozen pork	'000 kg	1,727	3,803	20,104	1,425	3,144	17,117
Pigs, live	number	1,877	1,811	1,219	107	97	59

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.

Poultry numbers

POULTRY NUMBERS: AT 31 MARCH 1973

	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Hens and pullets for egg production	6,506	3,833	2,195	1,558	1,166	221	78	64	15,619
Meat strain chickens (broilers)	9,437	6,524	2,693	2,111	2,335	449	1	..	23,548
Other fowls and other chickens	1,528	430	341	221	157	60	4	..	2,741
Total	**17,471**	**10,786**	**5,228**	**3,889**	**3,657**	**729**	**82**	**64**	**41,908**
Ducks	165	45	8	26	55	7	3	..	311
Turkeys	527	80	4	33	7	2	..	..	653

Chicken hatching and poultry slaughterings

Statistics shown in the following section have been compiled 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

('000)

Year	*Chickens(a)*	*Other fowls(b)*	*Ducks and drakes*	*Turkeys*
1972–73—				
New South Wales	49,819	3,329	888	1,866
Victoria	23,101	1,919	219	174
Queensland	16,546	1,504	25	33
South Australia	11,124	438	41	17
Western Australia	11,072	657	(c)	(c)
Tasmania	1,558	83	(c)	(c)
Australia	**113,220**	**7,930**	**1,224**	**2,108**
1971–72	113,296	8,803	1,356	1,353
1970–71	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

(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)

('000 kg)

Year	*Chickens(b)*	*Other fowls(c)*	*Ducks and drakes*	*Turkeys*	*Total*
1972–73—					
New South Wales	61,812	5,081	1,535	6,725	75,152
Victoria	28,322	3,044	327	685	32,378
Queensland(d)	21,144	2,449	42	105	23,740
South Australia	12,363	677	79	71	13,190
Western Australia	12,829	1,140	(e)	(e)	14,065
Tasmania	1,850	124	(e)	(e)	2,044
Australia	**138,320**	**12,515**	**2,084**	**7,651**	**160,569**
1971–72	141,700	14,367	2,211	4,968	163,247
1970–71	131,046	12,383	2,068	6,020	151,518
1969–70	105,429	10,837	1,635	5,943	123,843
1968–69	93,735	9,922	1,746	3,781	109,183

(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.

Value of poultry slaughtered

GROSS VALUE OF POULTRY SLAUGHTERED: 1972-73
($'000)

N.S.W.	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
43,687	17,807	12,293	7,612	7,818	1,320	47	37	90,621

GROSS VALUE OF POULTRY SLAUGHTERED: AUSTRALIA
($'000)

1968–69	*1969–70*	*1970–71*	*1971–72*	*1972–73*
64,861	69,761	84,167	89,840	90,621

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
('000)

Year	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*Aust.*
			MEAT STRAINS				
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
1971–72 . .	73,707	35,097	21,647	13,253	(*b*)	(*b*)	161,645
1972–73 . .	77,409	36,487	23,095	12,944	(*b*)	(*b*)	168,607
			EGG STRAINS				
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
1971–72 . .	18,238	14,251	10,755	4,933	3,606	977	52,759
1972–73 . .	16,840	14,354	9,769	3,739	3,321	926	48,950

(*a*) Includes eggs which failed to hatch. (*b*) Not available for publication.

CHICKENS HATCHED(a) IN COMMERCIAL HATCHERIES

('000)

Year	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	Aust.
INTENDED FOR CHICKEN MEAT—MEAT STRAINS (Unsexed)							
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
1971–72	54,209	26,951	16,360	10,431	(b)	(b)	121,563
1972–73	56,246	27,746	17,418	10,131	(b)	(b)	125,822
INTENDED FOR CHICKEN MEAT—EGG STRAINS (Crossbred and other cockerels)(c)							
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
1971–72	517	431	507	117	49	50	1,670
1972–73	523	489	675	103	43	18	1,853
INTENDED FOR EGG PRODUCTION—EGG STRAINS (Pullets)(c)							
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
1971–72	5,889	4,861	3,484	1,876	1,268	302	17,680
1972–73	5,129	4,875	3,126	1,409	1,223	317	16,078

(a) Excludes chicks destroyed. (b) Not available for publication. (c) Includes (for States other than Queensland) a proportion of unsexed egg strain chicks.

Recorded production of eggs and egg products

Statistics of the production and disposal of eggs in Australia are 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

('000 dozen)

State	1968–69	1969–70	1970–71	1971–72	1972–73
New South Wales(b)	76,062	82,021	89,663	91,100	87,782
Victoria	41,147	47,613	53,339	55,518	50,940
Queensland	20,854	23,837	25,305	25,031	26,985
South Australia	15,692	16,655	19,440	20,515	18,769
Western Australia	11,491	12,716	14,501	16,897	14,346
Tasmania	n.a.	n.a.	n.a.	n.a.	n.a.
Total(c)	**165,247**	**182,842**	**202,249**	**209,061**	**198,822**

(a) Receipts from consignors and sales by producer agents. (b) Includes Australian Capital Territory. (c) Excludes Tasmania.

Value of egg production

GROSS VALUE OF EGG PRODUCTION: 1972–73
($'000)

N.S.W.	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
45,344	31,292	16,727	6,662	7,251	4,502	547	994	113,319

GROSS VALUE OF EGG PRODUCTION: AUSTRALIA
($'000)

1968–69	*1969–70*	*1970–71*	*1971–72*	*1972–73*
111,304	114,638	111,155	110,874	113,319

Egg pulp production

Particulars of the production of egg pulp and powder 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.

EGG PULP AND POWDER: PRODUCTION RECORDED BY EGG BOARDS
('000 kg)

State	*1968–69*	*1969–70*	*1970–71*	*1971–72*	*1972–73*
New South Wales	7,117	9,983	12,922	10,331	5,517
Victoria	4,578	6,319	8,334	9,122	2,475
Queensland	2,399	3,623	3,439	2,754	3,041
South Australia	2,436	2,755	3,691	4,176	2,021
Western Australia	685	891	1,353	2,442	1,085
Tasmania	n.a.	n.a.	n.a.	n.a.	n.a.
Total(*a*)	**17,215**	**23,571**	**29,738**	**28,825**	**14,139**

(*a*) Excludes Tasmania.

In addition to egg pulp and powder, production was also recorded for liquid egg whites and liquid egg yolks. Output in 1972–73 amounted to 6,637,000 kg and 5,212,000 kg respectively, compared with 5,665,000 kg and 4,086,000 kg 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 for 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

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
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	287.0	5.1	64.8	216.9	17.2
1971–72	+0.4	296.1	6.9	67.9	220.9	17.2
1972–73	−0.1	283.9	6.5	52.8	224.6	17.2

(a) Includes ships' stores. (b) Includes wastage.

Details of the annual consumption of shell eggs, egg pulp and powder 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

(Per head per year)

Year	Eggs in shell	Egg pulp and powder(a)	Total	
			Number	Weight(b)
	number	number		kg
1968–69	206	14	220	12.5
1969–70	206	14	220	12.5
1970–71	206	14	220	12.5
1971–72	206	12	218	12.3
1972–73	206	12	218	12.4

(a) In terms of number of eggs in shell. (b) The average weight of an egg in Australia is taken as 56.7g.

Overseas trade in poultry products

Australian exports of shell eggs in 1972–73 amounted to 5,552,000 dozen compared with 5,909,000 dozen in 1971–72. The main outlets for Australian eggs in 1972–73 were Hong Kong (2,031,000 dozen), Kuwait (773,000 dozen), the Union of Arab Emirates (661,000 dozen), and Bahrain (620,000 dozen).

EXPORTS OF POULTRY PRODUCTS: AUSTRALIA

		Quantity			Value ($'000 f.o.b.)		
		1970–71	1971–72	1972–73	1970–71	1971–72	1972–73
Eggs in shell	'000 doz	3,990	5,909	5,552	1,038	1,455	1,470
Eggs not in shell—							
In liquid form	'000 kg	19,563	16,581	23,728	7,052	6,261	9,578
Dry	'000 kg	382	303	282	357	380	458
Frozen poultry	'000 kg	2,344	3,137	3,963	1,504	2,077	2,483
Poultry, live(a)	number	369,821	369,589	379,952	161	173	214

(a) Includes day-old chicks.

Imports of canned poultry in 1972–73 amounted to 62,000 kg, valued at $67,000, compared with 273,000 kg, valued at $76,000, in 1971–72.

Horses

The number of horses on rural holdings 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. From 1970 particulars of horses 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 1880 appears on plate 50, page 795.

Horse numbers

NUMBER OF HORSES: 1930 TO 1970
('000)

31 March—	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
1930 . .	535	393	500	189	160	34	34	1	1,846
1940 . .	535	326	445	190	139	30	33	1	1,699
1950 . .	342	200	317	83	59	21	33	1	1,057
1960 . .	204	81	234	30	41	11	38	1	640
1970 . .	136	53	173	16	29	6	41	1	456

Overseas trade in horses

Exports of Australian-bred horses in 1972–73 numbered 802, valued at $2,253,000, made up of horses for breeding (158 valued at $332,000), horses for racing (545 valued at $1,856,000, shipped principally to Singapore, Hong Kong, the United States of America and New Zealand) and horses for other purposes (99 valued at $65,000). Horses imported into Australia in 1972–73 (1,148 valued at $5,312,000) were mainly from New Zealand and the United Kingdom.

Miscellaneous livestock products

Tallow

Details of tallow consumption are collected from the principal factories using tallow. Recorded usage of inedible tallow in factories for the years 1968–69, 1969–70 and 1971–72 was as follows; for soap-making: 1968–69, 33,912,612 kg; 1969–70, 33,062,868 kg; 1971–72, 35,770,000 kg; for products other than soap: 1968–69, 11,210,475 kg; 1969–70, 11,778,196 kg; 1971–72, 12,333,000 kg. Particulars for 1970–71 were not collected. Figures for 1972–73 are not yet available. 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 1968–69 to 1972–73.

TALLOW: EXPORTS, AUSTRALIA, 1968–69 TO 1972–73
(tonnes)

	1968–69	*1969–70*	*1970–71*	*1971–72*	*1972–73*
Edible . . .	10,254	17,679	17,727	17,011	17,329
Inedible . . .	103,409	153,396	139,151	199,675	179,942
Total . . .	**113,663**	**171,075**	**156,878**	**216,686**	**197,271**

Overseas trade in hides and skins

The value of cattle and horse hides, sheep and other skins, and skin pieces sent overseas during 1972–73 amounted to $192,098,000, compared with a total of $82,167,000 in 1971–72 and $73,574,000 in 1970–71.

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 itinerant apiarists operating on a large scale with mobile equipment. Some of these apiarists move as far afield as from Victoria to Queensland in an endeavour to provide a continuous supply of nectar from flora suitable for their bees. Production of honey in 1973–74 amounted to 21,189,000 kg (51.8 kg per productive hive) compared with 18,083,000 kg (45.8 kg per productive hive) in 1972–73. Bees-wax produced in 1973–74 was 322,000 kg compared with 271,000 kg in the previous year.

In the following tables, statistics for each State are confined to apiarists with five or more hives except in New South Wales where details relate to bee-keepers with six or more hives.

BEE-FARMING: AUSTRALIA

Season	Number of apiarists(a)	Beehives			Honey produced		Bees-wax produced
		Productive	Unproductive	Total	Quantity	Average production per productive beehive	Quantity
		'000	'000	'000	'000 kg	kg	'000 kg
1973–74—							
New South Wales	2,209	160	63	222	8,683	54.4	126
Victoria	1,160	74	24	99	3,161	42.7	47
Queensland	907	45	21	66	1,768	39.3	30
South Australia	894	85	17	102	4,650	54.7	76
Western Australia	341	33	6	40	2,415	72.2	36
Tasmania	234	11	3	14	487	43.7	7
Australian Capital Territory	34	1	..	1	25	26.8	..
Australia	**5,779**	**409**	**134**	**544**	**21,189**	**51.8**	**322**
1969–70.	5,518	368	114	482	22,259	60.5	307
1970–71.	5,759	376	118	493	19,126	50.9	266
1971–72.	5,803	384	139	524	20,240	52.7	264
1972–73.	5,926	395	133	528	18,083	45.8	271
1973–74.	5,779	409	134	544	21,189	51.8	322

(a) *See* comments on coverage (in terms of bee-keepers included) above.

Value of honey and bees-wax

GROSS VALUE OF HONEY AND BEES-WAX 1972–73
($'000)

	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	A.C.T.	Total
Honey	2,377	2,077	790	1,656	1,009	213	8	8,130
Bees-wax	105	65	25	56	36	7	..	294

GROSS VALUE OF HONEY AND BEES-WAX: AUSTRALIA
($'000)

	1968–69	1969–70	1970–71	1971–72	1972–73
Honey	2,670	4,427	4,362	6,136	8,130
Bees-wax	259	397	337	320	294

Overseas trade in honey and bees-wax

EXPORTS OF HONEY: AUSTRALIA
(Australian produce only)

Country of consignment	Quantity ('000 kg)			Value ($A'000 f.o.b.)		
	1971–72	1972–73	1973–74	1971–72	1972–73	1973–74
Belgium-Luxembourg	58	3	116	18	1	77
Denmark	228	187	55	77	97	36
Germany, Federal Republic of	681	317	140	226	197	93
Hong Kong	28	24	38	20	18	39
Indonesia	48	48	51	42	9	50
Japan	1,398	1,221	551	645	733	471
Kuwait	60	61	77	50	43	87
Malaysia	195	255	313	129	173	304
Netherlands	187	55	27	65	34	18
Saudi Arabia	112	67	91	100	46	106
Singapore	155	140	256	116	109	256
Union of Arab Emirates	3	14	31	3	15	34
United Kingdom	4,551	5,089	2,635	1,590	2,898	1,684
United States of America	471	190	76	192	88	37
Other countries	659	294	256	360	261	229
Total	**8,834**	**7,965**	**4,713**	**3,633**	**4,722**	**3,521**

Imports of honey amounted to 49,122 kg, valued at $37,427 in 1971–72; 52,511 kg, valued at $46,014 in 1972–73, and 40,421 kg, valued at $49,564 in 1973–74.

EXPORTS OF BEES-WAX: AUSTRALIA
(Australian produce only)

Country of consignment	Quantity ('000 kg)			Value ($A'000 f.o.b.)		
	1971–72	1972–73	1973–74	1971–72	1972–73	1973–74
France	..	..	14	..	..	24
Germany, Federal Republic of	..	..	29	..	..	33
Japan	51	11	34	72	15	44
United Kingdom	45	25	131	62	30	212
United States of America	..	..	21	..	..	21
Other countries	..	5	11	1	11	22
Total	**97**	**41**	**240**	**135**	**56**	**356**

Imports of bees-wax amounted to 14,460 kg, valued at $27,479 in 1971–72; 6,621 kg, valued at $11,049 in 1972–73, and 13,744 kg, valued at $24,777 in 1973–74.

Honey levy

A levy is imposed under the *Honey Levy Act* 1962–1965 on domestic sales of honey for the purpose of financing the operations of the Australian Honey Board. The current rate of levy which becomes effective on 1 October 1975 is 1.3 cents per kg; it can be increased by regulation to a maximum of 2.2 cents per kilogram.

In April 1974 an export charge of 0.3 cents per kg was introduced under the *Honey Export Charge Act* 1973 to provide necessary additional finance for the Honey Board to regulate Australian honey exports and undertake associated promotional and research activities. This levy may be increased by regulation to a maximum of 1 cent per kg.

Collections of the domestic sales levy have amounted to $121,000 and $129,000 in 1972–73 and 1973–74 respectively. Collections of the export levy in its first three months of operation were $1,500. The sum made available for research ($5,000 per annum in recent years) is matched by the Australian Government with funds from the Special Research Grant.

RURAL IMPROVEMENTS, CONSERVATION AND CONSUMPTION OF FODDER

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. Production of nitrogenous fertilisers is based on both Australian natural and refinery gas and imported naphtha feedstocks. Production of phosphatic fertilisers is dependent upon imported phosphate rock.

As a result of widespread phosphate deficiency in Australian soils, phosphatic fertilisers account for a large proportion of usage both on crops and pastures. During 1972–73 usage of nitrogen, phosphorus and potassium in elemental terms was in the ratio of approximately 2:6:1.

Principal crops and pastures fertilised, etc.

Information regarding the principal crop and pasture areas treated with artificial fertilisers, and the quantity of artificial fertilisers (superphosphate, nitrates, etc.) used is given in the following tables.

PRINCIPAL CROPS AND PASTURES ARTIFICIALLY FERTILISED, AREA FERTILISED TYPE AND QUANTITY(a) USED, 1972-73

Crops and pastures		*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Australia*
Sown and native pastures—										
Area fertilised	hectares	3,363,323	4,200,007	218,486	1,779.847	5,048,302	599,266	35,453	11,570	15,256,254
Type of fertiliser used—										
Superphosphate	tonnes	493,040	644,436	50,491	249,862	679,131	110,563	4,030	1,519	2,233,072
Nitrogenous	,,	11,138	12,231	7,399	1,337	8,796	4,046	36	36	45,019
Other(b)	,,	6,881	108,906	3,883	5,408	35,842	15,538	9	..	176,467
Lucerne—										
Area fertilised	hectares	139,454	77,118	12,193	253,303	10,328	3,725	23	811	496,955
Type of fertiliser used—										
Superphosphate	tonnes	21,493	14,689	2,821	38,059	2,087	577	22	139	79,887
Nitrogenous	,,	296	117	437	244	59	17	..	..	1,170
Other(b)	,,	444	1,403	119	1,282	368	582	..	17	4,215
Wheat—										
Area fertilised	hectares	1,674,803	959,095	54,992	932,006	2,445,769	4,258	..	219	6,071,142
Type of fertiliser used—										
Superphosphate	tonnes	168,112	112,594	2,189	114,428	289,857	845	..	27	688,052
Nitrogenous	,,	3,555	2,714	1,730	1,423	22,955	6	..	..	32,383
Other(b)	,,	5,082	1,359	163	2,870	10,080	36	..	..	19,590
Oats, barley and rye—										
Area fertilised	hectares	633,460	519,411	64,317	882,918	1,203,373	31,994	..	413	3,335,886
Type of fertiliser used—										
Superphosphate	tonnes	69,698	60,680	4,811	105,931	146,789	6,785	..	55	394,749
Nitrogenous	,,	4,261	1,059	3,344	1,149	6,968	160	..	2	16,943
Other(b)	,,	3,558	1,321	749	2,324	3,955	528	..	12	12,447
Other cereals—										
Area fertilised	hectares	84,417	4,233	95,484	161	3,833	52	11,196	172	199,548
Type of fertiliser used—										
Superphosphate	tonnes	6,537	643	4,209	28	202	4	4,941	27	16,591
Nitrogenous	,,	7,254	75	7,829	..	2,374	..	2,024	5	19,561
Other(b)	,,	2,488	199	16,49	..	45	14	54	1	4,450
Sugar cane—										
Area fertilised	hectares	8,920	..	230,752	..	..	..	..	..	239,672
Type of fertiliser used—										
Superphosphate	tonnes	448	..	19,382	..	..	..	..	..	19,830
Nitrogenous	,,	4,254	..	104,598	..	..	..	..	..	108,852
Other(b)	,,	725	..	74,402	..	..	..	..	..	75,127
Vegetables for human consumption—										
Area fertilised	hectares	17,074	21,784	16,190	8,401	4,842	9,087	153	45	77,576
Type of fertiliser used—										
Superphosphate	tonnes	6,240	8,128	1,616	3,550	3,502	1,977	63	15	25,091
Nitrogenous	,,	2,231	1,996	3,170	1,581	2,562	310	15	15	11,880
Other(b)	,,	7,787	14,228	6,905	4,555	7,826	5,569	114	32	47,016
Fruit—										
Area fertilised	hectares	22,449	18,855	14,934	11,843	6,324	5,306	33	6	79,750
Type of fertiliser used—										
Superphosphate	tonnes	4,607	4,330	1,340	4,361	2,165	1,205	4	..	18,012
Nitrogenous	,,	4,420	4,812	5,624	2,566	1,535	795	29	..	19,781
Other(b)	,,	12,307	4,715	10,008	2,789	2,710	2,919	39	1	35,488
Grapevines—										
Area fertilised	hectares	7,423	8,414	964	16,992	1,758	..	..	..	35,551
Type of fertiliser used—										
Superphosphate	tonnes	1,793	1,614	74	5,195	385	..	..	..	9,061
Nitrogenous	,,	1,099	1,117	55	1,287	184	..	..	..	3,742
Other (b)	,,	1,131	864	342	2,209	528	..	..	..	5,074
All other crops—										
Area fertilised	hectares	98,464	32,708	48,099	11,990	80,176	11,612	338	10	283,397
Type of fertiliser used—										
Superphosphate	tonnes	8,072	6,431	4,127	1,770	14,328	2,637	73	1	37,439
Nitrogenous	,,	2,020	442	4,413	77	3,173	425	22	..	10,572
Other(b)	,,	2,193	3,164	4,973	116	1,076	1,019	..	..	12,541
Total—										
Area fertilised	hectares	6,049,787	5,841,625	756,411	3,897,461	8,804,705	665,300	47,196	13,246	26,075,731
Type of fertiliser used—										
Superphosphate	tonnes	780,040	853,545	91,060	523,184	1,138 446	124,593	9,133	1,783	3,521,784
Nitrogenous	,,	40,528	24,563	138,599	9,664	48,606	5,759	2,126	58	269,903
Other(b)	,,	(c)42,596	136,159	103,193	21,553	62,430	26,205	216	63	392,415

(a) Includes quantities of "double" and "triple" strength superphosphate converted to single strength equivalent. (b) Includes mixed and compounded fertilisers. (c) In addition, 5,959,000 kg "N" of Anhydrous Ammonia (82% "N") was applied.

PRINCIPAL CROPS AND PASTURES: ARTIFICIALLY FERTILISED, AREA FERTILISED TYPE AND QUANTITY USED, AUSTRALIA

Crops and pastures	*1968–69*	*1969–70*	*1970–71*	*1971–72*	*1972–73*
AREA FERTILISED (Hectares)					
Sown and native pastures	14,672,498	16,210,924	14,938,139	13,296,223	15,256,254
Lucerne				482,475	496,955
Wheat	8,615,724	7,623,381	5,374,724	5,619,254	6,071,142
Oats, barley and rye	3,318,981	3,380,701	3,993,892	3,818,567	3,335,886
Other cereals				190,291	199,548
Sugar cane	229,386	228,444	228,404	234,301	239,672
Vegetables for human consumption	96,177	95,628	84,535	87,609	77,576
Fruit	122,157	123,536	125,235	82,493	79,750
Grapevines				35,966	35,551
All other crops	465,420	469,975	541,319	301,525	283,397
Total	**27,520,343**	**28,132,589**	**25,286,248**	**24,148,704**	**26,075,731**
SUPERPHOSPHATE USED (Tonnes)					
Sown and native pastures	2,139,226	2,352,502	2,161,089	1,895,410	2,233,072
Lucerne				77,288	79,887
Wheat	979,651	867,445	599,599	623,299	688,052
Oats, barley and rye	397,792	412,880	463,099	443,240	394,749
Other cereals				12,752	16,591
Sugar cane	14,098	18,089	27,854	18,544	19,830
Vegetables for human consumption	29,614	30,705	27,855	26,679	25,091
Fruit	22,243	27,179	27,668	17,758	18,012
Grapevines				8,973	9,061
All other crops	71,148	71,670	87,442	36,301	37,439
Total	**3,653,772**	**3,780,470**	**3,394,606**	**3,160,244**	**3,521,784**
NITROGENOUS FERTILISERS USED (Tonnes)					
Sown and native pastures	(*a*)	(*a*)	31,800	44,248	45,019
Lucerne				1,290	1,170
Wheat	(*a*)	(*a*)	31,176	30,021	32,383
Oats, barley and rye	(*a*)	(*a*)	33,486	19,018	16,943
Other cereals				17,421	19,561
Sugar cane	(*a*)	(*a*)	80,072	96,197	108,852
Vegetables for human consumption	(*a*)	(*a*)	11,336	13,624	11,880
Fruit	(*a*)	(*a*)	24,204	19,184	19,781
Grapevines				3,642	3,742
All other crops	(*a*)	(*a*)	9,623	9,279	10,572
Total	(*a*)	(*a*)	**221,697**	**253,924**	**269,903**
OTHER ARTIFICIAL FERTILISERS USED(*b*) (Tonnes)					
Sown and native pastures	124,196 (*c*)	139,023 (*c*)	131,687	151,013	176,467
Lucerne				4,445	4,215
Wheat	92,749	57,167	36,895	18,085	19,590
Oats, barley and rye	31,879	31,414	34,455	14,394	12,447
Other cereals				4,186	4,450
Sugar cane	73,048	71,603	68,898	69,985	75,127
Vegetables for human consumption	66,728	60,094	56,131	49,619	47,016
Fruit	63,849	62,228	48,782	34,985	35,488
Grapevines				4,525	5,074
All other crops	24,519	22,823	21,193	13,804	12,541
Total	**476,968**	**444,352**	**398,041**	**365,041**	**392,415**

(*a*) Not available, included in 'other artificial fertilisers'. (*b*) Includes mixed and compounded fertilisers. (*c*) Includes nitrogenous fertiliser.

Imports and exports of fertilisers

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.

IMPORTS OF FERTILISERS: AUSTRALIA

	1968–69		*1969–70*		*1970–71*		*1971–72*		*1972–73*	
Description	*'000 kg*	*$'000*	*'000 kg*	*$'000*	*'000 kg*	*$'000*	*'000 kg*	*$'000*	*'000 kg*	*$'000*
Fertilisers, crude—										
Natural sodium nitrate	3,907	182	4,588	305	3,242	185	3,159	212	3,572	225
Natural phosphates, whether or not ground	3,227,539	31,606	2,691,825	28,109	2,107,482	22,174	1,654,352	18,157	2,281,922	22,647
Natural potassic salts, crude	..	..	..	..	5,203	152	..	..	..	..
Fertilisers, manufactured—										
Mineral or chemical fertilisers, nitrogenous—										
Ammonium nitrate	20,869	1,317	16,617	1,201	14,648	954	2,695	164	9,185	458
Ammonium sulphate	70,768	1,707	12,124	465	453	20	375	13	144	7
Calcium ammonium nitrate	19,782	789	3,611	149	1,042	40	1,097	41	1,032	48
Sodium nitrate	1,318	73	508	22	2,101	110	1,035	66	805	116
Urea containing in the dry state more than 45% by weight of nitrogen	145,802	7,423	7,989	433	12,669	626	6,984	435	1,302	76
Other	691	65	631	40	948	58	564	32	757	47
Mineral or chemical fertilisers, phosphatic—										
Basic slag	..	..	..	..	..	..	..	..	..	..
Other (including superphosphates)	14,246	406	1,649	97	3,141	132	2,433	218	2,044	123
Mineral or chemical fertilisers, potassic—										
Potassium chloride	120,457	2,749	111,946	2,684	136,138	4,045	130,431	3,350	156,184	4,254
Potassium sulphate	13,190	603	17,358	748	17,131	748	15,482	768	9,101	438
Other	3,451	105	5,971	152	2,468	66	891	54	128	8
Fertilisers, n.e.s.										
In the form of tablets, lozenges and similar prepared forms or in packs of gross weight not exceeding 10 kg	28	31	28	27	39	54	49	53	29	30
Other—										
Sodium nitrate mixed or combined with potassium nitrate	195	12	190	13	234	15	118	9	100	9
N.P.K. complete fertilisers	31,033	1,795	7,253	462	7,439	443	14,850	985	5,491	439
Mixed or composite fertilisers	5,016	316	7,902	476	375	22	44	10	74	17
Blood and bone	173	12	..	..	..	..	..	..	..	..
Other	30,041	1,607	10,116	673	952	117	320	68	577	104

Exports of fertilisers (manufactured locally) amounted to 88,000 tonnes valued at $1,803,000 in 1972–73 compared with 51,000 tonnes valued at $1,311,000 in 1971–72.

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 Federal and State authorities which promote and co-ordinate research into the problems of soil erosion and the initiation of preventive measures.

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 593,000 hectares; in 1972–73 the total was 4,788,000 hectares. The following table shows details of area treated and materials used for each State for years ended 31 March.

AERIAL AGRICULTURE

Year ended 31 March	*Area topdressed and seeded*	*Area sprayed*	*Total area treated(a)*	*Materials used*		*Total flying time*
				Super-phosphate	*Seed*	
	'000 hectares	'000 hectares	'000 hectares	tonnes	'000 kg	hours
1973—						
New South Wales(b)	2,102	679	2,803	263,950	1,056	47,398
Victoria	559	82	659	86,505	66	15,197
Queensland(c)	(d)	202	488	(d)	503	11,534
South Australia	(d)	70	187	19,099	(d)	3,598
Western Australia	171	(d)	(d)	26,104	(d)	(d)
Tasmania	(d)	(d)	(d)	(d)	(d)	(d)
Australia	**3,359**	**1,355**	**4,788**	**446,190**	**1,646**	**89,432**
1972	2,795	1,357	4,291	335,374	1,991	75,620
1971	3,304	1,124	4,581	417,366	1,111	83,692
1970	4,156	1,507	6,017	599,795	1,295	102,619
1969	3,834	1,853	5,834	433,596	1,871	99,639

(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.

Irrigation on rural holdings

Details of the principal crops and the area under irrigation are given in Chapter 23, Water Resources.

Farm stocks of major cereal grains, silage and hay

FARM STOCKS OF CEREAL GRAINS

(Tonnes)

State	At 31 March— 1969	1970	1971	1972	1973
BARLEY					
New South Wales	(a)	(a)	(a)	150,938	98,970
Victoria	(b)	53,462	62,994	91,669	86,999
Queensland	(b)	43,024	21,060	48,922	27,041
South Australia	115,588	121,206	133,017	189,501	156,444
Western Australia	(c)32,770	94,590	102,056	144,528	189,226
Tasmania	(b)	8,175	10,004	10,447	10,758
Northern Territory	(b)	(b)	(b)	(a)	(a)
Australian Capital Territory	(b)	(b)	(b)	(a)	(a)
Australia	**n.a.**	**n.a.**	**n.a.**	**(d)636,005**	**(d)569,438**
OATS					
New South Wales	499,293	555,927	611,889	415,855	260,918
Victoria	228,452	347,038	289,358	263,315	259,058
Queensland	(b)	16,890	13,516	14,653	9,592
South Australia	117,469	112,935	115,533	138,857	85,836
Western Australia	(c)175,707	190,076	209,830	285,427	169,075
Tasmania	(b)	8,587	8,176	7,138	12,778
Northern Territory	(b)	(b)	(b)	(a)	(a)
Australian Capital Territory	425	629	565	411	262
Australia	**n.a.**	**(d)1,232,082**	**(d)1,248,867**	**(d)1,125,656**	**(d)797,519**
WHEAT					
New South Wales	296,665	344,216	301,285	296,328	325,987
Victoria	130,017	321,058	137,537	169,455	157,904
Queensland	(b)	31,477	20,535	26,641	27,773
South Australia	120,774	118,854	105,288	105,489	122,119
Western Australia	217,426	205,012	279,158	214,055	199,481
Tasmania	(b)	3,077	2,563	2,534	4,413
Northern Territory	(b)	(b)	(b)	(a)	(a)
Australian Capital Territory	405	925	649	348	540
Australia	**n.a.**	**(d)1,024,619**	**(d)847,015**	**(d)814,850**	**(d)838,217**

(a) Not available separately. (b) Not collected. (c) Feed only. (d) Incomplete; *see* footnotes to individual States.

FARM STOCKS OF SILAGE

(Tonnes)

State	At 31 March— 1969	1970	1971	1972	1973
New South Wales	400,159	701,981	860,565	745,997	590,043
Victoria	267,414	255,923	226,126	237,561	157,607
Queensland	69,317	74,676	129,622	187,159	173,979
South Australia	82,190	70,184	58,129	77,299	44,708
Western Australia	30,561	19,971	37,537	57,328	28,330
Tasmania	67,665	68,044	69,317	73,342	44,477
Northern Territory	(a)	(a)	(a)	589	469
Australian Capital Territory	27	1,706	50	737	203
Australia	**(b)917,333**	**(b)1,192,485**	**(b)1,381,346**	**1,380,012**	**1,039,816**

(a) Not collected. (b) Incomplete; *see* footnotes to individual States.

FARM STOCKS OF HAY
(Tonnes)

State	At 31 March— 1969	1970	1971	1972	1973
New South Wales	1,849,083	2,577,233	2,561,303	1,782,023	1,192,843
Victoria	3,035,803	2,415,124	2,695,585	3,861,139	2,547,423
Queensland	(a)155,400	(a)258,480	287,762	338,670	294,848
South Australia	734,662	640,506	624,278	961,820	555,213
Western Australia	247,750	241,148	407,022	479,465	398,025
Tasmania	457,778	450,447	471,596	516,321	317,193
Northern Territory	(b)	(b)	(b)	945	521
Australian Capital Territory	5,055	13,757	9,805	14,350	2,885
Australia	(c)6,485,531	(c)6,596,695	(c)7,057,351	7,954,733	5,308,951

(a) Includes chaff. (b) Not collected. (c) Incomplete; *see* footnotes to individual States.

On-farm consumption of major cereal grains and hay

CEREAL GRAINS CONSUMED BY LIVESTOCK ON FARMS
(Tonnes)

State	1968–69	1969–70	1970–71	1971–72	1972–73
BARLEY					
New South Wales	40,519	44,362	46,186	83,275	92,180
Victoria	27,844	34,106	40,837	57,230	84,196
Queensland	86,473	86,205	62,302	68,183	73,527
South Australia	71,814	77,718	78,002	126,956	148,578
Western Australia	(a)	58,391	62,484	66,473	126,656
Tasmania	7,046	7,880	9,678	12,267	13,594
Northern Territory	(a)	(b)	(b)	(b)	(a)
Australian Capital Territory	(a)	57	(b)	(b)	62
Australia	n.a.	(c)308,719	(c)299,489	(c)414,384	(c)538,793
OATS					
New South Wales	165,771	94,940	131,025	192,623	253,697
Victoria	105,894	105,291	112,797	131,081	253,968
Queensland	2,068	13,510	9,587	6,730	9,591
South Australia	51,891	51,127	75,508	63,039	80,871
Western Australia	(a)	180,453	144,469	139,516	186,820
Tasmania	5,200	3,984	4,117	3,762	5,654
Northern Territory	(a)	(b)	(b)	7	(d)
Australian Capital Territory	(a)	258	152	504	232
Australia	n.a.	(c)449,563	(c)477,655	537,262	(c)790,833
WHEAT					
New South Wales	152,269	144,291	194,532	319,713	230,930
Victoria	91,999	54,263	64,661	70,969	209,135
Queensland	43,247	49,879	32,282	52,940	32,155
South Australia	23,687	22,175	39,409	55,345	73,915
Western Australia	(b)	54,491	73,642	78,803	72,980
Tasmania	10,583	6,976	10,466	11,919	13,987
Northern Territory	(a)	(b)	(b)	108	(d)
Australian Capital Territory	(a)	401	672	155	384
Australia	n.a.	(c)332,476	(c)415,664	589,952	(c)633,486

(a) Not collected. (b) Not collected separately. (c) Incomplete; *see* footnotes to individual States. (d) Not available for publication.

HAY CONSUMED BY LIVESTOCK ON FARMS

(Tonnes)

State	*1968–69*	*1969–70*	*1970–71*	*1971–72*	*1972–73*
CEREAL HAY					
New South Wales	196,704	123,641	176,193	251,585	242,414
Victoria	316,098	282,264	284,661	378,997	396,186
Queensland	(*a*)12,237	(*a*)21,442	18,972	26,597	25,830
South Australia	(*b*)	(*a*)171,765	217,929	222,076	234,755
Western Australia	(*c*)	249,773	251,627	229,665	241,573
Tasmania	(*c*)	(*a*)29,310	21,422	19,662	25,427
Northern Territory	(*c*)	(*b*)	(*b*)	365	542
Australian Capital Territory	(*c*)	530	293	1,027	356
Australia	**n.a.**	(*d*)**878,725**	(*d*)**971,097**	**1,129,974**	**1,167,083**
LUCERNE HAY					
New South Wales	323,705	214,280	408,512	561,260	558,448
Victoria	152,291	127,308	128,074	172,118	173,836
Queensland	(*a*)105,832	(*a*)311,262	164,919	172,208	184,626
South Australia	(*b*)	(*a*)75,033	95,769	95,413	99,019
Western Australia	(*c*)	(*b*)	(*b*)	5,461	8,070
Tasmania	(*c*)	(*b*)	(*b*)	12,444	14,572
Northern Territory	(*c*)	401	1,212	4,015	562
Australian Capital Territory	(*c*)	2,033	3,130	3,433	3,256
Australia	**n.a.**	(*d*)**730,317**	(*d*)**801,616**	**1,026,352**	**1,042,389**
OTHER HAY					
New South Wales	366,625	184,142	306,764	445,767	307,709
Victoria	1,351,255	1,321,737	1,477,258	1,916,440	1,800,674
Queensland	(*a*)82,494	(*a*)209,548	146,631	59,733	58,261
South Australia	(*a*)405,007	(*a*)218,544	263,388	293,527	307,146
Western Australia	(*c*)	227,505	220,878	216,087	234,874
Tasmania	(*c*)	151,598	246,320	326,094	317,999
Northern Territory	(*c*)	1,977	3,596	2,225	2,323
Australian Capital Territory	(*c*)	738	843	1,373	497
Australia	**n.a.**	**2,315,789**	**2,665,678**	**3,261,246**	**3,029,483**

(*a*) Includes chaff. (*b*) Included in 'other hay'. (*c*) Not collected. (*d*) Incomplete; *see* footnotes to individual States.

Agricultural machinery on rural holdings

The tables following show the principal types of agricultural machinery on rural holdings in the States and Territories at 31 March 1973. Additional information was published in the statistical bulletin *Rural Land Use, Improvements, Agricultural Machinery and Labour*, 1972–73 (10.59).

Farm machinery on rural holdings

AGRICULTURAL MACHINERY ON RURAL HOLDINGS: 31 MARCH 1973

(Number)

Machinery	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
Tractors—									
Wheeled	83,115	79,449	66,004	34,370	31,970	11,742	444	177	307,271
Crawler	6,275	3,119	8,610	2,888	3,549	1,163	164	7	25,775
Fertiliser distributors and broadcasters(a)	24,647	27,829	17,753	9,863	10,108	5,766	98	76	96,140
Grain and seed harvesters (including headers and strippers)—									
Tractor drawn	13,835	10,713	4,217	8,738	8,026	533	28	17	46,107
Self-propelled	5,121	1,836	3,563	2,352	2,079	128	24	6	15,109
Grain drills—									
Combine type	29,729	19,999	15,090	15,408	13,847	1,527	89	54	95,743
Other type	5,929	6,948	1,902	4,148	3,145	1,962	11	21	24,066
Pick-up balers	12,339	14,814	3,775	5,624	4,674	2,082	52	39	43,399
Forage harvesters	3,218	2,211	1,678	877	670	352	30	8	9,044
Rotary hoes and rotary tillers—									
Self-contained power unit	8,386	6,927	3,776	3,359	1,756	1,241	68	40	25,553
Tractor mounted and trailing types	9,180	5,302	5,996	2,880	2,159	1,175	48	10	26,750
Milking plant (number of units)	31,482	113,335	26,890	15,834	8,529	15,715	34	69	211,888

(a) Rotary and direct drop.

AGRICULTURAL MACHINERY ON RURAL HOLDINGS: AUSTRALIA

(Number)

Machinery	*31 March*				
	1969	*1970*	*1971*	*1972*	*1973*
Tractors—					
Wheeled	299,297	303,458	300,821	305,719	307,271
Crawler	24,299	26,567	25,904	25,698	25,775
Fertiliser distributors and broadcasters(a)	97,119	98,447	98,117	96,832	96,140
Grain and seed harvesters (including headers and strippers)—					
Tractor drawn	53,883	50,163	49,904	48,479	46,107
Self-propelled	13,213	13,191	13,871	15,040	15,109
Grain drills—					
Combine type	94,650	94,917	93,567	95,793	95,743
Other type	28,490	27,196	25,717	24,959	24,066
Pick-up balers	40,142	41,237	42,187	42,942	43,399
Forage harvesters	8,016	8,421	8,523	8,960	9,044
Rotary hoes and rotary tillers—					
Self-contained power unit	25,722	24,549	23,059	24,884	25,553
Tractor mounted and trailing types	21,581	20,837	23,264	26,733	26,750
Milking plant (number of units)	231,698	228,042	n.a.	209,805	211,888
Shearing plant (number of stands)	196,286	195,352	n.a.	188,482	n.a.

(a) Rotary and direct drop.

Sales of new tractors for agricultural purposes

Details of the sales of new tractors for agricultural purposes are given in the quarterly publication *Receipts, Sales and Stocks of New Tractors* (12.18).

RURAL EMPLOYMENT

Employment on rural holdings

The following tables contain details of persons working on rural holdings at the end of March as recorded in the annual Agricultural Census.

Males working permanently full-time include all other than casual or seasonal workers, boys and youths attending schools and other persons working only part-time. Casual or seasonal workers, including contractors for shearing, etc., but not those engaged on construction and development work, are shown as temporary employees.

Attention should be drawn to the difficulty encountered in obtaining data on persons working on holdings on a comparable basis from year to year. This is mainly owing to the changing number of lessees and sharefarmers, and the tendency of many farmers to include part-time family helpers as full-time workers in their returns.

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*) WORKING ON RURAL HOLDINGS: 31 MARCH 1973

	N.S.W.	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
Permanent—									
Owners, lessees or sharefarmers	53,094	53,254	35,238	21,274	19,759	6,349	195	97	189,260
Relatives of owner, lessee or sharefarmer—									
Over 15 years of age, not receiving wages or salary	357	3,463	2,695	102	1,129	..	33	3	7,782
Employees, incl. managers and relatives working for wages or salary	21,314	10,746	13,617	5,737	6,489	2,975	1,611	91	62,580
Total permanent males	*74,765*	*67,463*	*51,550*	*27,113*	*27,337*	*9,324*	*1,839*	*191*	*259,622*
Temporary	22,783	21,218	14,484	7,537	(*b*)	4,169	533	90	(*b*)
Total males	**97,548**	**88,681**	**66,034**	**34,650**	(*b*)	**13,493**	**2,372**	**281**	(*b*)

(*a*) Details for females are not available except for New South Wales and Victoria where 6,850 and 15,493 females respectively were engaged on rural holdings. (*b*) Not available for publication.

MALES (*a*) WORKING ON RURAL HOLDINGS: AUSTRALIA

	31 March—				
	1969	*1970*	*1971*	*1972*	*1973*
Permanent—					
Owners, lessees or sharefarmers	207,192	201,505	191,180	194,905	189,260
Relatives of owner, lessee or sharefarmer over 15 years of age, not receiving wages or salary	(*b*)11,421	(*b*)9,860	(*b*)8,062	8,797	7,782
Employees, incl. managers and relatives working for wages or salary	79,295	75,808	69,667	65,333	62,580
Total permanent males	*297,907*	*287,173*	*268,909*	*269,035*	*259,622*
Temporary	(*c*)	(*c*)	(*c*)	(*c*)	(*c*)
Total males	**(c)**	**(c)**	**(c)**	**(c)**	**(c)**

(*a*) Details for females are not available except for New South Wales and Victoria. *See* footnote (*a*) to previous table for 1973 totals. (*b*) Over 14 years of age. (*c*) Not available for publication.

Employment in the agricultural sector

In addition to the statistics of employment on rural holdings compiled from agricultural census data, agricultural industry employment statistics are also available from the regular labour force surveys conducted by the Bureau, and from the Australian population censuses which have been conducted on five occasions since 1947. Population census information was published in *Rural Land Use, Improvements, Agricultural Machinery and Labour*, 1971–72, (10.59).

In the labour force surveys, the agricultural labour force estimates form part of the civilian labour force estimates. The estimates are based on the results of the quarterly population survey, and are conducted on a sample basis throughout Australia in February, May, August and November each year. The survey information is obtained by means of personal interviews carried out by specially trained enumerators. The estimates relate to all persons aged fifteen years and over, except members of the permanent armed forces and certain diplomatic personnel customarily excluded from census and estimated populations. A table showing an estimate of employment in agriculture from the labour force survey is shown on page 696. The table is based on the Australian Standard Industrial Classification (ASIC).

Under the *ASIC classification*, the term *agriculture* is used in the broad sense to include the breeding, keeping or cultivation of animal or vegetable life, the sun-drying of fruit and the agricultural service industries, such as those operating on a contract, consultant, etc., basis. However, the following activities which could be construed as falling within the ambit of agriculture, as specified in the previous sentence, are specifically excluded:

Forestry, pisciculture and the cultivation and production of aquatic vegetation, flora and fauna sanctuaries, botanical and zoological gardens, and institutional farms with research or penal functions.

Further information relating to the labour force surveys can be obtained from the quarterly Bureau publication *The Labour Force* (6.20).

ASSISTANCE TO, AND REGULATION OF, AGRICULTURE

This section is intended to provide a summary of the means by which the Australian agricultural industries are assisted and regulated. It is not intended to provide a comprehensive statement of all the consultative and legislative assistance and control measures that exist, but rather to describe the way in which these processes affect the crops, livestock and livestock products referred to earlier in this chapter.

General

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 Federal and State Ministers on agricultural and marketing matters held at Canberra in December 1934. The Council consists of the Australian Government Ministers for Agriculture, Northern Development and the Northern Territory and the State Ministers of Agriculture/Primary Industries, with power to co-opt the services of other Australian Government 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.

A permanent Standing Committee on Agriculture was also formed to advise the Council on all the above matters and, in addition, to bring about co-operation and co-ordination in agricultural research, to advise Governments on the initiation and development of agricultural research programs, 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 Australian and State Departments of Agriculture/Primary Industries and a representative each from the Australian Departments of the Treasury, Health, Overseas Trade, Northern Development, the Northern Territory, and from the Commonwealth Scientific and Industrial Research Organization.

The Rural Reconstruction Scheme

The Rural Reconstruction Scheme commenced in 1971 when the Australian Government agreed to make finance available to the States to help restore to economic viability those farms and farmers with the capacity to maintain viability once achieved.

Originally $100 million was to be made available to the States over a period of 4 years ending 30 June 1975. In addition the States were authorised to use $9.5 million from the pre-war Farm Debt Adjustments Scheme for rural reconstruction purposes. However following a review of the Scheme in 1972 the Australian Government undertook to provide the whole $100 million by 30 June 1973 and to provide an additional $18 million in 1973–74 to fund approvals given in the later months of 1972–73.

At the 1973 Review it was agreed to extend the Scheme for 3 years to 30 June 1976 with the Australian Government authorising each State to approve a maximum amount of assistance in each year. A total of $36 million was allocated for 1973–74 and $28 million for 1974–75.

The Australian Government provides the funds to the States on the basis of 75 per cent loan (repayable over 20 years) and 25 per cent grant. The States lend money to eligible farmers who repay their loans, with interest, over a period of years to the State. Each State Government has appointed an Authority responsible to a Minister, to undertake the detailed administration of the Scheme within its State.

Three forms of assistance are available.

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.

Farm build-up to assist the normal processes under which properties which are too small to be economic are amalgamated with an adjoining holding or are subdivided and the subdivided portions are added to adjoining holdings, 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.

Rehabilitation to provide limited assistance to those obliged to leave the industry where, in the opinion of the Authority administering the Scheme, this is necessary to alleviate conditions of personal hardship. The maximum rehabilitation loan at present is $3,000.

To 30 June 1974 over $161 million had been approved under the Scheme to provide assistance to 3,817 farmers for debt reconstruction, 2,008 for farm build-up and 167 farmers in need of rehabilitation assistance.

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 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 Organization carries out research at field stations and laboratory facilities in many parts of Australia, and also undertakes develoipmental studies at national level. Its research programs 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. 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.

Research schemes

The research activities of State departments, the C.S.I.R.O., universities and other institutions, are supplemented by funds provided under a series of joint Australian Government-industry research schemes. Statutory arrangements of this nature exist for tobacco, wool, wheat, dairying, meat, poultry (eggs), chicken meat, pigs, dried fruits and fish. Contributions to these research schemes are raised from the industry by way of a levy on the produce concerned, matched by Australian Government funds (*see* Chapter 18, Public Finance pages 601–2).

For research work in industries where legislation-backed arrangements do not exist, voluntary contributions from the rural industry are matched by the Australian Government from a special research grant to finance a range of research projects, e.g. fruit fly disinfestation, locust control, grape forecasting, honey and potato research.

Extension services and market outlook information

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 and the Australian Capital Territory.

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 work.

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. In recent years emphasis has been placed on the regional development of extension services.

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 Australian Government has provided unmatched grants to the States to assist them in expanding their extension activities. In 1966, a program 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 through the Australian Government Extension Services Grant. Provision for the five year period which began in 1971 amounts to $37 million. The Grant is used mainly by State Departments of Agriculture, and its scope includes extension, regional research, information, economic services, agricultural education and training.

Since 1971 the Bureau of Agricultural Economics has organised a series of annual National Agricultural Outlook Conferences to which representatives from industry bodies, marketing authorities, State and Australian Government departments, universities and other agricultural institutions are invited to analyse and discuss in depth the outlook for rural commodities.

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 service 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.

Crops and crop products

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 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 stablisation of the wheat industry, including controls exercised during the 1914–18 and 1939–45 Wars and legislation establishing the Wheat Industry Stabilisation Plan in 1948, is given in the Appendix to Year Book No. 37, pages 1295–9.

The Wheat Industry Stabilisation 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 stablisation 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 1968–73 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), No. 54, pages 868 and 869 (1963–64 to 1967–68), and No. 55, pages 834 and 835 (1968–69 to 1972–73).

The Fifth Wheat Industry Stabilisation Plan was to operate for five years, commencing with the 1968–69 crop and ending with the marketing of the 1972–73 crop. However, the plan was subsequently extended, for one year, to cover the 1973–74 crop. More detailed information is available in the publication: *The Wheat Industry*, 1972–73 *and* 1973–74 (*Preliminary*), (10.35).

Sixth Wheat Industry Stabilisation Plan, 1974–75 to 1979. The sixth post-war Wheat Industry Stabilisation Plan was agreed to by the industry and the Australian and State Governments following negotiations during 1973 and 1974. The *Wheat Industry Stabilization Act* 1974 and the complementary *Wheat Export Charge Act* 1974 and the *Wheat Products Export Adjustment Act* 1974 were enacted in September 1974. Complementary legislation was enacted by the State Governments by the beginning of the marketing year on 1 December 1974 as some aspects of the plan rely on State law for their operation. The new plan abandoned the concept of guaranteed price, replacing it with a stabilized price related to movements in the International Wheat Market. Details of the guaranteed price operating under the former plan are given in earlier issues of the Year Book. The main features of the new stabilisation plan are set out below:

(i) *Period of the plan.* The plan is to operate for five years commencing 1 October, 1974. The Australian Wheat Board's marketing powers will be extended for two seasons beyond the duration of the stabilisation plan to enable continuity of the Board's operations to be maintained.

(ii) *Stabilisation price.* For the 1974–75 season the price is set at $73.49 per tonne f.o.b. The price will be adjusted for each of the next four succeeding seasons by application of the formula

$$SP_2 = SP_1 + \frac{EP_2 - A_1}{4}$$

where SP_2 = stabilisation price for the current season;

SP_1 = stabilisation price for the season immediately preceding the current season;

EP_2 = the average export price for the current season, and

A_1 = one-half the sum of the average export price for the season immediately preceding the current season and the stabilisation price for that immediately preceding season.

(iii) *Average export price.* The average price, f.o.b. equivalent, contracted to be paid for all exported wheat.

(iv) *Operation of the Stabilisation Fund.* The Stabilisation Fund will commence with a credit balance (estimated at $48 million) equal to the amount to be contributed as charge on wheat exports for the 1973–74 season.

Industry contributions to the Fund. When the average price for all exports of a season is above the stabilisation price set for that season, and above $55.12 per tonne f.o.b., growers will contribute to the fund up to $30 million or $5.51 per tonne, whichever is the lower, subject to the growers' contribution not exceeding an amount which would bring the final price, that is the average export price less the contribution to the fund, down to $55.12 per tonne. If the aggregate of the growers' contributions plus the interest earning should at any time take the fund to a credit in excess of $80 million, the excess will be refunded to the Wheat Board for distribution to the earliest contributing pool.

Payment from the Fund. When the average price for all exports of a season is below the stabilisation price set for that season, growers will receive from the fund payments necessary to lift the average price for all exports of the season to the stabilisation price, subject to,

(a) maximum payment per season of $30 million or $5.51 per tonne, whichever is the lower, and

(b) the payment not exceeding an amount which will bring the final price, that is the average export price plus the payment from the fund, to $73.49 per tonne. A qualification is that should the credit of the fund reach $80 million this restriction on payments from the fund will not apply for the ensuring period of the plan.

Government support for the Fund. If, in any season, the fund contains an insufficient level of industry contributions to meet payments required to be made from the fund in that season, the Government will contribute to the fund for monies necessary to meet the deficiency, subject to

(a) Any Government contribution to the fund being repaid to the Government from industry contributions and subsequent seasons of the plan period before those industry contributions are accumulated in the fund, and

(b) the net Government contribution to the fund over the 5 seasons not exceeding $80 million.

The Government has agreed that any outstanding Government contributions not recouped by the end of the fifth season will be written off. Details of the former stabilisation fund arrangements are given in previous issues of the Year Book.

(v) *Home consumption price.* The home consumption price arrangements will continue on the existing basis except that the Act in authorising the Minister to determine, in consultation with the State Ministers, the price at which the basic wheat is to be sold by the Board on the domestic market, does so on the basis that it will be a single price for wheat for all purposes.

The home consumption price in each year commencing on 1 December will be adjusted on the base level of $70.41 per tonne, being the 1973–74 price (less the Tasmanian freight loading), according to movements in cash costs and in rail freight and handling charges.

(vi) *Tasmanian freight loading.* Continuing provision will be made for the Board to recoup in the the home consumption price the cost of shipping wheat from the mainland to Tasmania but on the basis that the Board will be empowered to take such steps as are practicable to recoup from Tasmanian interests the freight costs of the wheat equivalent of any products made from wheat of mainland origin and exported from Tasmania to the mainland.

(vii) *Nomenclature.* The term 'fair average quality' (f.a.q.) has been replaced by the term 'Australian standard white' (A.s.w.) which means wheat other than wheat classified by or on behalf of the Australian Wheat Board as prime hard, hard, durum or soft biscuit wheat or as having a defect quality.

(viii) *Quota arrangements.* The Act contains provisions for the retention of the wheat delivery quota mechanism on the basis that it will be optional whether State governments make allocations of any State quotas, which may be applied in a season, to individual growers. However, the Act continues the existing requirement that in a quota season advances will only be payable by the Board on wheat delivered within a State up to the level of the quota determined for that State.

(ix) *Borrowings by the Board.* The Board retains the authority to borrow from the Reserve Bank, through its Rural Credits Department, the funds required for first advance payments to growers and for its marketing operations. In addition it is being given a supplementary borrowing power which could be used to make progress payments to growers at an accelerated rate, to expedite repayment of seasonal borrowings from the Reserve Bank or to finance stock holdings for lengthy periods. It is envisaged that the Board will only be authorised to borrow commercially against fully secured outstanding debts. All borrowings will be with the approval of the Minister and a Government guarantee of repayment may be given.

Wheat prices: Home consumption prices. 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 equivalent of the guaranteed price. However, as indicated in (v) above, at the beginning of the 1973–74 season the Board reverted to selling all wheat on the home market at a single domestic price i.e. the home consumption price.

The table below shows the home consumption prices of wheat by end usage, for the last five years.

WHEAT PRICES: HOME CONSUMPTION PRICES(*a*)(*b*)

($ per tonne)

Utilisation	*1969–70*	*1970–71*	*1971–72*	*1972–73*	*1973–74*
Human consumption	63.38	63.93	65.40	67.63	
Manufacture of flour for industrial use	52.73	53.28	54.75	56.98	
Stockfeed (basic)	55.12	56.95	58.79	67.63	71.10
Stockfeed (where purchaser undertakes to buy entire season's requirements from Wheat Board)	52.73	53.28	54.75	56.98	

(*a*) Australian Wheat Board basic selling price for f.a.q. bulk wheat, f.o.r. (ports) basis. (*b*) Includes a loading of $0.59 per tonne in 1969–70, $0.55 in 1970–71, $0.44 in 1971–72, $0.83 in 1972–73 and $0.69 in 1973–74 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 1971–72 to 1973–74 seasons and those proposed by the Federation and agreed to by all parties for 1974–75 are given in the table below.

WHEAT DELIVERY QUOTAS
('000 tonnes)

Quota	*State*	*Seasons* 1971–72	1972–73	1973–74	1974–75
Basic	New South Wales	3,102	4,028	5,030	5,030
	Victoria	1,551	1,823	2,490	2,490
	Queensland	735	871	1,012	1,012
	South Australia	1,089	1,252	1,886	1,886
	Western Australia	2,068	2,585	3,065	3,065
	Total	*8,545*	*10,559*	*13,483*	*13,483*
Additional	New South Wales—				
	Prime hard	327	191	191	191
	Durum	54	54	54	54
	Queensland—				
	Prime hard	299	163	163	163
	South Australia—				
	Southern hard	..	109	109	109
	Total	*680*	*517*	*517*	*517*
	Grand total	**9,225**	**11,076**	**(*a*)14,000**	**(*a*)14,000,**

(*a*) In terms of '000 tonnes the national and State quotas are: New South Wales 5,275, Victoria 2,490, Queensland 1,175 South Australia 1,995, Western Australia 3,065, total 14,000. In addition, for 1974–75 (as in 1973–74) provision has been made for a special pool quantity of 2,000,000 tonnes which will be available as determined by the Minister for Agriculture, to any State that achieves deliveries in excess of its quota.

Deliveries made within the quotas established receive a first advance payment. This was $1.10 per bushel ($40.42 per tonne) for A.s.w. bulk wheat, f.o.r. ports basis for a number of years. For 1973–74 in addition to $1.10 there was a special incentive first advance payment of 10 cents per bushel ($3.67 per tonne). For 1974–75 there will be the same first advance payment of $1.20 per bushel ($44.09 per tonne). The quota plan also 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.

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 Wheat Agreement, 1971. This Agreement came into force on 1 July 1971. It originally had a life of three years but was extended by protocol for one year to 30 June 1975. The form of the 1967 International Grains Agreement was 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, an Advisory Sub-Committee on Market Conditions keeps the wheat market under continuous review. This Sub-Committee is required to 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 mutally acceptable solutions.

All major wheat trading nations except the People's Republic of China participate in the Wheat Trade Convention. China may participate if it so wishes.

The 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 tonnes annually (8,267,000 bushels of wheat). Minimum annual contributions under the Convention will total 4,226,000 tonnes in 1974–75.

Several minor changes were 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 program. Also, sales on credit terms of 20 years or more are 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.

International Grains Arrangement

In August 1967 agreement was reached on an 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. For further details *see* Year Book No. 59, page 765.

Research into the wheat industry

To the end of June 1974, the Wheat Industry Research Council and the State Wheat Industry Research Committees had spent $21,506,000 mainly through grants to the Commonwealth Scientific and Industrial Research Organization, State Departments of Agriculture, universities and Wheat Research Institutes.

SUGAR CANE

Sugar agreements and marketing arrangements in Australia

In Year Book No. 37, pages 940–1, a summary is given of the form of agreement which operates between the Australian and Queensland Governments in respect of the sugar industry in Australia. Briefly, the agreement places an embargo on sugar importations and fixes the maximum price of refined sugar sold to wholesalers for consumption in Australia. The 1962 Agreement was replaced by a new Agreement in 1969. This Agreement expired on 30 June 1974 but was extended to 30 September 1974. The price of refined sugar under the current Agreement results in an approximate retail price of about 23 cents per kilogram.

Control over production of sugar is the responsibility of the Queensland Government. At the mill level, production control is exercised by means of seasonal 'mill peaks' in respect of Queensland mills and a proportionate allowance for New South Wales mills. The combined total of 'mill peaks'

approximately equals the estimated requirements of the domestic and secure export markets. Individual farm production is regulated in accordance with the production limit on that mill which the farm supplies.

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 in 1973–74 was 2,526,000 tonnes basis 94 net titre and for 1974–75 is estimated to be 2,977,000 tonnes 94 net titre, of which New South Wales is expected to contribute approximately 123,000 tonnes.

International Sugar Agreement

The 1973 International Sugar Agreement, which is now in operation, came into force on the expiry of the 1968 Agreement; and that Agreement was preceded by the 1937, 1953, and 1958 Agreements. Details of the 1937, 1953, 1958 and 1968 Agreements were given in Year Books No. 40, pages 881–2; No. 48, page 936; No. 54 page 892; and No. 59, pages 782–3, respectively.

A United Nations Sugar Conference was convened in 1973, the last year of the 1968 Agreement, to negotiate a new International Sugar Agreement to follow on the 1968 Agreement. It was not possible to negotiate at the Conference an Agreement with economic provisions, such as the 1968 International Sugar Agreement, which established basic export tonnages for all exporters, a quota/price mechanism, and stockholding, supply commitment, and import limitation obligations.

The 1973 International Sugar Agreement does not have any economic provisions and is only an administrative Agreement. It provides for the continuation of the International Sugar Organisation, and for work to progress towards the negotiation of a new Agreement. The 1973 Agreement is of two years duration, but may be extended; or it may be terminated earlier in the event of entry into force of a new Agreement with economic provisions.

Australia is an exporting member of the International Sugar Organization under the 1973 International Sugar Agreement.

Commonwealth Sugar Agreement

Under the terms of the Commonwealth Sugar Agreement, Australia has supplied over 300,000 tonnes of sugar annually for over twenty years to the United Kindgom at a negotiated price. At the 1971 triennial review of the Agreement, the annual negotiated price quota was continued at 335,000 long tons, and the negotiated price for the three years 1972 to 1974 was agreed at £stg 50 per long ton. f.o.b. and stowed, bulk sugar 96° polarisation. In early 1974, it was agreed that an additional £stg 11 per ton would be paid on shipments of negotiated price sugar in the 1974 calendar year.

The Commonwealth Sugar Agreement terminated at the end of 1974, as a consequence of the United Kingdom's accession to the European Economic Community.

Exports to the United States of America

Australian sugar exports to the United States of America are subject to the quota provisions of the United States Sugar Act, which expired at the end of 1974. Exports are sold on the U.S. domestic market, to which supplies may be regulated by Sugar Act quotas with the aim of maintaining stable and equitable prices. However, in 1974 the U.S. domestic market raw sugar price moved upwards very substantially, paralleling the upward movement of world free market sugar prices.

Australia's exports to the U.S. have varied from year to year following changes in quotas as U.S. requirements and domestic production, and export availabilities of other suppliers, have changed. In 1973 exports amounted to 230,800 tonnes of raw sugar, and as at 30 September 1974 the 1974 entitlement amounted to 204,450 tonnes.

Fruit Industry Sugar Concession Committee and sugar rebates

The Fruit Industry Sugar Concession Committee was established by agreement between the Australian 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 Australian equivalent of the world sugar parity price. 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 approved fruit products manufactured. The Queensland Government also reimburses the Committee for the latter's payments of 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 hectare 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 and the *Sugar Industry Assistance Act* 1967 the Australian Government arranged two loans to assist the returns from No. 1 Pool in the 1966 and 1967 seasons. The total amount of $23,327,590 so advanced is repayable over ten years commencing in mid-1971, and was not subject to interest before then. Thereafter it incurs interest at the rate of five per cent per annum.

TOBACCO

Tobacco 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 Australian and State Governments agreed to a stabilisation plan for the tobacco growing industry with an annual marketing quota of 11.793 million kilograms (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 12.927 million kilograms, which was subsequently increased to 14.288 million kilograms 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 15.422 million kilograms which was set for the 1971 season was retained through to the 1975 season. Each quota is to be divided amoung 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* 1965–1966 and representative of the Australian Government, tobacco-producing States, growers, and manufacturers.

The guaranteed average minimum Australian price for the 1971, 1972 and 1973 seasons, 252.4 cents per kg, is 12.1 cents per kg above the price set for the 1970 season. The price for the 1974 season was set at 288.4 cents per kg.

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 Australian 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 a 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* 1955–1965 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 Australian 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 Agriculture in regard to expenditure from the Tobacco Industry Trust Account. By 30 June 1972 expenditure from the Account amounted to $8.3 million, and allocations for support of research projects in 1972–73 totalled $893,251.

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.

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 1972–73 the quantity of cured leaf recorded as used in tobacco factories in Australia amounted to 24 million kg, of which 13 million kg was of local origin. The balance was imported, chiefly from the United States of America.

COTTON

Final payments under the *Raw Cotton Bounty Act* 1963–1966 were made in 1971. For further details *see* Year Book No. 59 and earlier issues.

FRUIT

Apples and pears

The *Australian Apple and Pear Corporation Act* 1973, which was proclaimed on 1 September 1974, provided for the establishment of an Australian Apple and Pear Corporation which replaced the Australian Apple and Pear Board.

The Corporation consists of nine part-time members (an independent Chairman, four members to represent growers, three members with special qualifications and one member to represent the Australian Government) who are appointed for a period of three years. The Australian Apple and Pear Board's overseas representative in London has been retained by the corporation.

Export control and regulation functions of the previous Apple and Pear Board have been absorbed by the Corporation. It also has been provided with a much wider role, e.g. powers to trade under certain circumstances, to charter shipping for such trade and, subject to Government approval, to borrow funds for trading operations. In addition, it has important functions in promotion and research in both fresh and processed apple and pear products.

Early in October 1971 the Government approved a stabilisation plan for the export of apples and pears 'at risk', with an estimated Australian Government liability of $10 million over five 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. The Industries Assistance Commission will conduct an inquiry into the Apple and Pear Industry (incorporating Fruitgrowing Reconstruction) in 1974 and early 1975.

The Fruitgrowing Reconstruction Scheme

The Fruitgrowing Reconstruction Scheme, which commenced on 14 July 1972, provides $4.6 million to assist fruitgrowers who are in financial difficulties to remove some or all of their fruit trees and either leave the industry or put the land to other use. It is regarded as an extension of the Rural Reconstruction Scheme; fruitgrowers may receive assistance under both schemes.

A fruitgrowing industry may qualify for assistance under the Scheme if its trees take at least five years to mature, have a commercial bearing life of at least ten years, and produce fruit of which there is a chronic over-supply. The Scheme applied initially to the canning peach, canning pear, fresh apple and fresh pear industries. In March 1973 it was extended to include the canning apricot industry and provision exists for its extension to any fruitgrowing industry which meets the above criteria.

A grower is eligible to apply for assistance under the Scheme if the Authority is satisfied that the number of trees which he has, of the kind that qualifies for assistance, constitutes a commercial operation.

Two forms of assistance are offered:

Clear fell for the grower who is predominantly a fruitgrower and who is in severe financial difficulties and intends to clear fell his orchard and leave the fruitgrowing industry.

Partial fell for the grower who does not have adequate resources to withstand the short term effects on his economic viability of removing the trees without assistance; the surplus of the horticultural commodity concerned is threatening the long term viability of his property; and where the Authority considers the enterprise has sound prospects of long term commercial viability after removal of the surplus trees and using the land for other purposes.

Assistance is provided in the form of a loan which is converted to a grant after 5 years provided the grower honours his undertaking not to replant with specified trees within that period. Specified trees are those upon which assistance was paid. The maximum rate of assistance per acre is $350 for fresh fruit and $500 for canning fruit. Average rates in each State must not exceed $250 for fresh or $350 for canning fruit.

The closing date for applications for assistance was originally 30 June 1973. However, it was extended to 30 June 1974 and a further extension to 31 December 1975 has been agreed to. To 30 June 1974 $2.3 million had been approved to assist over 700 fruitgrowers.

Canned Fruit

The overseas marketing of canned fruit is regulated by the *Canned Fruits Export Marketing Act* 1963–1970. Under this Act the Australian Canned Fruits Board sets terms and conditions for overseas sales. All exporters must hold an export licence authorised by the Minister for Agriculture on the recommendation of the Board. The Board comprises representatives of the Australian Government (one), co-operative canners of deciduous fruit (three), proprietary canners of deciduous fruit (three), pineapple canners (one) and growers of deciduous canning fruit (three). The Board maintains a London office. The *Canned Fruits Export Charges Act* 1926–1966 provides for a levy on exports to meet the Board's expenses, which include contributions to overseas publicity connected with the canned fruit industry. In 1963 an excise duty was imposed by the *Canned Fruits Excise Act* 1963 on canned deciduous fruit entered for domestic consumption, and the proceeds of the duty are made available to the Board.

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

DRIED VINE FRUITS AND WINE

The *Dried Vine Fruits Stabilization Act* 1971 (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 enacted in December 1971. The plan operates as from the 1971 season for a period of five years. The Industries Assistance Commission conducted an inquiry into the Dried Vine Fruit industry (incorporating Fruit Growing Reconstruction) in 1974 and early 1975.

The *Dried Fruits Export Control Act* 1924–1973. For details of the Dried Fruits Export Control Act *see* Year Book No. 55, page 877, and earlier issues.

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 Australian 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.

Livestock and livestock products

SHEEP

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 provisions of a permit from the Department of Agriculture. For most breeds, these permits are freely granted. However, the export of breeding merinos was prohibited in the mid-1930's and this ban has continued on the export of merino ewes, semen and fertilised ova. There has been a partial relaxation on the export of merino rams in recent years, whereby up to 300 merino rams could be purchased for export each year at nominated public auctions. In February 1973 the Government reimposed the total ban on the export of merinos to any country except New Zealand pending a referendum of woolgrowers on the question of whether the export of merino rams and merino semen should be permitted and if so, whether exports should be restricted or unrestricted.

A voluntary poll of woolgrowers was held during October/November 1973 and a majority of voters favoured a continuing prohibition on the exports. Of the 123,000 persons eligible to vote 47.6 per cent returned ballot papers. Of the votes admitted to the count: 17 per cent voted for unrestricted exports, 23.3 per cent voted for restricted exports and 58.5 per cent voted for total prohibition on exports (1.2 per cent of votes were rejected as informal). The Government has implemented the view of those who voted at the referendum. A complete prohibition now exists on the export of all merino rams, ewes, semen and fertilised ova, to countries other than New Zealand.

Since June, 1958 there has been a prohibition on the imports of sheep (which is still operative except for sheep imported from New Zealand) to protect the Australian sheep industry from the introduction of exotic diseases, such as "blue-tongue".

WOOL

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 Australian Government on policy matters concerning the wool industry. Under the *Wool Industry Act* 1972–1973 it is the responsibility of the Conference to nominate woolgrower representatives for appointment to the Australian Wool Corporation. Under the Wool Tax Acts (*see* page 581) the Conference is also responsible for recommending to the Australian Government what rates of levy should be paid by woolgrowers to finance the activities of the Wool Corporation and the wool research program.

Committee on Wool (Randall Committee)

In October 1971 the Australian Government appointed a committee chaired by Sir Richard Randall, former permanent head of the Treasury, to report on the situation and outlook of the Australian Wool Industry. The report of the Committee on these matters was presented to the Prime Minister on 16 May 1972.

In March 1972 the Australian Wool Industry Conference submitted to the Australian Government a proposal for;

(i) a revised structure for the management of the industry's affairs through the amalgamation of the Australian Wool Board and the Australian Wool Commission into a single wool authority, and

(ii) an integrated marketing system, involving a plan for acquisition of the Australian clip and influencing all of the activities bringing wool from the raw material stage to the ultimate consumer.

The Government asked the Committee to examine this proposal. The Committee presented the final report on this examination on 29 May 1972.

A report on all the investigations and findings of the Committee was released publicly in August 1972. On the A.W.I.C. proposal the Committee viewed the first part favourably but considered that some aspects of the acquisition proposal needed further clarification.

Australian Wool Corporation

Following the Australian Wool Industry Conference submission and the report of the Randall Committee (*see* above) the Australian Wool Corporation was established under the *Wool Industry Act* 1972 and came into operation on 1 January 1973. The Corporation took over the functions of both the Australian Wool Board and the Australian Wool Commission which ceased to operate on that date.

The Corporation consists of nine members, including a full time Chairman. The Chairman is appointed for a period of five years with the other part-time members being appointed for a period of three years. Of the eight other members, four represent Australian woolgrowers, one represents the Australian Government and three are members with special qualifications who have experience in the marketing, processing or manufacture of wool or wool products or in commerce, finance, economics or science. All members including the Chairman are appointed by the Minister for Agriculture, the woolgrower representatives on the nomination of the A.W.I.C. and the three members with special qualifications after consultation with the A.W.I.C.

The functions of the Corporation, which were inherited almost directly from the Wool Commission and Wool Board (*see* below) relate to wool marketing, wool use promotion, wool testing, wool research and the management of wool stores. In addition the Corporation is required to enquire into methods of marketing wool and to report on matters relating to marketing. The Corporation established a group to investigate wool marketing including the proposals for acquisition. A comprehensive report on wool marketing was released on 17 January 1974 in which the Corporation recommended the adoption of procedures aimed at stabilising wool prices and regulating availability. The central recommendation of the report is that the Corporation acquire ownership of all wool for export. The proposal has been submitted by the Corporation to the Australian Government and the wool industry for their detailed examination.

During the 1974–75 season the Corporation will operate a minimum reserve price scheme and will have power to trade in wool and regulate its supply. Funds up to $150 million for the minimum reserve price operation will be provided by the Government on condition that woolgrowers contribute a 5 per cent levy on proceeds from sale of shorn wool. The Government's offer was accepted by the A.W.I.C. on behalf of woolgrowers.

Funds for the Corporation activities other than its reserve price functions are provided by both woolgrowers, through a levy on shorn wool proceeds (*see* below), and the Australian Government. Reserve price activities are supported by an administrative levy on wool sold at auction, with funds for wool trading activities coming from accumulated funds inherited from the Australian Wool Commission and from credit facilities established with the trading banks.

Australian Wool Board

The Australian Wool Board which was constituted under the *Wool Industry Act* 1962–1970 ceased to function on 1 January 1973 when the Australian Wool Corporation (*see* above) commenced operations.

For details of the Australian Wool Board *see* Year Book No. 58, page 800.

Australian Wool Commission

The functions of this body, which began actual operation in November 1970 under the *Wool Commission Act* 1970, were taken over by the Australian Wool Corporation on 1 January 1973. For details of the Commission's activities *see* Year Book No. 58, pages 802–3.

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.

Following agreement between the Australian Wool Industry Conference and the Government on overall funding of wool research and promotion activities, the rate of the levy for 1973–74 was raised to 2.4 per cent of the gross proceeds of shorn wool and for 1974–75 to 2.75 per cent. These rates, however, include a loading for administrative expenses of the Wool Corporation.

The imposition and collection of the combined levy from woolgrowers is governed by six complementary Acts, the *Wool Tax Acts* (*Nos.* 1 *to* 5) 1964–1973 and the *Wool Tax Administration Act* 1964–1966.

Australian Government's contributions to wool research and promotion

In 1945 the Australian 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 Australian 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 Australian Government had not contributed to wool promotion. However, following representations made by the Australian Wool Industry Conference, the Government undertook to provide assistance to the Australian Wool Board in financing its commitment to the greatly expanded wool promotion program of the International Wool Secretariat. The expanded wool promotion program, 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 Australian 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 Government commitment of about $1.70 a bale. In aggregate this commitment entailed an Australian Government 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 2 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.

For 1973–74, pending a Government review of the programming and funding of wool research and promotion, the overall expenditure of $43.8 million for wool research and promotion was financed by a Government grant of $22 million and by revenue from the Wool Tax—2.4 per cent

of the gross proceeds from the sale of shorn wool. Following its review of the funding of wool research and promotion, the Government decided to provide one-half of the cost of the approved wool research and promotion programs. In the subsequent two years it will support three-quarters of the cost of the research programs and one-quarter of the promotion programs. This will involve Government contributions of $22 million in 1974–75, $20 million in 1975–76, and $21 million in 1976–77.

Australian Wool Marketing Corporation Pty Ltd

The functions of this body, which began actual operations on 1 July 1970 were taken over by the Australian Wool Commission (*see* above) in November 1970. For details of the Marketing Corporation *see* previous issues of the Year Book.

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 initially introduced for the 1971–72 season, to give woolgrowers a guaranteed price for their wool clip. It was subsequently extended for a further period of twelve months. The operative provisions of the legislation lapsed at 30 June 1973. For details of the Wool Deficiency Payments Scheme *see* Year Book No. 58, page 803.

Objective measurement of wool

In 1969 the Australian Wool Board, through its Objective Measurement Technical Committee and Objective Measurement Policy Committee, began investigations into the objective measurement of wool and the significance of this development for the marketing of the Australian wool clip.

In 1970 the Australian Government provided $1.5 million for work on research and implementation of objective measurement techniques.

The findings of the Committees were presented to the Board in December 1972, and point to significant changes from the traditional processes involved in every stage of the marketing process. Savings of several dollars per bale could be achieved in the marketing of wool, especially through the separation of handling and selling centres of wool. The Committee noted that further refinements and developments in techniques would occur.

The Australian Department of Agriculture has established a monitoring unit, as recommended by the Committee, to ensure the maintenance of standards and accuracy in sampling and measurement of wool for sale by sample and objective measurement. The unit, the *Australian Wool Measurement Standards Authority*, operates a voluntary registration scheme for wool testing laboratories and sampling sites. Prior to registration, laboratories and sampling sites are closely inspected by the Authority's officers to ensure they meet the high standards required. After registration, continuing surveillance is employed to ensure the required standards are maintained.

MEAT

Australian Meat Board

The Australian Meat Board, which was re-constituted under the *Meat Industry Act* 1964–1973, 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 Australian 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 Agriculture, for the purpose of administering any international arrangements to which Australia may be a party.

Meat research schemes

In November 1965 the Australian 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 Australian 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 Australian Department of Agriculture. 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 Australian Government 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 Agriculture approved a beef research program of $2,707,144, and a mutton and lamb research program of $1,264,614 for 1973–74.

The Livestock Slaughter Levy

The *Livestock Slaughter Levy Act* 1964–1973 imposed a levy on all cattle (over 90 kg 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 present legislation (the *Livestock Slaughter Levy Act* 1964–1971) 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, 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).

The Meat Export Charge

The *Meat Export Charge Act* 1973 imposes a charge on the exports of meat. A charge of 1.0 cents per lb is imposed on exports of meat and edible offals of cattle, sheep, lambs, goats and pigs and the revenue is to recoup to the Government the cost of export meat inspection. A further 0.6 cents per lb is imposed on beef and veal exports in order to recover to the Government the cost of the National Brucellosis and Tuberculosis Eradication Campaign.

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 (1952–1967) 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 in preparation for entry into the European Economic Community (E.E.C.).

The United Kingdom became part of an enlarged E.E.C. in 1973 and will progressively adopt the mechanism of the E.E.C. Common Agricultural Policy (C.A.P.) over the period up to 1977. Under the C.A.P., beef and veal imports are mainly controlled by a system of variable levies. At present the C.A.P. does not apply to mutton and lamb but the United Kingdom will gradually increase its duties on mutton and lamb until the level of the full E.E.C. duty (20 per cent) is reached in 1977.

Lamb Guarantee Scheme

The Australian Meat Board, under the scheme, guaranteed exporters a minimum price on all lambs approximately 16 kg and under shipped to the United Kingdom. The scheme operated from 1962–63 lamb export season until it was discontinued by the Board in March 1972. Details of the scheme are shown in Year Book No. 58, page 811.

United States of America-Australia Meat Agreement

In February 1964 the Governments of Australia and the United States of America 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 permissable 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 halfway 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 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. In June 1972, the President announced that the restraint arrangements for 1972 had been suspended for the remainder of the year in an effort to control increases in meat prices in the United States. Restraints have been suspended since that time, but the situation is still subject to quarterly review.

Pig Industry research

A general description of research commenced in 1971 into the Australian pig industry appears in the section, The Pig Industry page 818.

POULTRY INDUSTRY

Stabilisation scheme for the egg industry

An Australia-wide stabilisation type of scheme for the egg industry has been in operation since 1 July 1965. The principal features of the scheme are embodied in three 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 mainly 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 Agriculture 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 1972–73 and 1973–74. The fortnightly rate of levy in accordance with the recommendations of the Council of Egg Marketing Authorities of Australia was 4 cents for 1972–73 and

1973–74. As the maximum of $1 per hen was reached each year after twenty-five fortnights, no levy was imposed for the last prescribed days in 1972–73 and 1973–74.

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 Australian and State Governments, the State Egg Boards collect the levy due in each State from individual producers and remit the total amount to the Australian Government (the Department of Agriculture collects the levy in the Australian Capital Territory). The Australian Government pays into the Poultry Industry Trust Fund amounts equal to the receipts obtained from the hen levy. These amounts totalled $11,621,137 in 1973–74 ($12,925,825 in 1972–73). Payments from the Fund are made to the State Governments for financial assistance to the poultry industry, and are authorised by the Minister for Agriculture, after consideration has been given to the recommendations by the Council of Egg Marketing Authorities of Australia. Payments from the Trust Fund totalled $11,532,302 in 1973–74 ($13,656,628 in 1972–73).

Research

The *Poultry Industry Assistance Act* 1965–1966 makes provision for expenditure for research purposes to be allocated from the Poultry Industry Trust Fund.

The Act also provides for a contribution limited to $100,000 each year from the Australian Government to support poultry research on dollar for dollar matching basis with industry funds. There is no restriction on the amount which may be expended from the Fund for research.

Research projects are recommended by the Council of Egg Marketing Authorities of Australia for approval by the Australian Minister for Agriculture. 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 Australian Government. On this basis, it is estimated that funds currently available for research will be $252,354 for 1973–74.

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).

DAIRY PRODUCTS

Dairy Industry Stabilisation Fund

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 Australian 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 Agriculture, 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 1972 totalled approximately $6,376,200. The major portion of the fund represents capital and other investments in milk recombining plants now established by the Board in Bangkok, Cambodia, Djakarta and Manila.

Processed milk products. As part of the sixth five-year Stabilisation Plan the Government provided, under the *Processed Milk Products Bounty Act* 1962–1972, for the payment of a maximum amount of $800,000 as a bounty on exports of processed milk products in each year. Details of earlier bounties are given in Year Book No. 58, page 818. In July 1973 it was decided to phase out the bounty on the exports of processed milk products over the two-year period ending 30 June 1975.

Whole milk. In addition to the bounties referred to below, the Australian 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.

Australian Government 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 Australian 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 and cream 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 and details of the plan which concluded on 30 June 1972 are given in Year Book No. 58, page 818.

The sixth five-year stabilisation plan, which came into operation on 1 July 1972, provided for the continuation of financial assistance on butter and cheese production and an export bounty on processed milk products. In July 1973 the Australian Government decided to phase out financial assistance provided under the stabilisation plan over the two-year period ending 30 June 1975, and instead to place greater emphasis on adjustment assistance for the dairy industry. For details of the sixth and earlier stabilisation plans *see* Year Book No. 59, and earlier issues of the Year Book.

The bounty on butter and cheese for the 1973–74 season was $18 million and for the 1974–75 season the bounty is $9 million and this will be the final payment of financial assistance geared directly to output.

Marginal Dairy Farms Reconstruction Scheme

The Marginal Dairy Farms Reconstruction Scheme was introduced in July 1970 to operate for a period of four years. It provided funds up to a maximum of $25 million to State Governments to purchase marginal dairy farms from producers wishing to leave the industry. The land acquired was sold on favourable terms to neighbouring farmers so as to build up their holdings to an economic size. When the scheme expired in July 1974, 1,136 dairy farms had been offered to the States for acquisition; purchase and subsequent sale of 576 had been arranged; 348 applications had been rejected; and 205 applications had been withdrawn or had lapsed. The cost of purchase amounted to $14.9 million. The scheme has now been replaced by the Dairy Adjustment Program.

Australian Dairy Adjustment Program

The major elements of the Dairy Adjustment Program include a comprehensive range of assistance to enable non-viable dairy farmers to build-up their properties into sound economic units; interest-free loans to help suppliers change over to refrigerated bulk milk delivery with concurrent assistance as necessary to factories; and relocation assistance to displaced dairy farmers and dairy factory workers.

The program, which is estimated to cost $28 million over a two-year period to 30 June 1976, will be operated by the States. The Industries Assistance Commission has been asked to report on what assistance should be provided to the dairy industry after 30 June, 1976.

Marketing of dairy products

The export trade is regulated by the terms of the Australian *Customs Act* 1901–1974 and the Australian *Commerce (Trade Descriptions) Act* 1905–1973 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* 1924–1973 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 Act was amended in 1972 to clarify the general provisions enabling the Board to expand existing markets and secure new ones and to provide the Board with specific power to participate in commercial ventures as a means of expanding existing markets or securing new ones. 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* 1965–1972 (*see* below).

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 1968 to 1974 are given on page 815 of this issue. Details are also given on page 814 of the wholesale prices of butter and cheese for home consumption.

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 tonne under the scheme were $487.93 in 1970–71, $570.60 in 1971–72, and $678.00 in 1972–73. For 1973–74 the current interim rate is $670.00 per tonne. (Details of returns for earlier seasons are given in previous issues of the Year Book.)

From 1 July 1970 a skim milk powder equalisation scheme was commenced by the Commonwealth Dairy Produce Equalisation Committee Ltd. For 1970–71 the final rate was $211.181 a tonne and for 1971–72 $281.582 a tonne. For 1972–73 the current rate is $332 a tonne and for 1973–74 the interim rate is $424 per tonne.

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.

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 Australian 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 became part of the expanded Australian Government Extension Services Grant. Assistance to State agricultural departments for extension services to the dairying industry continue to be maintained and enlarged 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 campaign for butter and cheese in Australia and also for research into industry problems (funds for research being matched by Government contributions, *see* below). The legislation provided for levies on the manufacture of butter and cheese (the Dairy Produce Levy) which were initially set at operative rates of 0.104 cents per lb (0.229 cents per kilogram) for butter and 0.052 cents per lb (0.115 cents per kilogram) for cheese, the proceeds being divided equally between research and sales promotion. The operative rates of levy were increased from November 1959 to 0.156 cents per lb (0.344 cents per kilogram) for butter and 0.078 cents per lb (0.172 cents per kilogram) for cheese (the maximum amounts permitted under the legislation) with two-thirds of the funds raised being allocated to sales promotion and one-third to research. In August 1964, the legislation was amended to include butter powder at the same rate as for butter, i.e. 0.156 cents per lb (0.344 cents per kilogram).

In 1965, the Dairy Produce Levy Act was repealed and replaced by the Butter Fat Levy Act which provided for one levy on butterfat used in the manufacture of butter, cheese and related products. The maximum rate of levy was set at 60 cents per cwt (1.18 cents per kilogram) of butterfat, comprising 12 cents (0.24 cents per kilogram) for research, 24 cents (0.47 cents per kilogram) for sales and domestic promotion, and 24 cents (0.47 cents per kilogram) for administration and overseas

promotion. The operative rates of levy for those three categories were initially 8 (0.16 cents per kilogram), 22 (0.43 cents per kilogram) and 20 cents (0.39 cents per kilogram) respectively, i.e. a total of 50 cents (0.98 cents per kilogram).

Following several minor increases, the operative levy rate reached 58 cents per cwt (1.14 cents per kilogram) of butterfat from 1 October 1971. Of this amount, 10 cents (0.20 cents per kilogram) was used for research, 24 cents (0.47 cents per kilogram) for promotion and 24 cents (0.47 cents per kilogram) for administration and overseas market development. Research levies have been collected under Dairying Research Acts (*see* below) since 1 July 1972 and the butterfat levy (maximum and operative) was reduced to 48 cents per cwt (0.94 per kilogram) of butterfat from that date. The sales promotion program has throughout been financed solely from the industry levy.

The table below shows the levies collected for research and sales promotion during the past five years.

BUTTERFAT LEVY: AMOUNTS COLLECTED FOR RESEARCH AND SALES PROMOTION

($)

	1969–70	*1970–71*	*1971–72*	*1972–73*	*1973–74*
Research(*a*)	413,277	387,088	370,824	(*b*)	(*b*)
Sales promotion	908,521	923,494	886,911	858,530	836,412
Total collected(*a*)	**1,321,798**	**1,310,582**	**1,257,735**	**858,530**	**836,412**

(*a*) Excludes amounts contributed by the Australian Government. (*b*) Since 1 July 1972, research levies have been collected under Dairying Research Acts 1972 (*see* below).

From 1958 onwards, the Australian Government has contributed one-half of the costs incurred on approved projects included in the program of research, with a maximum contribution of $1 for $1 against funds raised by way of levy and allocated to research. The Dairy Produce Research Committee administered the research scheme and made recommendations through the Australian Dairy Produce Board to the Minister for Agriculture.

In February 1972, the Australian Government agreed to industry proposals to broaden the scope of the research levy so that it would apply to all dairy farmers, irrespective of the end-use of the milk or cream produced. Later that year, to implement the new scheme, five Acts were passed: Dairying Research Act; Dairying Research Levy Act; Dairying Research Levy Collection Act; Dairy Produce Sales Promotion Act; Butter Fat Levy Act.

The research levies are payable either on a butterfat or volume basis, according to the normal method of payment to the producer by the dairy factory or authority. The maximum rates of these levies are 12 cents per cwt (0.24 cents per kilogram) of butterfat or 0.04 cents per gallon (8.8 cents per thousand litres) of milk. The operative rates are prescribed by regulation and since 1 July 1972 have been 10 cents per cwt (0.20 cents per kilogram) of butterfat and 0.033 cents per gallon (7.3 cents per thousand litres) of milk. The research scheme came into operation on 1 July 1972 and levies collected amounted to $486,190 in 1972–73 and $534,769 in 1973–74.

The 1972 legislation established a separate statutory body, the Dairying Research Committee, to control and administer the research funds. (The sales promotion program continues to be administered by the Australian Dairy Produce Board.) The Chairman of the Board is also Chairman of the Dairying Research Committee.

Allocations from the Dairying Research Trust Account totalled $844,794 in 1972–73 and $958,392 in 1973–74. The Australian Government has continued to match research expenditure on a dollar for dollar basis.

THE BEE-FARMING INDUSTRY

Honey Levy

For details of the Honey Levy *see* under Bee-Farming, page 828.