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CHAPTER XXII.

AGRICULTURAL PRODUCTION.

NOTE.—Values of Australian oversea trade shown throughout this chapter are expressed as £A. f.o.b. port of shipment, except where otherwise indicated.

For greater detail on the subjects dealt with in this chapter, *see* the annual bulletins *Primary Industries, Part I.—Rural Industries* and *Part II.—Non-Rural Industries and Value of Production* published by this Bureau. For advance information on these subjects, the following mimeograph statistical bulletins should be consulted—*Rural Land Use and Crop Statistics* (annual), *Value of Production and Indexes of Price and Quantum of Farm Production* (annual), *Wheat Industry* (usually two per year), *Fruit Growing Industry* (annual), *Size Classification of Rural Holdings*, 1955–56, *Tractors on Rural Holdings* (annual), and *New Tractors: Receipts, Sales and Stocks* (quarterly). The annual mimeograph *Report on Food Production and the Apparent Consumption of Foodstuffs and Nutrients in Australia* contains details of the production, distribution and apparent consumption of foodstuffs obtained from the agricultural industry.

§ 1. Introductory.

In general, statistics in this chapter relating to agricultural production are derived from " census " returns supplied by approximately 250,000 farmers who utilize one acre or more of land for agricultural or pastoral purposes, and the latest figures available are those for the year 1959–60. The returns are collected on a substantially uniform basis in all States at 31st March, each year, and relate to areas sown and crops produced in the previous twelve months. Where harvests are not completed by March (e.g. potatoes), provision is made in some States for a special collection after the harvest is completed and in others for the inclusion of the total estimated yield expected from the complete harvest. In cases where additional data are available from marketing authorities or other sources, these are used in conjunction with the " census " returns. The statistics published in this chapter are therefore shown in " agricultural " years. For most purposes, there will be little error involved in considering them as applying to years ending on 30th June.

§ 2. Progress of Agriculture.

1. **Early Records.**—In an " *Account of Live Stock and Ground under Crop in New South Wales, 19th August*, 1797 ", Governor Hunter gives the acreage of crops as follows:—Wheat, 3,361 acres; maize, 1,527 acres; barley, 26 acres; potatoes, 11 acres; and vines, 8 acres.

The following details of crops were collected in 1808:—Wheat, 6,874 acres; maize, 3,389 acres; barley, 544 acres; oats, 92 acres; peas and beans, 100 acres; potatoes, 301 acres; turnips, 13 acres; orchards, 546 acres; and flax and hemp, 37 acres.

A brief reference to the attempts at cultivation by the first settlers in New South Wales and to the discovery of suitable agricultural land on the Parramatta and Hawkesbury Rivers prior to the year 1813 and west of the Blue Mountains thereafter is contained in early issues of the Official Year Book. (*See* No. 22, p. 670.)

By the year 1850, the area of crops had increased to 491,000 acres, of which 198,000 acres were cultivated in what is now the State of New South Wales, and 169,000 acres in Tasmania. At the end of 1850, the area under cultivation in Victoria, which was then the Port Phillip District of New South Wales, was 52,190 acres.

The gold discoveries of 1851 and subsequent years had at first a very disturbing effect on agricultural progress, the area of crops declining from 491,000 acres in 1850 to 458,000 acres in 1854. The demand for agricultural products occasioned by the large influx of population was, however, soon reflected in the increased area cultivated, for at the end of 1858 the land under crop in Australia exceeded a million acres.

2. **Progress of Cultivation.**—The following table shows the area of crops in each of the States and Territories of Australia at decennial intervals since 1860–61 and during each of the eleven seasons 1951–52 to 1959–60. On page 897 there is a graph showing the area of crops in Australia from 1900–01 onward.

AREA OF CROPS.
('000 Acres.)

Season.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Aust.
1860–61 ..	246	387	4	359	25	153	..	..	1,174
1870–71 ..	385	693	52	802	55	157	..	..	2,144
1880–81 ..	606	1,549	114	2,087	64	141	..	..	4,561
1890–91 ..	853	2,032	225	2,093	70	157	..	..	5,430
1900–01 ..	2,447	3,114	458	2,370	201	224	..	..	8,814
1910–11 ..	3,386	3,952	667	2,747	855	287	..	..	11,894
1920–21 ..	4,465	4,490	780	3,231	1,805	297	..	2	15,070
1930–31 ..	6,811	6,716	1,144	5,426	4,792	268	2	5	25,164
1940–41 ..	6,375	4,467	1,734	4,255	4,027	254	..	6	21,118
1950–51 ..	4,761	4,537	2,077	3,812	4,650	290	(a)	6	20,133
1951–52 ..	4,704	4,505	2,023	3,825	4,693	291	(a)	6	20,047
1952–53 ..	4,837	4,500	2,423	3,780	4,817	303	(a)	6	20,666
1953–54 ..	5,425	4,737	2,361	4,034	4,633	330	(a)	7	21,527
1954–55 ..	5,394	4,704	2,593	4,229	5,112	301	1	5	22,339
1955–56 ..	5,660	4,812	2,604	4,220	5,342	327	1	7	22,973
1956–57 ..	3,789	3,904	2,469	4,273	5,233	288	1	5	19,962
1957–58 ..	5,000	4,431	2,600	4,233	5,615	292	1	5	22,177
1958–59 ..	6,820	5,040	2,852	4,436	6,135	339	1	8	25,631
1959–60 ..	7,137	4,815	2,926	4,400	6,495	322	1	7	26,103

(a) Not available.

The progress of agriculture was practically uninterrupted from 1860–61 to 1915–16, when, as the result of a special effort to raise wheat during the 1914–18 War, 18.5 million acres were cultivated in Australia. There was a temporary set back in later war years, but after the termination of hostilities the area continued to expand and rose steadily to the record area of 25.2 million acres in 1930–31. Thereafter, the slump in wheat prices seriously depressed the agricultural industry and the area of crops receded to just under 20 million acres in 1935–36.

By 1938–39, the industry had recovered from the depression and the total area under cultivation reached the high level of 23.5 million acres. Thereafter, as a result of war-time man-power shortages and shipping difficulties, the area declined to less than 16 million acres in 1943–44. After 1943–44, production gradually increased again until, in 1947–48, 22.3 million acres were sown to crops. This upward trend was reversed after 1948–49, largely because, as a result of the high prices of wool, many primary producers transferred from agricultural to pastoral production. Since 1951–52, when the area sown was 20.0 million acres, the area under wheat has increased steadily, except for 1956–57 when excessively wet conditions in the eastern States caused a drop in the area sown, until it reached the record level of 26.1 million acres in 1959–60. As the area under wheat in Australia constitutes a large proportion of the total area cropped (42 per cent. during the five years ended 1959–60), fluctuations in the latter follow broadly the same pattern as changes in wheat areas.

3. **Area under Sown Pastures.**—In all States, there are considerable areas of grasses, mainly sown on land from which scrub has been cleared or on land which it is desired to rest from cultivation. These areas have expanded from about 5.3 million acres in 1929–30 to about 33.3 million acres in 1959–60.

4. **Australian Agricultural Council.**—Arising out of a conference of Commonwealth and State Ministers on agricultural and marketing matters, held at Canberra in December, 1934, a permanent organization known as the Australian Agricultural Council was formed. The Council consists of the Commonwealth Ministers for Primary Industry and Territories and the State Ministers of Agriculture, with power to co-opt the services of other Commonwealth and State Ministers as required. The principal functions of the Council are:– (i) the promotion of the welfare and development of agricultural industries generally; (ii) exchange of information on agricultural production and marketing; (iii) the improvement

of the quality of agricultural products and the maintenance of high grade standards; (iv) to ensure, as far as possible, balance between production and available markets; and (v) organized marketing, etc.

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

§ 3. Distribution, Production and Value of Crops.

1. Area of Crops in States and Territories.—The following table shows the areas in the several States, the Northern Territory and the Australian Capital Territory of each of the crops for the season 1959–60.

AREA OF CROPS, 1959-60.
(Acres.)

Crop.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Cereals for Grain—									
Barley—									
2 Row	79,477	263,731	238,117	1,233,534	52,760	12,396	..	..	2,379,467
6 Row	38,792	13,870	21,855	56,402	368,533				
Maize	51,738	3,383	129,803	(a)	4	..	..	..	(b)184,928
Oats	567,341	673,002	21,478	505,499	1,240,357	22,017	..	230	3,029,924
Panicum, Millet and Setaria	683	1,397	67,581	(a)	(a)	..	..	..	(b) 69,661
Rice	48,950	..	..	..	(a)	..	(a)	..	(b) 48,950
Rye	3,142	22,344	198	37,414	9,118	491	..	..	72,707
Sorghum	51,195	..	220,094	..	(a)	..	264	..	(b)271,553
Wheat	3,950,389	2,260,730	683,134	1,549,499	3,718,596	8,264	..	1,750	12,172,362
Hay	482,116	847,548	80,819	245,299	319,486	126,544	326	3,059	2,105,197
Green Fodder	1,578,759	422,237	725,155	595,713	708,793	62,229	240	968	4,094,094
Other Stock Fodder	5,804	52,852	8,728	32,868	4,065	32,438	90	..	136,845
Grass Seed—									
Lucerne	28,607	(a)	1,307	23,410	(c)	12	..	..	(b) 53,336
Clover	15,024	5,091	..	4,513	16,747	1,005	..	..	42,380
Other	13,012	12,633	6,607	2,801	4,285	1,429	..	874	41,641
Industrial Crops—									
Broom Millet	1,508	239	252	..	..	..	..	..	1,999
Canary Seed	..	..	5,989	(a)	..	..	..	..	(b) 5,989
Cotton	97	(a)	20,132	..	(a)	..	..	..	(b) 20,229
Flax—									
For Fibre	..	..	..	..	1,307	..	..	..	1,307
For Linseed	11,933	24,850	60,837	1,687	186	..	..	..	99,493
Hops	..	466	..	..	(a)	1,461	..	..	(b) 1,927
Peanuts	837	..	41,547	..	(a)	..	388	..	(b) 42,772
Sugar Cane—									
For Crushing	14,248	..	299,732	..	..	..	..	..	313,980
Other (excluding fodder)	10,902	..	162,153	..	..	..	..	..	173,055
Sunflower Seed	68	221	9,940	..	..	..	..	..	10,229
Tobacco	2,142	6,424	9,527	..	1,561	..	..	..	19,654
Other	(a)	1,026	215	239	..	318	..	..	(b) 1,798
Vegetables for Human Consumption—									
Onions	697	3,994	3,550	641	392	29	..	12	9,315
Potatoes	19,159	48,506	12,311	5,872	6,964	15,525	(d)	67	(b)108,404
Other Vegetables	46,110	35,211	34,834	9,758	7,355	13,812	168	78	147,326
Vineyards—									
Bearing	15,978	42,244	2,755	53,760	8,106	..	1	..	122,844
Not Bearing	1,258	1,885	328	3,093	845	..	..	..	7,409
Orchards and other Fruit Gardens—									
Bearing	72,687	46,918	30,214	26,664	18,551	20,582	51	46	215,713
Not Bearing	21,183	21,649	12,373	10,691	5,206	2,131	52	11	73,296
Nurseries and Cut Flowers	902	2,679	294	192	304	257	..	8	4,636
All other Crops	2,140	83	14,687	98	1,261	730	..	15	19,014
Total Area	7,136,878	4,815,213	2,926,546	4,399,647	6,494,782	321,670	1,580	7,118	26,103,434

(a) Not available for publication. Included in " All other Crops ", except in respect of rice in the Northern Territory, which is excluded from " Total Area ". (b) Incomplete. *See* footnotes to individual States. (c) Not available for publication. Included with other Grass Seed. (d) Not available for publication. Included with Other Vegetables.

2. **Relative Areas of Crops in States and Territories.**—The proportion of each of the major crops cultivated in the various States and Territories to the total area of crops for the season 1959–60 is shown in the next table.

RELATIVE AREAS OF CROPS, 1959-60.

(Per cent.)

Crop.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Wheat (Grain) ..	55.4	46.9	23.3	35.2	57.3	2.6	..	24.6	46.6
Green Fodder ..	22.1	8.8	24.8	13.6	10.9	19.4	15.2	13.6	15.7
Oats (Grain)	7.9	14.0	0.7	11.5	19.1	6.8	..	3.2	11.6
Barley (Grain) ..	1.7	5.8	8.9	29.3	6.5	(*a*)	..	..	9.1
Hay	6.8	17.6	2.8	5.6	4.9	39.3	20.6	43.0	8.1
Sugar-cane, Crushed ..	0.2	..	10.2	..	..	..	..	..	1.2
Total Orchards and Fruit Gardens	1.3	1.4	1.5	0.9	0.4	7.1	6.5	0.8	1.1
Sorghum	0.7	..	7.5	..	(*a*)	..	16.7	..	1.0
Maize (Grain) ..	0.7	0.1	4.4	(*a*)	..	..	..	..	0.7
Total Vineyards ..	0.2	0.9	0.1	1.3	0.1	..	..	..	0.5
Potatoes	0.3	1.0	0.4	0.1	0.1	4.8	(*a*)	0.9	0.4
All other	2.7	3.5	15.4	2.5	0.7	20.0	41.0	13.9	4.0
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(*a*) Not available for publication. Included in "All other".

3. **Area of Principal Crops in Australia.**—The area of the principal crops during each of the five seasons ended 1959–60 is shown hereunder:—

AREA OF PRINCIPAL CROPS: AUSTRALIA.

('000 Acres.)

Crop.	1955–56.	1956–57.	1957–58.	1958–59.	1959–60.
Cereals for Grain—					
Barley, 2 and 6 Row	1,894	2,093	2,121	2,381	2,379
Maize	168	182	184	180	185
Oats	3,354	2,556	2,959	3,974	3,030
Rice	41	50	47	47	49
Wheat	10,166	7,874	8,848	10,399	12,172
Hay	2,241	1,861	2,237	3,018	2,105
Green Fodder	3,167	3,246	3,746	3,578	4,094
Industrial crops—					
Cotton	13	11	10	10	20
Hops	2	2	2	2	2
Sugar-cane	499	499	506	511	487
Tobacco	11	12	13	15	20
Vegetables for Human Consumption—					
Onions	7	9	11	9	9
Potatoes	94	101	118	105	108
Other vegetables	155	172	164	153	147
Vineyards	135	132	131	131	130
Orchards	279	270	276	287	289
All other Crops	747	892	804	831	877
Total	**22,973**	**19,962**	**22,177**	**25,631**	**26,103**

4. **Size Classification of Principal Crops.**—A special series of tabulations relating to rural holdings in Australia was compiled for 1955–56 and published in full detail in a series of mimeographed bulletins, *Size Classification of Rural Holdings*, 1955–56. Condensed tables also appear in the bulletin *Primary Industries—Part I.—Rural Industries*, No. 51. The tables show a classification by area of holding and area of crop for wheat, oats, barley, sugar-cane, tobacco, potatoes, other vegetables for human consumption, vineyards, and fruit, also a classification of holdings growing major crops and carrying livestock. Similar tabulations are being compiled for 1959–60, but details are not yet available.

5. **Weights and Measures.**—Details of the weights and measures used in recording production of agricultural commodities appear in the introduction to the bulletin *Primary Industries—Part I.—Rural Industries.*

6. **Production of Crops in States and Territories.**—The following table shows production of crops in the various States and Territories for the season 1959–60.

PRODUCTION OF CROPS, 1959-60.

Crop.	Unit of Quantity.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Cereals for Grain—										
Barley—										
2 Row	'000 bus.	1,734	5,318	6,134	11,463	926	418	..	..	34,079
6 Row	,, ,,	847	275	516	394	6,054				
Maize	,, ,,	2,485	180	4,060	(a)	..	..	..	..	(b) 6,725
Oats	,, ,,	11,125	12,701	394	2,504	19,599	512	..	6	46,841
Panicum, Millet and Setaria	,, ,,	15	30	1,327	(a)	(a)	..	..	..	(b) 1,372
Rice	,, ,,	6,732	..	..	..	(a)	..	(a)	..	(b) 6,732
Rye	,, ,,	42	139	3	125	77	7	..	..	393
Sorghum	,, ,,	1,452	..	6,630	..	(a)	..	4	..	(b) 8,086
Wheat	,, ,,	75,358	38,793	13,522	11,929	58,670	182	..	47	198,501
Hay	,, tons	779	1,351	179	207	433	221	..	7	3,177
Grass Seed—										
Lucerne	cwt.	16,235	(a)	823	20,369	(a)	7	..	..	(b) 37,434
Clover	,,	38,344	4,665	..	4,461	37,766	608	..	..	85,844
Other	,,	9,292	12,998	13,313	1,097	7,344	2,546	..	158	46,748
Industrial Crops—										
Broom Millet—										
Fibre	,,	9,891	1,160	979	..	..	..	..	..	12,030
Grain	bus.	6,849	840	(c)	..	..	..	..	..	(b) 7,689
Canary Seed	'000 bus.	..	..	84	(a)	..	..	..	..	(b) 84
Cotton, Unginned	'000 lb.	108	(a)	9,355	..	(a)	..	..	..	(b) 9,463
Flax—										
Straw	ton	..	..	..	..	2,723	..	..	..	2,723
Linseed	,,	2,922	7,391	16,247	191	48	..	..	..	26,799
Hops (Dry Weight)	cwt.	..	6,788	..	..	(a)	25,002	..	..	(b) 31,790
Peanuts	,,	10,639	..	360,314	..	(a)	..	4,306	..	(b)375,259
Sugar-cane for Crushing	'000 tons	574	..	8,428	..	..	..	..	..	9,002
Sunflower Seed	cwt.	184	1,249	54,408	..	..	..	..	..	55,841
Tobacco, Dried Leaf	'000 lb.	1,438	7,401	9,149	..	1,080	..	..	..	19,068
Vegetables for Human Consumption—										
Onions	ton	3,658	27,808	14,708	5,644	4,830	135	..	39	56,822
Potatoes	,,	81,908	242,548	51,468	48,923	56,000	98,000	(a)	360	(b)579,207
Vineyards—										
Grapes—										
For Drying	,,	34,184	195,908	..	42,126	5,900	..	..	..	278,118
Table	,,	4,531	6,082	3,054	1,085	2,360	..	2	..	17,114
Wine	,,	20,690	9,445	182	114,064	5,237	..	..	..	149,618

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

7. **Production of Principal Crops in Australia.**—The following table shows the production of the principal crops for the five years ended 1959–60.

PRODUCTION OF PRINCIPAL CROPS : AUSTRALIA.

Crop.	Unit of Quantity.	1955–56.	1956–57.	1957–58.	1958–59.	1959–60.
Cereals for Grain—						
Barley, 2 and 6 Row ..	'000 bus.	41,655	49,279	30,466	62,976	34,079
Maize	,, ,,	4,755	5,494	5,639	6,717	6,725
Oats	,, ,,	56,487	35,396	31,426	86,905	46,841
Rice(*a*)	,, ,,	4,725	4,262	5,658	6,619	6,732
Wheat	,, ,,	195,443	134,455	97,566	215,121	198,501
Hay	,, tons	3,625	3,043	2,969	5,090	3,177
Industrial Crops—						
Cotton, Unginned ..	,, lb.	5,359	3,809	3,390	4,004	9,463
Hops (dry weight)(*b*) ..	cwt.	34,374	25,230	32,710	36,499	31,790
Sugar-cane for Crushing ..	'000 tons.	8,901	9,272	9,249	10,213	9,002
Tobacco (Dried leaf) ..	,, lb.	6,106	8,709	11,567	13,970	19,068
Vegetables for Human Consumption—						
Onions	,, tons	40	54	72	55	57
Potatoes	,, ,,	402	519	575	575	579
Vineyards—						
Grapes	,, ,,	378	495	550	537	445
Wine made(*c*)	,, gals.	22,895	30,743	33,854	32,538	28,396
Dried Vine Fruits ..	,, tons	59	80	91	87	70

(*a*) Incomplete, excludes Northern Territory. (*b*) Excludes Western Australia. (*c*) Net factory and farm production of beverage and distillation wine. This excludes the liquid gallonage of spirits added in wine fortifying.

8. **Yield per Acre of Principal Crops in Australia.**—The following table shows for Australia the yield per acre of the principal crops for the five years ended 1959–60.

YIELD PER ACRE OF PRINCIPAL CROPS : AUSTRALIA.

Crop.	Unit of Quantity.	1955–56.	1956–57.	1957–58.	1958–59.	1959–60.
Cereals for Grain—						
Barley, 2 and 6 Row ..	bushel	20.0	23.5	14.4	26.5	14.3
Maize	,,	28.4	30.3	30.6	37.4	36.4
Oats	,,	16.8	13.8	10.6	21.9	15.5
Rice(*a*)	,,	114.7	84.4	121.0	140.7	137.5
Wheat	,,	19.2	17.1	11.0	20.7	16.3
Hay	ton	1.62	1.63	1.33	1.69	1.51
Industrial Crops—						
Cotton, Unginned ..	lb.	403	336	327	382	468
Hops (dry weight)(*b*) ..	cwt.	20.22	13.97	17.73	19.52	16.71
Sugar-cane for Crushing(*b*)	ton	23.88	25.05	24.62	27.63	28.67
Tobacco (Dried leaf) ..	lb.	540	716	876	922	970
Vegetables for Human Consumption—						
Onions	ton	5.69	5.78	6.36	6.22	6.10
Potatoes	,,	4.29	5.14	4.88	5.49	5.34
Vineyards—						
Grapes(*b*)	,,	2.97	3.98	4.42	4.33	3.62

(*a*) Excludes Northern Territory. (*b*) Per acre of productive crops.

9. **Gross Value of Principal Crops in Australia.**—The following table shows the gross value of principal crops at the principal markets in Australia for the five years ended 1959–60.

GROSS VALUE(*a*) OF PRINCIPAL CROPS : AUSTRALIA.

(£'000.)

Crop.	1955-56.	1956-57.	1957-58.	1958-59.	1959-60.
Cereals for Grain—					
Barley	20,994	24,896	17,555	33,304	16,623
Maize	3,464	3,732	4,995	4,629	4,029
Oats	19,373	12,239	15,951	30,964	18,396
Rice	(*b*) 3,406	(*b*) 3,069	(*b*) 4,045	(*b*) 4,731	(*b*) 4,450
Wheat	126,091	92,647	66,892	144,087	(*c*) 137,762
Hay	34,807	30,524	39,277	46,503	34,433
Green Fodder (*d*)	5,950	5,897	8,571	6,966	7,572
Industrial Crops—					
Cotton, Unginned	307	224	213	249	556
Hops (*d*)	1,102	857	1,137	1,273	1,159
Sugar-cane	35,786	40,718	47,346	47,276	44,774
Tobacco (Dried leaf)	3,200	4,503	6,202	7,920	10,517
Vegetables for Human Consumption—					
Onions	1,973	2,516	1,274	1,920	2,841
Potatoes	25,895	17,955	9,969	13,109	13,460
Other vegetables for human consumption	27,993	30,190	25,359	25,243	26,611
Grapes	10,511	15,406	18,337	18,496	14,698
Fruit and Nuts	48,349	49,898	59,150	54,025	51,763
All other Crops	15,736	16,877	14,573	19,197	20,710
Total Gross Value	**384,937**	**352,148**	**340,846**	**459,892**	**410,354**

(*a*) Includes amounts paid as bounty, relief, etc. (*b*) Incomplete, excludes Northern Territory. (*c*) Includes payment of £3,022,000 by the Commonwealth Government. (*d*) Incomplete, excludes Western Australia.

10. **Value of Production and Indexes of Price and Quantum of Production.**—(i) *Gross and Net Values*, 1959-60. Values of agricultural production for each State are shown for 1959-60 in the following table. A more detailed reference to the value of production of agriculture and other industries in Australia as well as a brief explanation of the terms used will be found in Chapter XXX.—Miscellaneous.

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; consequently, the figures are overstated to that extent.

GROSS, FARM AND NET VALUES OF AGRICULTURAL PRODUCTION, 1959-60.

(£'000.)

State.	Gross Production valued at Principal Markets.	Marketing Costs.	Gross Production valued at Farm.	Value of Materials Used in Process of Production.	Net value of Production. (*a*)
New South Wales	109,465	23,496	85,969	(*b*) 7,451	78,518
Victoria	92,411	13,281	79,130	10,218	68,912
Queensland	91,677	10,595	81,082	15,725	65,357
South Australia	35,546	3,780	31,766	7,520	24,246
Western Australia	65,525	8,840	56,685	12,641	44,044
Tasmania	15,489	2,962	12,527	1,882	10,645
Northern Territory	79	..	79	..	79
Australian Capital Territory	162	5	157	7	150
Australia	**410,354**	**62,959**	**347,395**	**55,444**	**291,951**

(*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.

(ii) *Net Values, 1955–56 to 1959–60.* In the following table, the net value of agricultural production and the net value per head of population are shown by States for the years 1955–56 to 1959–60.

NET VALUE OF AGRICULTURAL PRODUCTION.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Aust.
				NET VALUE.(a) (£'000.)					
1955–56	63,647	66,465	55,361	41,271	37,350	15,170	42	149	279,455
1956–57	48,425	63,802	60,127	49,688	24,640	7,978	58	143	254,861
1957–58	44,754	64,971	62,898	32,318	27,338	12,050	52	149	244,530
1958–59	82,472	73,661	68,716	50,571	42,746	10,496	59	222	328,943
1959–60	78,518	68,912	65,357	24,246	44,044	10,645	79	150	291,951
				NET VALUE PER HEAD OF POPULATION. (£ s. d.)					
1955–56	18 1 2	25 18 3	40 18 7	49 9 2	55 16 6	47 10 6	2 8 1	4 8 7	29 19 11
1956–57	13 9 11	24 3 4	43 11 1	57 13 8	35 19 11	24 9 3	3 3 3	3 19 5	26 14 7
1957–58	12 4 8	24 0 0	44 16 5	36 9 7	39 2 8	36 1 4	2 14 8	3 15 10	25 1 10
1958–59	22 2 9	26 10 9	48 3 9	55 13 6	60 0 4	30 15 1	3 0 0	5 4 6	33 1 0
1959–60	20 14 0	24 3 5	45 2 8	25 19 5	60 14 10	30 12 11	3 14 10	3 0 0	28 14 2

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

(iii) *Indexes of Quantum and Price of Agricultural Production.* Indexes of quantum and price of agricultural production are shown in the following table. The quantum indexes relate to gross output of farm products valued at constant prices. The quantities of each farm product produced each year have been re-valued at the unit gross value for the period 1936–37 to 1938–39. The price indexes relate to average "prices" of farm products realized at the principal markets of Australia. Average quantities of each product marketed in the period 1946–47 to 1950–51 have been used as fixed weights. Further details on weights used, etc., are to be found in Chapter XXX.—Miscellaneous.

INDEXES OF QUANTUM(a) AND PRICE OF AGRICULTURAL PRODUCTION.
(Base : Average 3 years ended June, 1939 = 100.)

Particulars.	1955–56.	1956–57.	1957–58.	1958–59	1959–60.
Quantum Produced—					
Wheat	119	82	59	131	121
Other Crops	144	144	141	187	152
Total, All Crops	*134*	*120*	*109*	*165*	*140*
Total per Head of Population	99	86	77	114	94
Price—					
Wheat	319	347	339	337	350
Other Crops	339	327	333	310	313
Total, All Crops	*330*	*336*	*336*	*322*	*329*

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

§ 4. Wheat.

1. **Royal Commission on the Wheat Industry.**—A Royal Commission was appointed in January, 1934, to inquire into and report upon the economic condition of the industries of growing, handling and marketing wheat, and the manufacturing, distributing and selling of flour and bread. A searching inquiry was made by the Commission and the results of its investigations were submitted in a series of five reports. The first and second reports covered the wheat-growing industry, the third that of baking, the fourth the flour-milling industry, while the fifth, completed in February, 1936, dealt with the history of the Commission's investigations and traversed the principal recommendations submitted.

2. **Licensing of Areas Sown to Wheat, and Acreages Sown.**—Details of the operations of the Wheat Stabilization Board in licensing wheat grown during the seasons 1941–42 to 1948–49 will be found in Official Year Book No. 38, pages 940–41. The Board ceased to function on 31st December, 1948.

3. **Legislation relating to Wheat Industry.**—(i) *Stabilized Marketing.* A detailed survey of legislation relating to stabilization of the wheat industry, including controls exercised during the 1914–18 and 1939–45 Wars and legislation establishing the Wheat Stabilization Plan in 1948, is given in the Appendix to Official Year Book No. 37, pages 1295–99.

(ii) *The Australian Wheat Board.* 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, 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.

The Board was reconstituted for five years, with similar powers, under the Commonwealth Wheat Stabilization Act 1948, to administer the stabilization plan. The new Board commenced to function on 18th December, 1948. The Board has been continued in existence by the Commonwealth Wheat Industry Stabilization Acts of 1954 and 1958 for the purpose of administering the second and third five-year stabilization plans.

(iii) *Wheat Stabilization Plans.* (*a*) 1947–48 *to* 1952–53. Details of the Wheat Stabilization Plan which operated during the seasons 1947–48 to 1952–53 inclusive were published in Official Year Book No. 40, pages 841 and 842, and previous issues.

(*b*) 1953–54 *to* 1957–58. Details of the plan which operated during the seasons 1953–54 to 1957–58 inclusive were published in Official Year Book No. 44, page 861, and previous issues.

(*c*) 1958–59 *to* 1962–63. Following negotiations during 1958, a new wheat industry stabilization plan was enacted by the Commonwealth and the States towards the end of that year. The new plan follows the lines of the two earlier ones. Details of the plan are as follows.

(i) *Period of the Plan.* The plan will operate for five years. It will commence with the 1958–59 wheat crop and will end with the marketing of the 1962–63 crop.

(ii) *Commonwealth Guarantee.* The Commonwealth will guarantee a return of 14s. 6d. a bushel to growers on up to 100 million bushels of wheat exported from the crop in the first year of the plan. The guaranteed return of 14s. 6d. is based on the findings of the recent survey of the economic structure of the wheat industry conducted by the Bureau of Agricultural Economics. It will be adjusted in each of the following years of the plan on up to 100 million bushels in accordance with the movements in costs based on a cost index established from the survey. The first two five-year Wheat Stabilization Plans each guaranteed a similar quantity of 100 million bushels exported.

(iii) *Australian Wheat Board.* The Australian Wheat Board will be maintained as the sole constituted authority for the marketing of wheat within Australia and for the marketing of wheat and flour for export from Australia for the period of the plan.

(iv) *Stabilization Fund*—

(*a*) *Export Tax.* A tax will be collected on wheat exported which will be equivalent to the excess of the returns from export sales over the guaranteed return. However, the maximum rate of export tax will be 1s. 6d. a bushel.

(*b*) *Size of Fund.* The ceiling of the Stabilization Fund is established at £20 million; any excess beyond this figure will be returned to growers on the " first-in-first-out " principle.

(*c*) *Balance in Present Wheat Stabilization Fund.* The balance remaining in the Fund at the termination of the present plan will be carried forward to the new plan as the nucleus of a new stabilization fund.

(*d*) *Use of the Stabilization Fund.* When the average export realizations fall below the guaranteed return, the deficiency will be made up first by drawing upon the stabilization fund in respect of up to 100 million bushels of wheat from each crop. When the fund is exhausted, the Commonwealth will meet its obligations under the guarantee.

(v) *Home Consumption Price.* The home consumption base price for 1958–59, the first year of the plan, has been established as 14s. 6d. a bushel, bulk basis, f.o.r. ports plus 2d. a bushel loading to cover the cost of transporting wheat to Tasmania as outlined in (vi) below. There is provision in the plan for annual adjustments in the following years in accordance with the guaranteed price as outlined in (ii) above.

(vi) *Freight on Wheat to Tasmania.* Provision is made for a loading on the price of all wheat sold for consumption in Australia to the extent necessary to cover the cost of transporting wheat from the mainland to Tasmania in each season of the plan.

(vii) *Premium on Western Australian Wheat.* A premium will be paid from export realizations on wheat grown in Western Australia and exported from that State in recognition of the natural freight advantage enjoyed by Western Australia owing to its proximity to the principal oversea markets for wheat. The premium will be 3d. a bushel.

By agreement between the parties concerned, the Australian Wheat Growers' Federation, the States and the Commonwealth, a poll of growers as to acceptance of the plan was not considered necessary. The earlier plans had been approved by polls of growers.

The cost of production of wheat, which for the first season of the plan, 1958–59, was fixed at 14s. 6d. a bushel by the legislation, rose to 14s. 10d. a bushel for the 1959–60 season and to 15s. 2d. a bushel for the 1960–61 season. The guaranteed price for the seasons 1959–60 and 1960–61 was therefore 14s. 10d. and 15s. 2d. a bushel respectively, while the home consumption price, in each case including a loading of 2d. a bushel to cover costs of shipment of wheat to Tasmania, became 15s. and 15s. 4d. a bushel respectively.

(iv) *Wheat Industry Research.* In 1957, the Commonwealth Parliament passed legislation providing for a levy of a farthing a bushel on wheat handled by the Australian Wheat Board. This money, contributed by the growers, is to be spent by the Wheat Research Committees set up in the wheat growing States. These Committees, which consist of representatives of wheatgrowers, universities and State Departments of Agriculture, also received a total of £284,000 under the provisions of the Wheat Acquisition (Undistributed Moneys) Act 1958.

The Commonwealth Government has undertaken to supply additional funds for research (with a maximum of £1 for £1 against the growers' contribution) and has set up the Wheat Industry Research Council to make recommendations on the appropriate expenditure of the Commonwealth contribution.

The Council at its inaugural meeting in February, 1958, considered that possible avenues of research would include the breeding of better varieties, cereal chemistry, soil fertility, mechanization, the industry's cost structure and marketing problems.

The Council and the State Committees have incurred an estimated expenditure of £619,578 up to the end of June, 1960, including grants to the Commonwealth Scientific and Industrial Research Organization, State Departments of Agriculture, Universities and Agricultural Colleges.

4. **Marketing of Wheat.**—(i) *Wheat Acquired and Disposed of.* (*a*) *Wheat Acquired.* Particulars of wheat acquired by the Australian Wheat Board from the 1955–56 to 1959–60 harvests are shown in the following table:—

AUSTRALIAN WHEAT BOARD: WHEAT ACQUIRED, 1955-56 TO 1959-60.

('000 Bushels.)

Pool.	Harvest.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Australia.
19	1955–56	51,789	39,079	14,098	26,107	49,649	39	180,761
20	1956–57	24,014	32,931	5,837	29,154	28,171	22	120,129
21	1957–58	4,617	29,547	5,247	12,535	29,306	74	81,326
22	1958–59	59,990	41,216	15,206	29,548	53,348	82	199,390
23	1959–60	67,067	37,095	11,832	9,112	54,132	91	179,329

(*b*) *Wheat Disposal.* Details relating to the disposal of wheat during the years ended 30th November, 1956 to 1960, are shown in the following table.

AUSTRALIAN WHEAT BOARD : DISPOSAL OF WHEAT, 1956 TO 1960.(a)
('000 Bushels.)

Particulars.	1956.	1957.	1958.	1959.	1960.
Sold for export as wheat	95,399	66,972	34,399	70,940	97,645
Sold for export as flour (b)	34,950	32,334	16,868	25,248	26,147
Sold for local consumption as flour ..	39,832	41,162	39,213	40,174	42,713
Sold for other purposes	17,090	21,459	16,894	13,484	16,635

(a) Years ended 30th November. (b) Includes wheat equivalent of manufactured wheat products exported.

(ii) *Finance.* The Wheat Acquisition Regulations empowered the Minister to arrange with the Commonwealth Bank for advances to the Board, the advances being guaranteed by the Commonwealth Government. The Wheat Industry Stabilization Act 1948 included similar provisions for advances to the reconstituted Board established under that Act and these provisions have been continued in the subsequent legislation.

AUSTRALIAN WHEAT BOARD : FINANCIAL OPERATIONS, POOLS Nos. 19 to 23.
(£'000.)

Particulars.	No. 19 Pool.(a) (1955–56 Harvest.)	No. 20 Pool.(a) (1956–57 Harvest.)	No. 21 Pool.(a) (1957–58 Harvest.)	No. 22 Pool.(a) (1958–59 Harvest.)	No. 23 Pool.(b) (1959–60 Harvest.)
Paid to growers	98,223	68,800	47,911	117,336	86,433
Rail freight	12,456	7,761	4,926	13,687	12,789
Expenses	8,806	6,189	4,257	8,868	6,039
Total Payments ..	*119,485*	*82,750*	*57,094*	*139,891*	*105,261*
Value of sales delivered ..	(c) 118,475	(d) 84,464	(e) 56,808	(f) 133,598	(g) 99,207

(a) Complete. (b) Incomplete. (c) Subject to additional £1,010,000 withdrawn from Wheat Prices Stabilization Fund. (d) Includes £1,589,000 paid to Wheat Prices Stabilization Fund and £125,000 to Wheat Industry Research Fund. (e) Subject to additional £397,000 withdrawn from Wheat Prices Stabilization Fund and payment of £85,000 to Wheat Industry Research Fund. (f) Subject to additional £6,532,000 withdrawn from Wheat Prices Stabilization Fund and payment of £207,000 to Wheat Industry Research Fund. (g) Subject to additional £8,024,000 (of which the Commonwealth Government provided £3,022,000) withdrawn from the Wheat Prices Stabilization Fund and payment of £187,000 to Wheat Industry Research Fund.

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

(iii) *Advances to Growers.* Each year the size of the first advance to growers is announced by the Minister for Primary Industry before the commencement of the season. Additional payments are made as sufficient funds become available to the Board from sales realizations. Details of advances made to wheat growers in respect of the various pools are published in the Statistical Bulletin: *The Wheat Industry, Australia*, last issued in April, 1961.

(iv) *Stabilization Fund.* Particulars of the most recent legislative provisions for this fund are given in para. 3 (iv) on page 891.

In accordance with the provisions of the second Stabilization Plan, amounts of £9,160,000 and £1,589,000 were paid into the Stabilization Fund from the export charge on exports from the 1953–54 and 1956–57 crops. There were withdrawals from the Fund in respect of the years 1954–55, 1955–56 and 1957–58 amounting to £189,000, £1,010,000 and £397,000 respectively. The balance of the Fund including interest from its investment amounting to over £10 million was carried forward as the nucleus of the Fund for the third Stabilization Plan commencing with the 1958–59 season.

Under the third Stabilization Plan an amount of £6,532,000 (7.88d. per bushel) has been withdrawn from the Fund to raise export realizations from the 1958–59 harvest. The balance of the Fund with accrued interest, together amounting to £5,002,000, was withdrawn to raise export realizations from the 1959–60 harvest. In addition, an amount of £3,022,000 was contributed by the Commonwealth Government in accordance with the guarantee.

5. **International Wheat Agreements.**—Details of the first and second International Wheat Agreements operative from 1st August, 1949, to 31st July, 1953, and from 1st August, 1953, to 31st July, 1956, respectively, were published in Official Year Book No. 42 (*see* pp. 840–1) and previous issues.

A third International Wheat Agreement covering a period of three years from 1st August, 1956, to 31st July, 1959, came into force on 1st August, 1956. The 1956 Agreement was substantially the same in form as the 1949 and 1953 Agreements, although amendments were made to many of the more important provisions.

The annual quota of 395 million bushels determined by the 1953 International Wheat Agreement was reduced in the 1956 Agreement by almost a quarter to 303 million bushels. The quotas were varied slightly during the course of the Agreement, and in 1958–59 the total quota was 295.3 million bushels of which Australia's share was fixed at 29.5 million bushels.

Particulars of guaranteed sales and purchases by individual countries under the 1956 Agreement for 1958–59 and earlier years are shown in previous Year Books.

Following ratification by the required number of wheat exporting and importing countries, a fourth International Wheat Agreement came into force on 1st August, 1959. The Agreement covers the three year period from 1st August, 1959, to 31st July, 1962.

The new Agreement, negotiated at an international conference convened by the United Nations, continues the arrangements covered by previous Agreements, with some important variations. The Agreement seeks to obtain an element of stability in world wheat marketing by providing that a significant proportion of wheat entering international trade will be bought and sold at prices within a prescribed range. The member exporting countries compete to supply at prices within the agreed price range, which is from 190 cents (Canadian Currency) or about 17s. 6d. Australian to 150 cents or about 13s. 6d. a bushel. These prices are used in the following manner:—Maximum price is based on the price of Canada's No. 1 Northern Manitoba wheat in bulk in store at Fort William/Port Arthur, and the minimum price shall be each exporter's f.o.b. price's equivalent to the c.i.f. price in the United Kingdom of the minimum price of Canada's No. 1 Northern Manitoba wheat in bulk in store Fort William/Port Arthur, using currently prevailing transportation costs and exchange rates.

Member importing countries have undertaken to buy each year from member exporting countries a stated percentage of their total commercial requirements at prices within the agreed range instead of a fixed quota as under previous Agreements. In the first year of the Agreement, ending 31st July, 1960, all member countries with one exception exceeded their stated percentages. Transactions between member importing and exporting countries totalled 555.7 million bushels, of which Australia's share was 79.1 million, equivalent to 14.2 per cent. In the final year of the third Agreement (Crop Year 1958–59), sales recorded totalled 191 million bushels of which Australia's share was 15.8 million (8.3 per cent). Total commercial purchases of wheat by importing, exporting and non-participating countries reported to the International Wheat Council were 633.8 million bushels of which Australia's share was 128.3 million (20.2 per cent.).

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

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

The provision in the previous Agreements by which the individual exporting countries had separate guaranteed quantities that they would call upon the member importing countries to buy at the minimum price has not been retained.

Member countries of the fourth International Wheat Agreement are:—

Exporters—Argentina, Australia, Canada, France, Italy, Mexico, Spain, Sweden and the United States of America.

Importers—Austria, Belgium and Luxembourg, Brazil, Costa Rica, Cuba, Dominican Republic, El Salvador, Federal Republic of Germany, Greece, Guatemala, Haiti, Honduras Republic, Iceland, India, Indonesia, Ireland, Israel, Japan, Korea, The Netherlands, New Zealand, Norway, Panama, Peru, The Philippines, Portugal, Federation of Rhodesia and Nyasaland, Saudi Arabia, Switzerland, Union of South Africa, United Arab Republic, United Kingdom, Vatican City, and Venezuela.

6. **Wheat Farms.**—(i) *Number.* Particulars of the number of farms growing 20 acres and upwards of wheat for grain during each of the years 1955–56 to 1959–60, are shown in the following table. It should be noted that a farm worked on the share system or as a partnership is included as one holding only.

NUMBER OF FARMS GROWING 20 ACRES AND UPWARDS OF WHEAT FOR GRAIN.

State.	1955–56.	1956–57.	1957–58.	1958–59.	1959–60.
New South Wales	14,086	10,197	12,111	14,997	16,798
Victoria	9,714	7,674	8,856	9,074	10,561
Queensland	4,186	3,131	3,665	4,791	4,555
South Australia	8,571	7,852	7,515	7,774	7,869
Western Australia	7,962	7,943	7,957	8,060	8,444
Tasmania	78	45	95	104	141
Australian Capital Territory	9	4	10	19	24
Australia	**44,606**	**36,846**	**40,209**	**44,819**	**48,392**

(ii) *Size Classifications of Wheat Holdings.* *See* § 3, para. 4, page 887.

7. **Area, Production and Yield per Acre.**—(i) *Area.* Wheat is the principal crop grown in Australia, and its progress since 1860–61 has been almost continuous, although the area sown has been at a lower level during the past decade. Prominent features in its early development were the increase in population following the discovery of gold and the redistribution of labour after the surface gold had been won. The economic depression of 1893 interrupted its progress, but its subsequent recovery was assisted by the invention of mechanical appliances, the use of superphosphates as an aid to production, and the introduction of new and more suitable varieties of wheat for Australian conditions. The establishment of closer settlement schemes and the settling of returned soldiers and others on the land were additional factors in its expansion.

The area, production and yield per acre of wheat for grain in each State are shown below for the years 1955–56 to 1959–60 in comparison with the averages for the three-year periods ended 1938–39, 1948–49, and 1958–59:—

WHEAT FOR GRAIN : AREA, PRODUCTION AND YIELD PER ACRE.

Period.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Aust.
AREA ('000 ACRES).								
Average for three years ended—								
1938–39	4,366	2,609	366	3,100	3,005	18	2	13,466
1948–49	4,519	3,241	439	2,319	2,685	7	4	13,214
1958–59	2,392	1,737	508	1,392	3,005	5	1	9,040
Year—								
1955–56	2,937	2,141	582	1,609	2,890	6	1	10,166
1956–57	1,742	1,565	360	1,438	2,765	4	..	7,874
1957–58	2,257	1,835	461	1,331	2,957	6	1	8,848
1958–59	3,178	1,810	704	1,408	3,292	6	1	10,399
1959–60	3,950	2,261	683	1,549	3,719	8	2	12,172
PRODUCTION ('000 BUSHELS).(*a*)								
Average for three years ended—								
1938–39	56,890	36,374	4,783	34,606	31,539	434	45	164,671
1948–49	58,537	48,332	8,569	28,856	31,517	138	78	176,027
1958–59	35,178	36,705	9,938	26,126	40,950	135	15	149,047
Year—								
1955–56	57,149	41,083	14,922	28,891	53,250	129	19	195,443
1956–57	28,490	35,282	7,061	31,432	32,100	89	1	134,455
1957–58	10,603	32,134	6,657	14,914	33,100	153	5	97,566
1958–59	66,441	42,697	16,097	32,032	57,650	164	40	215,121
1959–60	75,358	38,793	13,522	11,929	58,670	182	47	198,501

(*a*) 60 lb. per bushel.

WHEAT FOR GRAIN: AREA, PRODUCTION AND YIELD PER ACRE—*continued.*

Period.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Aust.
YIELD PER ACRE (BUSHELS).(*a*)								
Average for three years ended—								
1938–39	13.0	13.9	13.1	11.2	10.5	24.1	22.5	12.2
1948–49	13.0	14.9	19.5	12.4	11.7	19.7	19.5	13.3
1958–59	14.7	21.1	19.6	18.8	13.6	27.0	15.0	16.5
Year—								
1955–56	19.5	19.2	25.7	18.0	18.4	20.7	25.5	19.2
1956–57	16.4	22.5	19.6	21.9	11.6	22.7	11.1	17.1
1957–58	4.7	17.5	14.5	11.2	11.2	26.1	8.9	11.0
1958–59	20.9	23.6	22.9	22.8	17.5	25.4	28.1	20.7
1959–60	19.1	17.2	19.8	7.7	15.8	22.0	26.8	16.3

(*a*) 60 lb. per bushel.

A graph showing the area sown to wheat for grain in Australia since 1900–01 appears on page 898 while a map showing the distribution of areas growing wheat for grain throughout Australia in 1954–55 appeared on page 833 of Official Year Book No. 43. Similar maps showing the distribution of wheat areas in 1924–25, 1938–39 and 1947–48 appeared respectively in Official Year Books No. 22, page 695, No. 34, page 451 and No. 39, pages 977–8.

(ii) *Production.* Apart from the variations in the area sown, the size of the wheat harvest in Australia is largely determined by the nature of the season, resulting in considerable year-to-year fluctuations in production.

The main wheat-producing States of Australia are New South Wales, Victoria, South Australia and Western Australia. Queensland production normally approaches local demands, but Tasmania imports wheat from the mainland to satisfy its needs, though it exports flour made from local wheat which is particularly suitable for biscuits. Normally the production of wheat greatly exceeds Australian requirements, and from half to two-thirds of the crop is exported.

Following a near record wheat harvest of 215.1 million bushels in 1958–59, production was 8 per cent. less in 1959–60.

(iii) *Yield per Acre.* Short-term variations in yield per acre are due chiefly to seasonal influences. The best yields per acre for single seasons since 1901 were obtained in 1920–21, 16.1 bushels; in 1942–43, 16.8 bushels; in 1949–50, 17.8 bushels; in 1952–53, 19.1 bushels; in 1953–54, 18.4 bushels; in 1955–56, 19.2 bushels; in 1958–59, 20.7 bushels (a record); and in 1959–60, 16.3 bushels.

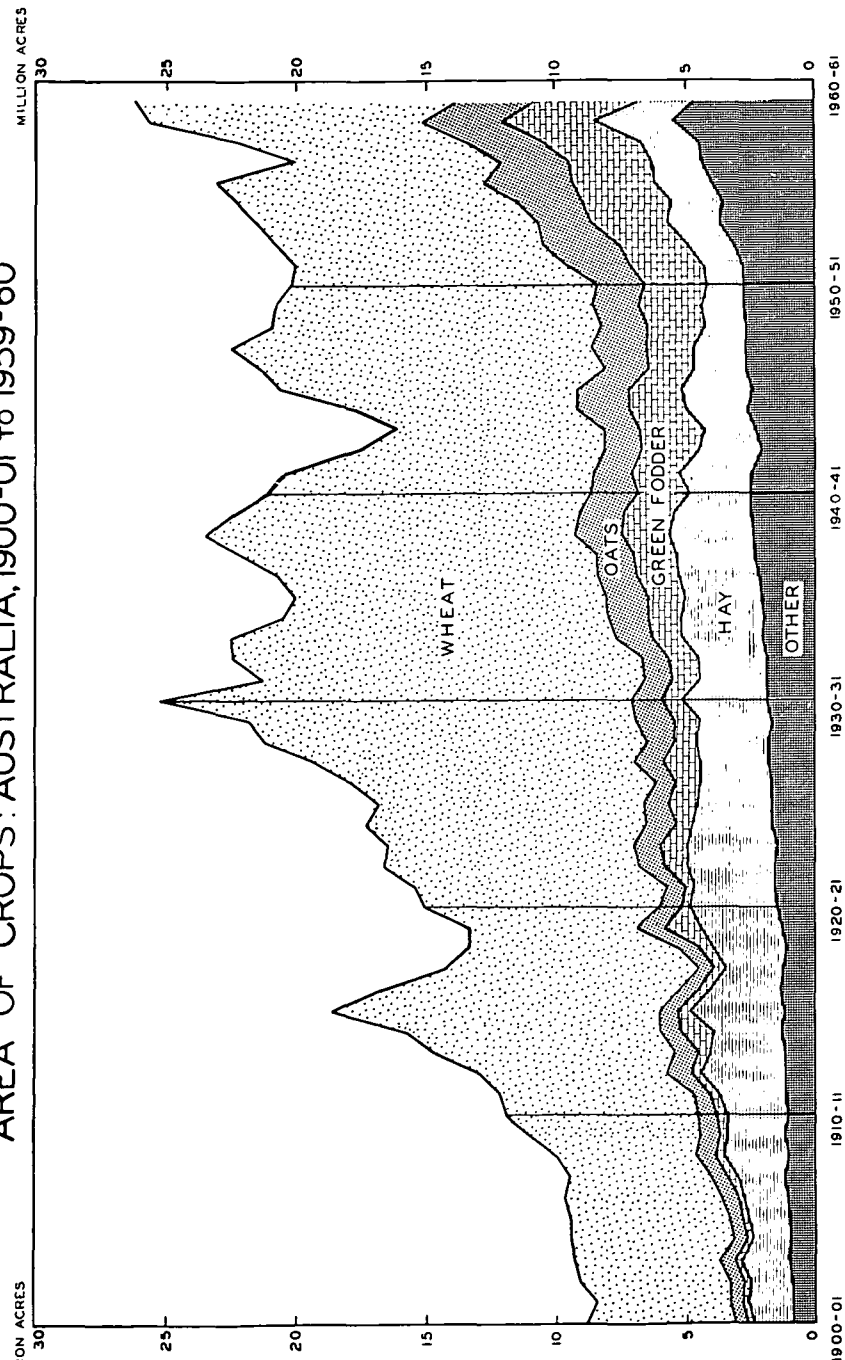
(iv) *Decennial Averages, 1861–70 to 1951–60.* The following table shows the average area, production and yield per acre for decennial periods since 1861.

WHEAT FOR GRAIN: AVERAGE AREA AND PRODUCTION, AUSTRALIA.

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

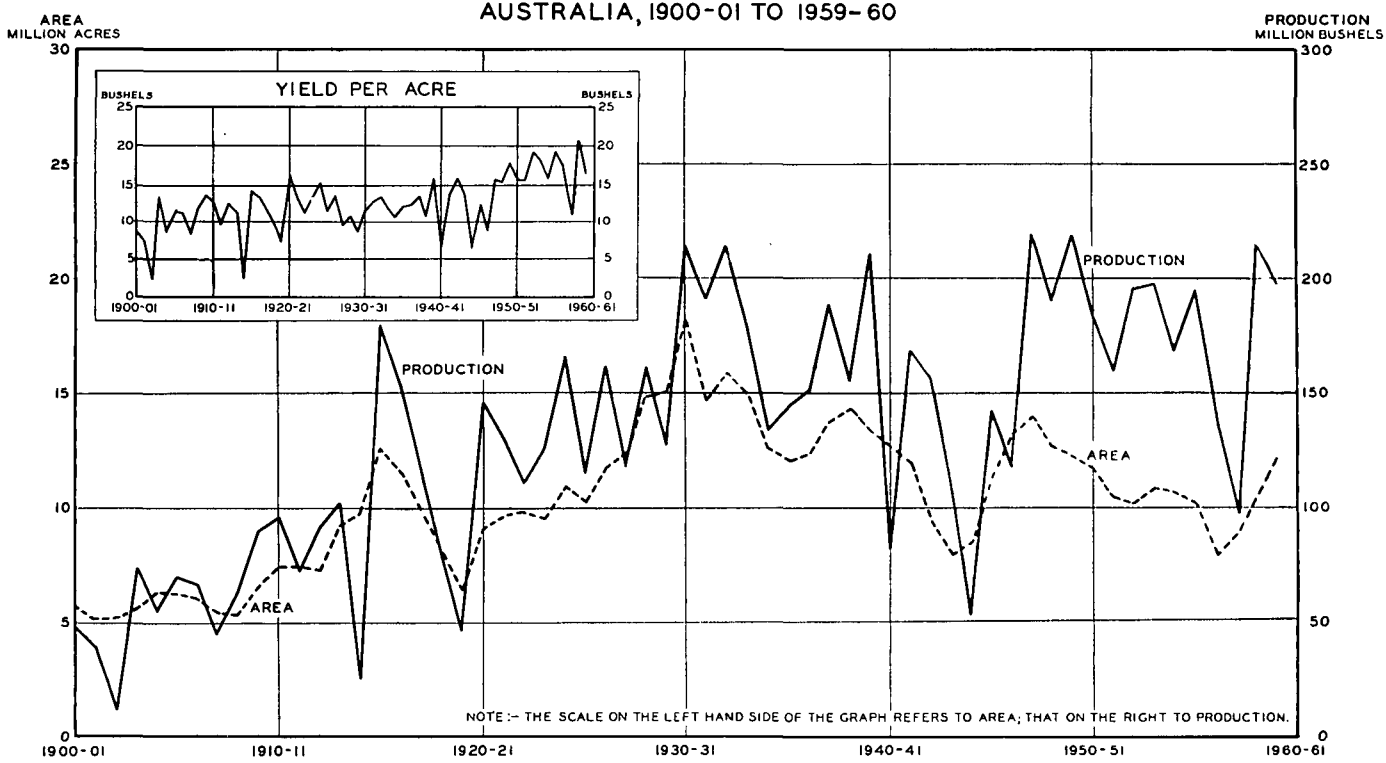
It should be noted that with improved farming methods, including the proper tillage of the soil, rotation of crops, the growing of suitable varieties and the application of fertilizers, the average yield per acre has shown a continued improvement in each decade since 1901.

8. **Varieties of Wheat Sown.**—(i) *General.* 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


AREA OF CROPS: AUSTRALIA, 1900-01 TO 1959-60
MILLION ACRES
MILLION ACRES
30
25
20
15
10
5
0
1900-01
1910-11
1920-21
1930-31
1940-41
1950-51
1960-61
WHEAT
OATS
GREEN FODDER
HAY
OTHER

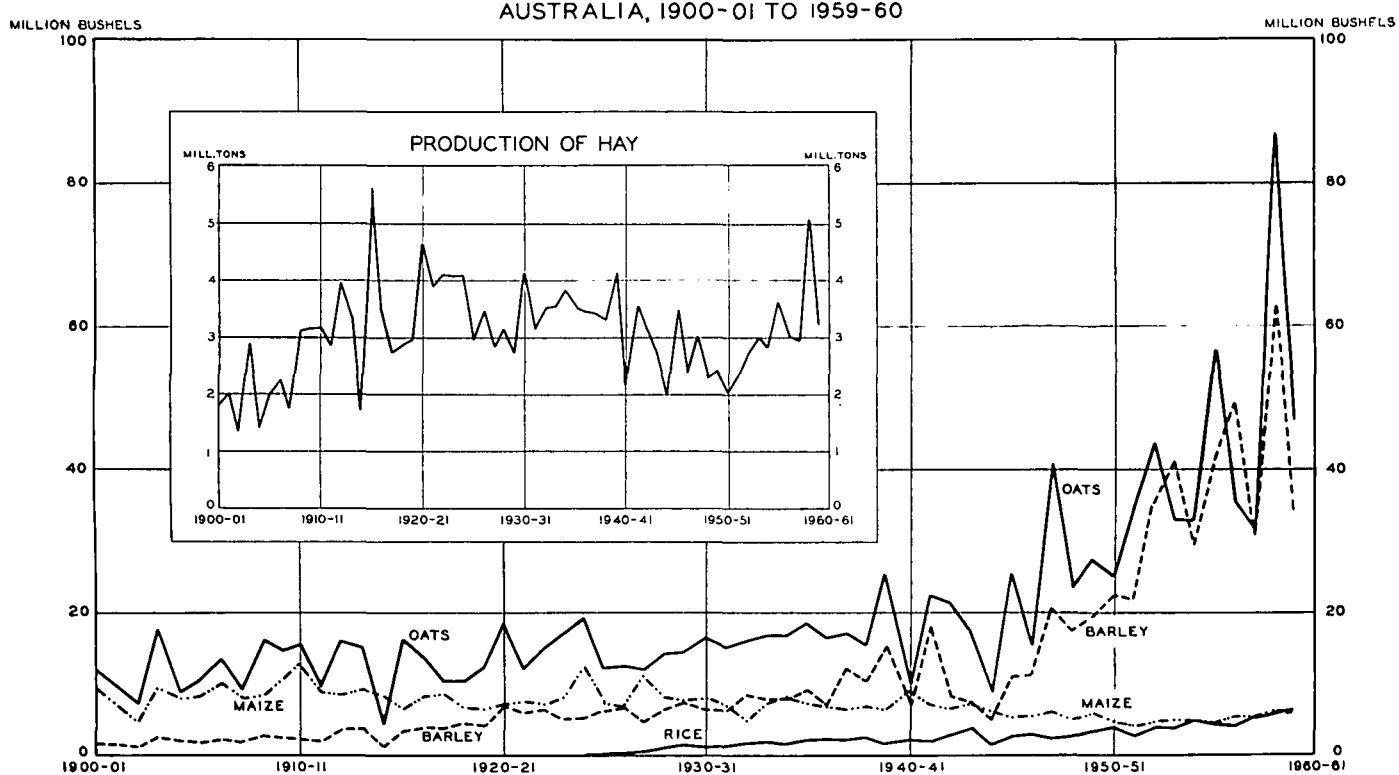
WHEAT (GRAIN): AREA, PRODUCTION AND YIELD PER ACRE

AUSTRALIA, 1900-01 TO 1959-60



PRODUCTION OF OATS, BARLEY, MAIZE, RICE AND HAY

AUSTRALIA, 1900-01 TO 1959-60



have resulted in the development of disease-resistant varieties, better average yields, and a greater uniformity of sample, with which have accrued certain marketing advantages, as well as an improvement in the quality of wheat grown. More than 1,000 different varieties of Australian wheats have been catalogued by the Commonwealth Scientific and Industrial Research Organization, but the number of principal varieties grown during each season is restricted to about 45.

(ii) *States.* 1959–60. The principal varieties of wheat sown and the percentage of each to the total area sown in the five main producing States during 1959–60 were as follows:—New South Wales, Glenwari (21.1), Bencubbin (12.4), Gabo (12.1); Victoria, Insignia (42.6), Pinnacle (25.0), Olympic (13.7); Queensland, Festival (39.3), Spica (23.6); South Australia, Insignia (22.1), Gabo (22.0), Dirk (15.7); Western Australia, Gabo (36.2), Bungulla (13.1), Insignia (12.1). A detailed table of wheat varieties sown in these five States appears in the annual bulletin *Primary Industries—Part I.—Rural Industries.*

9. **F.A.Q. Standard of Wheat.**—Until the 1957–58 season, the Chambers of Commerce in each of the four main wheat-producing States determined the "f.a.q." (fair average quality) standard for each season's crop. This standard is used as a basis for sales of each crop and it varies from year to year and from State to State.

Samples of wheat are obtained each year by the Chambers of Commerce from the different wheat districts and mixed to give a representative sample of the whole crop. From this representative sample the f.a.q. weight is determined by the use of the Schopper 1-litre scale chondrometer. Commencing with the 1958–59 season, the f.a.q. standard has been determined by State committees comprising representatives of the Australian Wheat Board, the silo authorities, the growers and the State Departments of Agriculture. "F.a.q." is an Australian term, and the method of selling differs from that of other countries which sell according to sample, or (as in Canada) according to grades which are fixed and do not vary from year to year.

The f.a.q. weight of a bushel of wheat in each of the four main wheat-producing States for the 1960–61 season's crop was as follows:—New South Wales, North, 64 lb., South and West, 62 lb.; Victoria, 64¾ lb.; South Australia, semi-hard, 64 lb., soft, 64½ lb.; and Western Australia, 64 lb.

10. **Price of Wheat.**—(i) *Home Consumption.* The price charged by the Australian Wheat Board for wheat sold to millers for gristing into flour for consumption in Australia and for wheat sold as stock feed was as follows:—Year ended 30th November, 1955, 14s. 1½d.; 1956, 13s. 5½d.; 1957, 13s. 9½d.; 1958, 14s. 4d.; 1959, 14s. 8d.; 1960, 15s. 0d.; 1961, 15s. 4d. These prices include an amount used to meet freight charges incurred on wheat shipped to Tasmania (1½d. from 1955 to 1957; 2d. in subsequent years). The figure quoted for 1958 does not apply to New South Wales and Queensland where, because of the necessity of meeting the extra cost of importing wheat from Canada and Western Australia, the prices, during the greater part of the year, were 18s. 4½d. and 16s. 9½d. respectively.

(ii) *Export Wheat Prices—Australian Wheat Board's Basic Selling Price.* The monthly average of the Wheat Board's basic export selling prices for f.a.q. bulk wheat f.o.b. basis was 13s. 5¾d. for the season ended 31st July, 1957, 14s. 6d. for the season ended 31st July, 1958, 13s. 10d. for the season ended 31st July, 1959, and 13s. 4d. for the season ended 31st July, 1960, both for wheat sold under the International Wheat Agreement and for "free" wheat sold on the open market. Actual selling prices have been lower than the basic prices in some cases, particularly where other exporting countries enjoy a geographical freight advantage.

The maximum and minimum prices fixed under the 1956 International Wheat Agreement are expressed in terms of "Canadian currency per bushel, at the parity of the Canadian dollar determined for the purposes of the International Monetary Fund for No. 1 Manitoba Northern wheat in bulk in store Fort William—Port Arthur." The maximum price was set at 200 cents a bushel and the minimum at 150 cents for f.a.q. wheat. Under the current 1959 Agreement operative from 1st August, 1959 (*see* paragraph 5, p. 894), the agreed price range is between 190 cents and 150 cents. Directly converted into Australian currency these limits are approximately 17s. 6d. and 13s. 6d. a bushel respectively.

Details of export wheat prices in previous years, including those received for wheat sold under the terms of the 1949–1953 International Wheat Agreement, are given in Official Year Book No. 40, pages 849–50, and Statistical Bulletin: *The Wheat Industry, Australia, No. 95 of April, 1959,* and in previous issues of these publications.

11. **Value of the Wheat Crop.**—The estimated gross value of the wheat crop in each State and in Australia during the season 1959–60 and the value per acre are shown below.

WHEAT FOR GRAIN: VALUE OF CROPS (*a*), 1959-60.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Aust.
Aggregate value £'000	51,975	26,743	9,461	8,248	41,181	125	29	137,762
Value per Acre £	13.2	11.8	13.8	5.3	11.1	15.1	16.6	11.3

(*a*) Gross value of total crop, including wheat used for seed and for stock feed on farms. Also includes payment of £3,022,000 by the Commonwealth Government.

12. **Production and Disposal of Wheat in Australia.**—In the following table, details are given of the production of wheat and its disposal during each of the years ended 30th November, 1956 to 1960. The particulars for local consumption are based on sales made by the Australian Wheat Board, whilst those relating to exports represent actual shipments. (For particulars of production and yield from 1900–01 *see* graph, p. 898.)

WHEAT: PRODUCTION AND DISPOSAL, AUSTRALIA.
(Million Bushels.)

Particulars.	Year ended 30th November—				
	1956.	1957.	1958.	1959.	1960.
Opening stocks (including flour as wheat)	95.0	84.2	41.5	16.5	65.4
Production	195.4	134.5	97.6	215.1	198.5
Imports	..	..	1.5	..	..
Total Available Supplies	*290.4*	*218.7*	*140.6*	*231.6*	*263.9*
Exports—					
Wheat	93.7	69.3	33.6	71.7	98.1
Flour as wheat(*a*)	36.8	36.6	17.5	26.8	26.7
Breakfast foods and other products(*b*)	1.4	1.6	0.6	0.4	0.6
Local Consumption—					
Flour as wheat	39.8	41.2	39.2	40.2	41.3
Stock feed	15.3	19.6	15.0	11.6	14.7
Seed	7.9	9.1	11.1	12.0	13.0
Breakfast foods and other products(*b*)	1.7	1.9	1.9	1.9	1.9
Balance retained on farm (excluding seed)	6.7	5.3	6.1	3.7	6.2
Closing stocks (including flour as wheat)	84.2	41.5	16.5	65.4	60.7
Total Disposals	*287.5*	*226.1*	*141.5*	*233.7*	*263.2*
Excess (+) or Deficiency (−) of Disposals in respect of Available Supplies(*c*)	−2.9	+7.4	+0.9	+2.1	−0.7

(*a*) Includes wheatmeal and sharps. (*b*) In terms of wheat. (*c*) Includes allowance for unrecorded movements in stocks, gain or loss in out-turn, etc.

13. **Imports of Wheat.**—Owing to drought conditions in 1957–58, wheat supplies, particularly in New South Wales, were insufficient for local requirements. As a result, 1,136,000 bushels were imported from Canada during March, April and May, 1958, and a further 349,000 bushels in July, 1958. No wheat has been imported since this period.

Wheat and flour have been imported in substantial quantities on only two previous occasions since 1900; in 1902–3 the wheat harvest was only 12,378,000 bushels, and wheat and flour representing 12,468,000 bushels of wheat were imported, while an equivalent of 7,279,000 bushels was imported in 1914–15 to supplement the yield of 25 million bushels produced in that season.

14. **Exports of Wheat and Flour.**—(NOTE: Statistics in this paragraph relate to years ended 30th June.) (i) *Quantities.* The following table shows particulars of the exports of wheat and flour and total of both, in terms of wheat, for each of the years 1955–56 to 1959–60. For the sake of convenience, flour has been expressed at its equivalent in wheat, 1 ton of flour being taken as equal to 46.3 bushels of grain.

WHEAT AND FLOUR: EXPORTS FROM AUSTRALIA.

Year.	Quantity.				Value.		
	Wheat.	Flour.		Total as Wheat.	Wheat.	Flour.	Total.
		As Flour. (a)	As Wheat. (b)				
	'000 bushels.	Tons. (2,000 lb.)	'000 bushels.	'000 bushels.	£'000.	£'000.	£'000.
1955–56	71,041	684,229	31,680	102,721	46,456	20,273	66,729
1956–57	91,107	766,655	35,496	126,603	60,058	22,234	82,292
1957–58	39,575	479,985	22,223	61,798	28,494	15,059	43,553
1958–59	54,631	467,699	21,654	76,285	38,381	14,001	52,382
1959–60	91,252	558,063	25,838	117,090	61,680	15,811	77,491

(a) White flour, sharps and wheatmeal for baking. (b) One ton (2,000 lb.) of flour is taken to be equivalent to 46.3 bushels of wheat.

(ii) *Destination.* (a) *Wheat.* The following table shows the exports of wheat to various countries for each of the five years ended 1959–60.

WHEAT: EXPORTS FROM AUSTRALIA.

('000 Bushels.)

Country to which Exported.	1955–56.	1956–57.	1957–58.	1958–59.	1959–60.
United Kingdom	20,442	26,699	9,792	21,225	20,985
India	5,562	23,274	434	1,317	11,706
New Zealand	9,067	10,915	9,680	8,229	7,904
Pakistan	..	6,195	4,720	720	3,875
Other Commonwealth Countries ..	6,235	5,727	6,843	11,245	11,027
Japan	11,261	3,427	6,762	7,568	13,909
Germany, Federal Republic of ..	8,189	7,950	..	1,754	4,231
Other Foreign Countries	10,285	6,920	1,344	2,573	17,615
Total	**71,041**	**91,107**	**39,575**	**54,631**	**91,252**

(b) *Flour.* The following table shows the exports of flour to various countries for each of the five years ended 1959–60. The figures relate to exports of white flour, sharps and wheatmeal for baking.

FLOUR: EXPORTS FROM AUSTRALIA.

(Tons of 2,000 lb.)

Country to which Exported.	1955–56.	1956–57.	1957–58.	1958–59.	1959–60.
United Kingdom	67,136	80,735	43,156	45,837	46,255
Ceylon	115,899	181,137	51,613	61,382	142,339
Malaya, Federation of	81,740	71,963	70,299	92,427	112,417
Mauritius	12,659	27,660	17,411	20,362	17,686
Singapore	54,707	47,243	37,590	40,735	36,658
Other Commonwealth Countries ..	86,238	102,189	94,785	102,996	103,956
Indonesia	178,098	115,660	62,897	37,856	32,925
Sudan	14,415	28,762	11,258	..	..
Other Foreign Countries	73,337	111,306	90,976	66,104	65,827
Total	**684,229**	**766,655**	**479,985**	**467,699**	**558,063**

15. **Stocks of Wheat and Flour.**—Stocks of wheat (including flour in terms of wheat) held by each State at 30th November for the years 1956 to 1960 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.

WHEAT (INCLUDING FLOUR IN TERMS OF WHEAT): STOCKS (*a*) AT 30th NOVEMBER.(*b*)

('000 Bushels.)

30th November—	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
1956	21,365	22,821	1,973	15,223	22,534	265	84,181
1957	8,982	13,304	203	13,732	5,056	215	41,492
1958	4,420	6,172	116	3,262	2,260	222	16,452
1959	19,934	16,390	987	5,950	21,657	447	65,365
1960	19,878	16,639	451	2,203	20,995	535	60,701

(*a*) Held by the Australian Wheat Board at mills, sidings, ports and depots. (*b*) One ton of flour is taken as equivalent to 46.3 bushels of wheat.

16. **Bulk Handling and Storage of Wheat in Australia.**—(i) *Description and Development of the Bulk Handling System.* A detailed description of the bulk handling system, including its advantages and disadvantages compared with other methods of handling, appears on pages 954–8 of Official Year Book No. 39.

New South Wales, Victoria and Western Australia have operated bulk handling systems for a number of years, and, in more recent years, other States have also introduced bulk systems.

(ii) *Bulk Handling and Storage in the States.* Particulars of the operation of the bulk handling and storage systems and projected extensions in the States concerned are set out below:—

(*a*) *New South Wales.* Bulk handling facilities are operated by the Grain Elevators Board of New South Wales. The capacity of storages in the country for the 1960–61 season totalled 61,740,000 bushels and comprised 182 elevators (26,290,000 bushels), 13 horizontal type concrete and steel storages (3,230,000 bushels), 4 sub-terminals (16,500,000 bushels), 69 bulkheads (7,020,000 bushels) and 12 bulk depots (8,700,000 bushels). In addition, port terminal facilities provided storage for 4,200,000 bushels at Newcastle and 7,500,000 bushels at Sydney, making a total capacity of 73,440,000 bushels for the State.

(*b*) *Victoria.* The Victorian Grain Elevators Board operates 201 elevators with a storage capacity of 28,457,000 bushels and a terminal elevator at Geelong with a capacity of 4,250,000 bushels. Storages for 18,000,000 bushels, adjacent to the permanent terminal, have been constructed at Geelong.

Temporary measures for extending bulk handling facilities have been adopted and sub-terminals constructed or acquired at Dunolly, Murtoa and Warracknabeal with a capacity of 22,750,000 bushels. Temporary bulkheads have also been used and in the 1960–61 season there were 28 available for use with a total capacity of 2,364,000 bushels.

(*c*) *Queensland.* Bulk storages in this State are controlled and operated by the State Wheat Board. The capacity in the country for the 1960–61 season totalled 5,518,000 bushels. This total is composed of 12 silos (3,250,000 bushels) and 18 bulkheads (2,268,000 bushels).

The terminal bulk storage at Pinkenba commenced receiving wheat in July, 1959, with a storage capacity of 1,300,000 bushels.

(*d*) *South Australia.* Since the formation of the South Australian Co-operative Bulk Handling Ltd. in 1955, steady progress has been maintained in the expansion of the system.

The present capacity of bulk storages is 14,290,000 bushels; comprising 1,030,000 bushels at Ardrossan; 1,510,000 at Wallaroo; 1,250,000 at Port Lincoln; and 10,500,000 in country areas.

For the 1960–61 season, wheat was received in bulk at 30 installations in country areas in addition to the terminals at Ardrossan, Wallaroo and Port Lincoln.

For the 1961–62 season, the completion of a further seven silos will increase the capacity by 1,990,000 bushels, which will give the South Australian Co-operative Bulk Handling Ltd. capacity to handle 16,280,000 bushels of wheat in bulk, including a 750,000 bushel terminal at Thevenard.

(*e*) *Western Australia.* The bulk handling system is operated by Co-operative Bulk Handling Ltd., which is a company controlled by growers. In 1960–61, there were 292 sidings equipped with bulk handling facilities and the whole of the marketable harvest was received in bulk.

The system of storage at country stations in Western Australia comprises fixed installations of galvanized iron bins and iron and timber horizontal bulkheads. In addition, a type of temporary roofed bulkhead consisting of timber and iron is used. This latter type of storage can be transferred to suit operational requirements, and therefore lends flexibility to the system. Terminal installations comprise concrete silos and timber and iron horizontal bulkheads, with the exception of one port which is equipped with iron silos instead of concrete. Plans are in hand to increase the number of vertical concrete cell type storages at the main ports.

The total storage capacity for 1960–61 season was 104,517,000 bushels, comprising 78,867,000 bushels in the country and 25,650,000 bushels at ports, including 3,200,000 bushel capacity scheduled for completion during 1961.

(*f*) *Tasmania.* In order to meet the change to bulk handling of wheat in the mainland exporting States, the Tasmanian Government has constructed grain elevators at Hobart, Launceston and Devonport, each with a capacity of 300,000 bushels, for storage of bulk wheat shipments from the mainland.

17. **World Area and Production of Wheat.**—The figures in the following table of the world area and production of wheat by principal countries and by continents have been compiled from the statistics published by the Food and Agriculture Organization of the United Nations. The harvests shown for countries in the Northern Hemisphere are those reaped during the period March to October whilst those for the Southern Hemisphere cover the period November to February following.

WHEAT: AREA, PRODUCTION AND YIELD PER ACRE IN VARIOUS COUNTRIES.

Continent and Country.	Area.(*a*)			Production.			Yield per Acre.		
	1957.	1958.	1959. (*b*)	1957.	1958.	1959. (*b*)	1957.	1958.	1959. (*b*)
	'000 acres.	'000 acres.	'000 acres.	'000 bushels.	'000 bushels.	'000 bushels.	bus.	bus.	bus.
North America—									
Canada ..	21,117	20,880	23,046	385,508	383,858	427,015	18.3	18.4	18.5
United States ..	43,806	53,360	52,980	950,662	1,509,448	1,164,976	21.7	28.3	22.0
Total(c) ..	*67,380*	*76,391*	*78,341*	*1,388,000*	*1,944,937*	*1,642,500*	*20.6*	*25.5*	*21.0*

NOTE.—*See* next page for footnotes.

WHEAT: AREA, PRODUCTION AND YIELD PER ACRE IN VARIOUS COUNTRIES—*continued.*

Continent and Country.	Area.(a)			Production.			Yield per Acre.		
	1957.	1958.	1959. (b)	1957.	1958.	1959. (b)	1957.	1958.	1959. (b)
	'000 acres.	'000 acres.	'000 acres.	'000 bushels.	'000 bushels.	'000 bushels.	bus.	bus.	bus.
Europe—									
France.. ..	11,534	11,390	10,960	407,200	364,300	438,030	35.3	32.0	40.0
Italy	12,375	12,190	11,518	310,000	372,400	321,210	25.1	30.5	27.9
Spain	10,820	10,810	10,812	180,000	172,630	176,210	16.6	16.0	16.3
Total(c) ..	*73,440*	*73,400*	*72,515*	*1,950,000*	*1,932,800*	*2,146,400*	*26.6*	*26.3*	*29.6*
U.S.S.R. ..	*170,000*	*165,000*	*155,500*	*1,800,000*	*2,905,200*	*2,621,900*	*10.6*	*17.6*	*16.9*
Africa—Total(c) ..	*17,520*	*18,300*	*18,295*	*185,000*	*204,100*	*194,700*	*10.6*	*11.2*	*10.6*
Asia—									
China	(d)	(d)	(d)	(d)	(d)	(d)	(d)	(d)	(d)
India	33,580	29,300	30,940	347,700	298,400	373,740	10.4	10.2	12.1
Pakistan ..	11,807	11,380	12,150	142,000	136,640	148,590	12.0	12.0	12.2
Turkey ..	17,878	18,690	18,930	250,000	329,010	303,030	14.0	17.6	16.0
Total(c) ..	*146,620*	*147,200*	*150,900*	*1,910,000*	*2,162,400*	*2,340,700*	*13.1*	*14.7*	*15.5*
South America—									
Argentina ..	10,858	12,940	10,810	213,500	254,980	221,460	19.7	19.7	20.5
Total(c) ..	*18,740*	*21,400*	*17,800*	*320,000*	*351,300*	*314,500*	*17.1*	*16.4*	*17.7*
Oceania—									
Australia ..	8,848	10,399	12,172	97,566	215,121	198,501	11.0	20.7	16.3
Total(c) ..	*8,930*	*10,520*	*12,050*	*101,000*	*228,400*	*210,200*	*11.3*	*21.7*	*17.4*
World Total(c) ..	*502,630*	*511,600*	*505,400*	*7,654,000*	*9,728,500*	*9,470,500*	*15.2*	*19.0*	*18.7*

(a) Figures for countries other than Australia refer to harvested areas as far as possible. For Australia, area sown is shown. (b) Preliminary. (c) Totals (estimates) include allowances for any missing data for countries shown and for producing countries not shown. (d) Not available. *See* footnote (c).

18. **Exports—Principal Countries.**—The following table shows the quantities of wheat exported from the chief exporting countries for the years 1957 to 1959, based on statistics recently published by the Food and Agriculture Organization of the United Nations.

While Australia's production of wheat averages less than 3 per cent. of the world's total, its exports account for a much higher proportion of the total quantities shipped. In 1959, Australia's share of world wheat exports amounted to 8.2 per cent.

WHEAT(*a*): PRINCIPAL EXPORTING COUNTRIES.

Exporting Country.	1957.		1958.		1959.	
	Quantity.	Proportion of World Total.	Quantity.	Proportion of World Total.	Quantity.	Proportion of World Total.
	million bushels.	%	million bushels.	%	million bushels.	%
United States of America ..	475.9	36.4	412.4	34.9	454.4	36.3
Canada	267.0	20.4	311.6	26.3	302.1	24.1
Australia	97.3	7.4	52.7	4.5	102.4	8.2
Argentina	98.5	7.5	79.1	6.7	89.0	7.1
France	50.3	3.8	68.2	5.8	45.4	3.6
All other	320.1	24.5	259.0	21.8	258.7	20.7
Total	*1,309.1*	*100.0*	*1,183.0*	*100.0*	*1,252.0*	*100.0*
World Production (mill. bus.) ..	7,654		9,729		9,471	
Proportion of Australia's Production to World Production	% 1.3		% 2.2		% 2.1	

(*a*) Includes flour expressed in terms of wheat.

19. **Imports—Principal Countries.**—The principal importers of wheat, together with quantities imported, for the periods indicated, are shown in the following table:—

WHEAT(*a*): PRINCIPAL IMPORTING COUNTRIES.

Importing Country.	1957.		1958.		1959.	
	Quantity.	Proportion of World Total.	Quantity.	Proportion of World Total.	Quantity.	Proportion of World Total.
	million bushels.	%	million bushels.	%	million bushels.	%
United Kingdom	186.7	14.6	188.0	16.5	179.2	14.3
India and Pakistan	131.7	10.3	127.7	11.2	151.8	12.1
Japan	85.2	6.7	86.8	7.6	92.2	7.3
Germany, Federal Republic of ..	106.6	8.3	83.3	7.3	90.8	7.2
Brazil	54.2	4.2	57.0	5.0	67.1	5.3
United Arab Republic ..	30.9	2.4	43.0	3.8	50.7	4.0
Poland	65.9	5.2	24.5	2.2	41.2	3.8
Netherlands	34.9	2.7	38.9	3.4	37.0	3.3
Yugoslavia	40.5	3.2	27.1	2.4	48.2	2.9
All other	542.0	42.4	460.7	40.6	498.4	39.8
Total	**1,278.6**	**100.0**	**1,137.0**	**100.0**	**1,256.6**	**100.0**

(*a*) Includes flour expressed in terms of wheat.

§ 5. Oats.

1. **Area, Production and Yield per Acre.**—Oats is usually next in importance to wheat among the grain crops cultivated in Australia, but while wheat grown for grain in 1959–60 accounted for 47 per cent., oats grown for grain represented only 12 per cent. of the area of all crops. The area, production and yield per acre of oats in each State are shown below for the years 1955–56 to 1959–60 in comparison with the averages for the three year periods ended 1938–39, 1948–49, and 1958–59.

OATS FOR GRAIN : AREA, PRODUCTION AND YIELD PER ACRE.

Period.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Australia.
AREA ('000 ACRES).								
Average for three years ended—								
1938–39 ..	297	478	8	338	425	26	(a)	1,572
1948–49 ..	515	548	21	282	484	17	1	1,868
1958–59 ..	756	735	29	445	1,178	20	(a)	3,163
Year—								
1955–56 ..	902	871	36	425	1,091	29	(a)	3,354
1956–57 ..	420	613	28	427	1,051	17	(a)	2,556
1957–58 ..	716	622	19	427	1,154	21	(a)	2,959
1958–59 ..	1,130	971	39	481	1,330	22	1	3,974
1959–60 ..	567	673	22	506	1,240	22	(a)	3,030
PRODUCTION ('000 BUSHELS).(b)								
Average for three years ended—								
1938–39 ..	4,065	4,781	65	2,575	4,159	810	6	16,461
1948–49 ..	7,166	9,757	324	3,606	5,355	406	7	26,621
1958–59 ..	12,619	14,140	547	7,911	15,606	409	10	51,242
Year—								
1955–56 ..	16,537	14,858	743	7,280	16,516	548	5	56,487
1956–57 ..	6,274	9,555	553	8,318	10,441	253	2	35,396
1957–58 ..	3,944	9,528	256	3,423	13,793	482	(c)	31,426
1958–59 ..	27,638	23,339	832	11,992	22,585	491	28	86,905
1959–60 ..	11,125	12,701	394	2,504	19,599	512	6	46,841
YIELD PER ACRE (BUSHELS).(b)								
Average for three years ended—								
1938–39 ..	13.7	10.0	8.1	7.6	9.8	3.1	24.3	10.5
1948–49 ..	13.9	17.8	15.4	12.8	11.1	2.4	11.8	14.3
1958–59 ..	16.7	19.2	18.9	17.8	13.3	20.5	22.5	16.2
Years—								
1955–56 ..	18.3	17.1	20.8	17.1	15.1	19.1	17.1	16.8
1956–57 ..	14.9	15.6	20.1	19.5	9.9	15.3	12.5	13.8
1957–58 ..	5.5	15.3	13.4	8.0	12.0	23.3	7.4	10.6
1958–59 ..	24.5	24.0	21.3	24.9	17.0	22.1	26.6	21.9
1959–60 ..	19.6	18.9	18.4	5.0	15.8	23.2	24.8	15.5

(a) Less than 500 acres. (b) 40 lb. per bushel. (c) Less than 500 bushels.

Graphs showing the area sown to oats, and production of oats appear on pages 897 and 899 respectively.

In 1958–59, extremely favourable seasonal conditions for all cereal crops were experienced, and production of oats reached an all-time high at 86,905,000 bushels, the previous record being 56,487,000 bushels in 1955–56. Production reverted to a more normal level in 1959–60, when 46,841,000 bushels were harvested.

The average yield of 15.5 bushels an acre in 1959–60 was 29 per cent. below the yield of 21.9 bushels an acre in 1958–59, the highest yield in recent years. The previous highest yield in recent years was 19.3 bushels an acre in the 1947–48 season which was the highest since 1920–21. The yield per acre recorded in the abnormally dry season 1944–45, 4.4 bushels, was the lowest ever recorded for Australia.

2. **Price of Oats.**—The average wholesale price in the Melbourne market for oats of good milling quality was 7s. 9d. a bushel in 1959–60. This represents an increase of approximately 12 per cent. on the price in 1958–59 (6s. 11d.).

3. **Value of Oat Crop.**—The estimated gross value of the oat crop in each State for the 1959–60 season and the value per acre were as follows:—

OATS : VALUE OF CROP, 1959-60.

Particulars.		N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Aust.
Aggregate value	£'000	4,079	4,797	197	1,061	7,965	295	2	18,396
Value per acre..	£	7.2	7.1	9.2	2.1	6.4	13.4	8.7	6.1

4. **Exports.**—The production of oats in Australia is sufficient to allow for a regular export trade. The quantities and values of oats exported from Australia during the years 1955–56 to 1959–60 are shown hereunder:—

OATS: EXPORTS, AUSTRALIA.

Particulars.		1955–56.	1956–57.	1957–58.	1958–59.	1959–60.
Quantity ..	'000 bus.	9,608	8,165	2,296	17,557	11,969
Value ..	£'000	3,578	2,972	1,064	6,512	5,031

In 1959–60, the principal countries of destination were the Federal Republic of Germany (8,155,400 bushels), the Netherlands (1,719,100 bushels), Italy (1,028,200 bushels) and the United Kingdom (579,000 bushels). Imports of oats into Australia are not recorded separately.

5. **Oatmeal, etc.**—In 1959–60, the production of oatmeal was 15,672 tons for porridge and 10,092 tons for other purposes. This was equivalent to about 2,900,000 bushels of oats.

6. **World Production.**—The world's production of oats for the year 1959, according to figures released by the United States Department of Agriculture, amounted to 3,720 million bushels, harvested from 111.2 million acres, representing an average yield of 33.5 bushels per acre. This compared with an estimated production in the previous year of 4,260 million bushels from an area of 116.7 million acres and an average yield of 36.5 bushels an acre.

§ 6. Maize.

1. **States Growing Maize.**—Maize is grown for grain chiefly in Queensland and New South Wales, the area so cropped in these States during the 1959–60 season being 181,541 acres, or 98 per cent. of the total for Australia. In all States except South Australia, the crop is grown to some extent for green fodder, particularly in connexion with the dairying industry.

2. **Area, Production and Yield per Acre.**—Although maize for grain is grown extensively in other countries, the area sown to maize for grain in Australia has averaged only 179,507 acres during the five years ended 1959–60. The area in 1959–60 was 184,928 acres, a slight increase on the previous year, but considerably less than the comparatively large areas of 414,914 and 400,544 acres sown in 1910–11 and 1927–28 respectively.

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

The area, production and yield per acre of maize for grain in each State for the years 1955–56 to 1959–60 compared with the averages for the three three-year periods ended 1938–39, 1948–49 and 1958–59 are given in the following table. Separate details for hybrid and other varieties are shown for New South Wales, Victoria and Queensland for 1959–60.

MAIZE FOR GRAIN : AREA, PRODUCTION AND YIELD PER ACRE.

Period.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Aust.
AREA (ACRES).								
Average for three years ended—								
1938–39 ..	121,178	19,826	179,641	20	16	..	6	320,687
1948–49 ..	91,612	7,511	122,263	1	87	6	1	221,481
1958–59 ..	57,662	3,629	120,417	(a)	13	1	2	181,724
Years—								
1955–56 ..	55,678	3,535	108,146	6	6	65	2	b 167,441
1956–57 ..	53,225	2,727	125,606	(a)	10	2	..	181,570
1957–58 ..	57,513	4,278	122,245	(a)	20	..	6	184,062
1958–59 ..	62,249	3,881	113,402	(a)	10	..	..	179,542
1959–60—								
Hybrid ..	39,339	2,981	76,879	(a)	4	..	..	184,928
Other ..	12,399	402	52,924					
PRODUCTION ('000 BUSHELS).(c)								
Average for three years ended—								
1938–39 ..	3,204	665	3,170	1	(d)	..	(d)	7,040
1948–49 ..	2,446	314	2,960	(d)	1	(d)	(d)	5,721
1958–59 ..	2,347	175	3,428	(a)	(d)	(d)	..	5,950
Year—								
1955–56 ..	1,868	176	2,710	(d)	(d)	1	(d)	4,755
1956–57 ..	1,945	81	3,468	(a)	(d)	(d)	..	5,494
1957–58 ..	2,237	241	3,161	(a)	(d)	..	(d)	5,639
1958–59 ..	2,860	203	3,654	(a)	(d)	..	..	6,717
1959–60—								
Hybrid ..	1,998	167	2,688	(a)	(d)	..	..	6,725
Other ..	487	13	1,372					
YIELD PER ACRE (BUSHELS).(c)								
Average for three years ended—								
1938–39 ..	26.4	33.5	17.6	43.7	12.3	..	10.2	22.0
1948–49 ..	26.7	41.8	24.2	6.7	7.2	14.8	13.7	25.8
1958–59 ..	40.7	48.2	28.5	(a)	16.8	30.0	..	32.7
Year—								
1955–56 ..	33.5	49.7	25.1	12.5	15.0	19.4	80.0	28.4
1956–57 ..	36.6	29.6	27.6	(a)	12.0	30.0	..	30.3
1957–58 ..	38.9	56.5	25.9	(a)	14.9	..	..	30.6
1958–59 ..	45.9	52.4	32.2	(a)	25.5	..	..	37.4
1959–60—								
Hybrid ..	50.8	56.2	35.0	(a)	25.5	..	..	36.4
Other ..	39.3	32.3	25.9					

(a) Not available for publication. (b) Includes 3 acres in the Northern Territory. (c) 56 lb. per bushel. (d) Less than 500 bushels.

The average yield for Australia for the five-year period ended 1959–60 was 30.6 bushels per acre. Among principal producing countries during 1959, the United States of America averaged 51.5 bushels per acre and Italy 48.6 bushels.

3. **Price of Maize.**—The average wholesale price of maize in the Melbourne market in 1959–60 was 16s. 1d. a bushel compared with 15s. 4¾d. in 1958–59.

4. **Value of Crop.**—The estimated gross value of the crop in each State for the 1959–60 season and the value per acre were as follows:—

MAIZE FOR GRAIN : VALUE OF CROP, 1959-60.

Particulars.		N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
Aggregate value ..	£'000	1,688	131	2,210	..	..	..	4,029
Value per acre ..	£	32.6	38.7	17.0	..	..	..	21.7

5. **Exports of Maize and Maize Products.**—Details of exports of maize for the five years ended 1959–60 are shown below.

MAIZE : EXPORTS, AUSTRALIA.

Particulars.	1955–56.	1956–57.	1957–58.	1958–59.	1959–60.
Quantity .. '000 bus.	185	32	48	15	22
Value .. .. .. £'000	119	26	30	10	15

Imports of maize into Australia are not recorded separately.

Exports of cornflour, which prior to the 1939–45 War were very small, increased considerably during the war years, the principal country of destination being New Zealand. In 1959–60, however, only 48,000 lb., valued at £1,482, were exported. It should be noted that these figures include some quantities of " cornflour " made from wheat. Imports of cornflour into Australia are not recorded separately.

6. **World Production.**—According to preliminary figures released by the United States Department of Agriculture, world production of maize in the year 1959 amounted to 7,955 million bushels, harvested from 260 million acres, giving an average yield per acre of 30.7 bushels. This compared with production in the previous year of 7,395 million bushels from 246 million acres, and an average of 30.1 bushels per acre.

The United States of America is the most important maize-producing country in the world and during the three years ended 1959 the area sown to maize in that country averaged 77 million acres or 31 per cent. of the world total. During the same period, production averaged 3,861 million bushels or about 53 per cent. of the world total. These figures are not strictly comparable with those for other countries included in the above-mentioned world totals, as the area and an estimate of grain equivalent of maize used as green fodder are included.

A graph showing the production of maize in Australia appears on page 899.

§ 7. Barley.

1. **Area, Production and Yield per Acre.**—The area sown to barley for grain expanded considerably during the ten years preceding the 1939–45 War—from 383,000 acres in 1930–31 to 836,000 acres in 1939–40. This increase was followed by a decline to 443,000 acres in 1943–44, but the area sown has increased in succeeding years and in 1958–59 reached the record level of 2,381,000 acres. Victoria was originally the principal barley-growing State, but since 1913–14 its place has been taken by South Australia which accounted for 55 per cent. of the Australian acreage in 1959–60. There has been a substantial increase in the acreage sown in most States in recent years, particularly in Western Australia and Queensland. Small areas of barley are sown for hay, and larger quantities are sown for green forage, but these are not included in this section. The production of barley for grain in Australia in 1958–59 was a record at 62,976,000 bushels. The previous highest recorded production occurred in 1956–57 when 49,279,000 bushels were produced. The area, production and yield per acre of barley for grain in the several States for the years 1955–56 to 1959–60, compared with the averages for the three-year periods ended 1938–39, 1948–49 and 1958–59 are shown in the following table:—

BARLEY FOR GRAIN: AREA, PRODUCTION AND YIELD PER ACRE.

Period.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Aust.
				AREA ('000 ACRES).				
Average for three years ended—								
1938–39 ..	13	138	10	391	53	8	(*a*)	613
1948–49 ..	23	166	18	587	65	7	(*a*)	866
1958–59 ..	73	354	184	1,255	324	8	..	2,198
Years—								
1955–56 ..	54	309	146	1,042	337	6	(*a*)	1,894
1956–57 ..	44	345	131	1,222	344	7	..	2,093
1957–58 ..	69	352	173	1,212	307	8	..	2,121
1958–59 ..	106	363	249	1,332	322	9	..	2,381
1959–60—								
Malting (2-row)	79	264	238	1,234	53	(*b*)	..	(*b*)
Other (6-row)	39	14	22	56	368			
Total ..	*118*	*278*	*260*	*1,290*	*421*	*12*	..	*2,379*

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

Period.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Aust.
PRODUCTION ('000 BUSHELS).(c)								
Average for three years ended—								
1938–39 ..	197	2,174	135	6,816	660	252	(d)	10,234
1948–49 ..	316	3,149	375	11,964	748	194	(d)	16,746
1958–59 ..	1,463	7,192	4,673	29,740	4,239	267	..	47,574
Year—								
1955–56 ..	1,120	6,877	4,216	24,598	4,653	191	(d)	41,655
1956–57 ..	781	7,549	2,960	34,003	3,751	235	..	49,279
1957–58 ..	685	5,447	2,956	17,552	3,556	270	..	30,466
1958–59 ..	2,922	8,581	8,103	37,665	5,410	295	..	62,976
1959–60—								
Malting (2-row)	1,734	5,318	6,134	11,463	926	(b)	..	(b)
Other (6-row)	847	275	516	394	6,054			
Total ..	*2,581*	*5,593*	*6,650*	*11,857*	*6,980*	*418*	..	*34,079*
YIELD PER ACRE (BUSHELS).(c)								
Average for three years ended—								
1938–39 ..	15.2	15.7	13.5	17.4	12.5	31.5	52.3	16.7
1948–49 ..	13.7	19.0	20.8	20.4	11.5	27.7	19.5	19.3
1958–59 ..	20.0	20.3	25.4	23.7	13.1	33.4	..	20.7
Year—								
1955–56 ..	20.7	22.2	29.0	23.6	13.8	30.2	15.0	22.0
1956–57 ..	17.7	21.9	22.5	27.8	10.9	33.2	..	23.5
1957–58 ..	10.0	15.5	17.1	14.5	11.6	32.2	..	14.4
1958–59 ..	27.6	23.6	32.6	28.3	16.8	31.6	..	26.5
1959–60—								
Malting (2-row)	21.8	20.2	25.8	9.3	17.5	(b)	..	(b)
Other (6-row)	21.8	19.8	23.6	7.0	16.4			
Total ..	*21.8*	*20.1*	*25.6*	*9.2*	*16.6*	*33.8*	..	*14.3*

(*a*) Less than 500 acres. (*b*) Not available. (*c*) 50 lb. per bushel. (*d*) Less than 500 bushels.

For Australia (excluding Tasmania), 79 per cent. of the area of barley for grain in 1959–60 was sown with malting, or 2-row, barley, while the remainder consisted of 6-row, or feed, varieties. The proportion, however, varied considerably in the several States. The utilization of barley during the season ended November, 1959, was as follows:—exports, 37,644,000 bushels; malting and distilling, 8,175,000 bushels; pearl barley, 143,000 bushels; seed and stock feed, 14,697,000 bushels.

The following table sets out the acreage and production of malting and other barley in Australia during the seasons 1955–56 to 1959–60 and the averages for the three years ended 1938–39, 1948–49 and 1958–59.

BARLEY, MALTING AND OTHER: AREA AND PRODUCTION, AUSTRALIA.

Period.	Area. ('000 Acres.)			Production. ('000 Bushels.)(a)			Yield per Acre. (Bushels.)(a)		
	Malting (2-row).	Other (6-row).	Total.	Malting (2-row).	Other (6-row).	Total.	Malting (2-row).	Other (6-row).	Totals.
Average for three years ended—									
1938–39 ..	523	90	613	8,963	1,271	10,234	17.1	14.1	16.7
1948–49 ..	769	97	866	15,142	1,604	16,746	19.7	16.5	19.3
1958–59 ..	1,809	389	2,198	41,633	5,941	47,574	23.0	15.3	20.7
Year—									
1955–56 ..	1,510	384	1,894	35,470	6,185	41,655	23.5	16.1	22.0
1956–57 ..	1,705	388	2,093	43,871	5,408	49,279	25.7	13.9	23.5
1957–58 ..	1,758	363	2,121	26,404	4,062	30,466	15.0	11.2	14.4
1958–59 ..	1,965	416	2,381	54,624	8,352	62,976	27.8	20.1	26.5
1959–60 ..	(b)1,868	(b) 499	2,379	b 25,575	(b)8,086	34,079	(b) 13.7	(b) 16.2	14.3

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

A graph showing the production of barley appears on page 899.

2. **Australian Barley Board.**—Following the outbreak of war in 1939, the Australian Barley Board, representative of the whole industry, was formed, and the Commonwealth Government acceded to its request to acquire the entire 1939–40 barley crop, which was placed under the control of the Board. A pool was established, from which proceeds were distributed with appropriate margins for different grades of barley. The Board was responsible for the marketing and storage of barley, and, like the Australian Wheat Board, appointed licensed receivers to receive grain on its behalf.

Following the decision of the Commonwealth Government not to acquire barley in the smaller producing States after 1941–42, the pooling of barley in Queensland reverted to the control of the Queensland Barley Board (originally established in 1930), and in Western Australia a State Barley Board was established to control marketing.

The Commonwealth Government ceased to acquire barley altogether after the 1947–48 crop, and the Victorian and South Australian Governments formed a joint board under the same name as the former Commonwealth board to market the 1948–49 and subsequent crops of the two States. Details for the seasons from 1954–55 to 1959–60 are shown in the table below.

AUSTRALIAN BARLEY BOARD : BARLEY RECEIVED, SOLD, ETC.

Pool.	Quantity Received.	Quantity Sold.(a)	Total Advances made per Bushel on 2-row No. 1 Grade less freight.	Total Net Payments to Growers.
	'000 bushels.	'000 bushels.	s. d.	£
No. 16 (1954–55 Crop)	20,679	20,709	12 10.92	11,953,430
„ 17 (1955–56 „)	29,357	29,454	10 3.441	12,990,173
„ 18 (1956–57 „)	39,029	39,102	10 2.541	16,965,609
„ 19 (1957–58 „)	18,023	18,195	11 9.61	9,151,748
„ 20 (1958–59 „)	42,550	42,560	10 10.1	19,616,789
„ 21 (1959–60 „)	11,772	11,772	(b) 9 0.0	4,290,271

(a) Includes surplus in out-turn except for No. 20 Pool for which this surplus has not yet been determined. (b) As at 31st December, 1960. At that date, it was estimated that the amount still to be paid to growers was 1s. 0.529d. per bushel.

3. **Prices.**—The average wholesale price for 2-row English malting barley in the Melbourne market during 1959–60 was 14s. 7d. compared with 13s. 9d. in 1958–59.

4. **Value of Barley Crop.**—The estimated gross value of the barley crop in each State for the 1959–60 season and the value per acre are shown in the following table:—

BARLEY FOR GRAIN : VALUE OF CROP, 1959-60.

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Aggregate value .. £'000	1,583	2,643	3,240	5,500	3,379	278	16,623
Value per acre .. £	13.3	9.5	12.5	4.3	8.0	22.4	7.0

5. **Exports.**—Exports of barley during the five years ended 1959–60 averaged 24,801,000 bushels. South Australia was the principal exporting State, and Japan, the Federal Republic of Germany, the Netherlands and the United Kingdom were the principal countries to which barley was shipped. Particulars of Australian exports for the years 1955–56 to 1959–60 are shown in the following table:—

BARLEY : EXPORTS, AUSTRALIA.

Particulars.	1955–56.	1956–57.	1957–58.	1958–59.	1959–60.
Quantity .. .. '000 bus.	21,065	26,501	21,501	29,924	25,013
Value .. .. £'000	10,471	12,745	9,474	16,898	11,541

Imports of barley into Australia are not recorded separately.

In addition to exports of barley grain, there are also exports of Australian pearl and Scotch barley, the total for 1959–60 amounting to 229,390 lb., valued at £10,999, consigned mainly to Malaya.

6. Malt.—(i) *Production.* Details of the quantity of grain used and the production of barley malt are given in the following table:—

BARLEY MALT : GRAIN USED AND MALT PRODUCED, AUSTRALIA.

Particulars.	1955–56.	1956–57.	1957–58.	1958–59.	1959–60.
Grain used ..'000 bus.*a*	7,803	7,855	8,494	8,198	8,539
Malt produced ..'000 bus.*b*	7,782	7,895	8,197	8,108	8,435

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

(ii) *Exports.* Since 1952–53, the production of malt in Australia has been sufficient to meet local requirements and to provide a margin for export. Exports amounting to 1,225,139 bushels (value £1,167,631) and 1,103,927 bushels (value £1,046,693) were recorded in 1958–59 and 1959–60 respectively.

7. World Production.—In comparison with the barley production of other countries, that of Australia is extremely small. The main producers in 1959 were the United States of America, France and Canada. China is also normally a major producer, but details for 1959 are not available. Australian production in that year was approximately one per cent. of the world total.

According to estimates made by the United States Department of Agriculture, world production of barley in the year 1959 amounted to 3,285 million bushels harvested from 136.6 million acres, equivalent to a yield per acre of 24.0 bushels. This compared with the production of 3,310 million bushels in the previous year from 135.8 million acres, and a yield per acre of 24.4 bushels.

§ 8. Rice.

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

The area sown in New South Wales in 1959–60 was 48,950 acres, which was below the 1956–57 record of 50,477 acres. However, production in 1959–60 amounted to a record of 6,732,053 bushels, which was 113,120 bushels more than the previous highest, recorded in 1958–59.

A graph showing the production of rice appears on page 899.

The bulk of Australia's exports of rice in 1959–60 was shipped to Papua and New Guinea, the Pacific Islands, the United Kingdom and New Zealand.

Details relating to area, production and exports for the years 1955–56 to 1959–60, are shown in the following table:—

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

Season.	No. of Holdings Growing Rice.(*b*)	Area.	Production (Paddy Rice).		Average Yield (Paddy) per Acre.	Exports.(*d*)	
			Quantity.	Gross Value. (*c*)		Uncleaned.	Cleaned.
		Acres.	'000 Bushels. (*e*)	£'000.	Bushels. (*e*)	Cwt.	Cwt.
1955–56	620	41,182	4,725	3,406	114.7	179,297	678,929
1956–57	652	50,477	4,262	3,069	84.4	177,123	408,634
1957–58	743	46,774	5,658	4,045	121.0	211,426	430,928
1958–59	775	47,054	6,619	4,731	140.7	182,583	704,381
1959–60	848	48,950	6,732	4,450	137.5	265,640	1,055,861

(*a*) Until recently rice-growing in Australia has been practically confined to New South Wales with very small acreages only being sown in Queensland and Western Australia. Production commenced in the Northern Territory in 1956–57 but details, which are confidential, are not included in the table. (*b*) Twenty acres or more in area. (*c*) Excludes the value of straw. (*d*) Imports into Australia are not recorded separately. (*e*) 42 lb. per bushel.

In 1956, the Commonwealth Government entered into an agreement for the development of large scale rice-growing in the Northern Territory. The agreement, which was made with a company financed by American and Australian interests, granted a 30 year lease over 750,000 acres of sub-coastal plains east of Darwin and provided for the development of 500,000 acres of land for rice-growing within 15 years. Production of rice commenced in 1956–57 but, as only one company is involved, details of area and production are confidential and not available for publication.

§ 9. Sorghum for Grain.

The growing of sorghum for grain on an extensive scale is a recent development in Australia. No details of the area and production of this cereal are available prior to 1939–40, but the output was of little importance. The climatic conditions of Queensland and northern New South Wales are particularly suited to the growing of sorghum and so far development has been restricted mainly to these areas, and more particularly to Queensland which accounts for the greater portion of the area sown. The grain produced is fed to livestock and has become an important source for supplementing other coarse grains for the feeding of livestock. Other sorghums are grown in Australia mainly as green fodder, hay and silage (sweet sorghums and Sudan grass) and for the production of brush for broom manufacture (broom millet). Particulars of the area and production of sorghum grown for grain are given in the following table.

GRAIN SORGHUM : AREA, PRODUCTION AND YIELD PER ACRE, AUSTRALIA.

Season.	Area.			Production.(*a*)			Yield per Acre.(*a*)		
	N.S.W.	Q'land.	Total. (*b*)	N.S.W.	Q'land.	Total (*b*)	N.S.W.	Q'land.	Total. (*b*)
	Acres.	Acres.	Acres.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1955–56 ..	23,697	155,527	179,298	662,973	3,960,195	4,624,273	28.0	25.5	25.8
1956–57 ..	34,585	171,705	206,659	671,331	4,243,227	4,919,247	19.4	24.7	23.8
1957–58 ..	47,017	166,979	214,442	521,325	3,885,567	4,407,500	11.1	23.3	20.6
1958–59 ..	41,899	210,371	252,419	943,359	6,365,880	7,309,645	22.5	30.3	29.0
1959–60 ..	51,195	220,094	271,553	1,451,967	6,630,369	8,086,405	28.4	30.1	29.8

(*a*) 60 lb. per bushel. (*b*) Includes small areas sown and quantities produced in other States.

§ 10. Potatoes.

1. **Area, Production and Yield per Acre.**—Victoria possesses particular advantages for the growing of potatoes, as the rainfall is generally satisfactory and the climate is unfavourable to the spread of Irish blight; consequently, the crop is widely grown. The principal areas of that State are the central highlands and the south-western and Gippsland districts. Until 1958–59, Tasmania came next in order of acreage sown, although the production exceeded that of Victoria in some of the war years. In 1958–59 and 1959–60, New South Wales, which had previously occupied third position, supplanted Tasmania as the second most important State in area sown. Tasmanian production, however, is still larger than that in New South Wales. The areas sown in these three States accounted for 77 per cent. of the total for Australia in 1959–60.

The area sown, production and yield per acre of potatoes in each State during the years 1955–56 to 1959–60 and the averages for the three-year periods ended 1938–39, 1948–49 and 1958–59 are shown hereunder:—

POTATOES : AREA, PRODUCTION AND YIELD PER ACRE.

Season.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Aust. (a)
AREA (ACRES).								
Average for three years ended—								
1938–39 ..	21,049	40,376	11,551	4,445	4,627	32,044	59	114,151
1948–49 ..	20,440	53,862	10,795	6,084	6,753	38,643	103	136,680
1958–59 ..	16,589	45,225	12,980	6,035	7,977	19,002	94	107,903
Year—								
1955–56 ..	13,270	37,020	10,202	5,373	6,826	20,842	74	93,607
1956–57 ..	14,959	39,706	12,925	5,677	8,558	19,125	100	101,050
1957–58 ..	17,326	49,846	14,400	6,260	8,322	21,696	92	117,946
1958–59 ..	17,482	46,122	11,614	6,168	7,051	16,186	90	104,713
1959–60 ..	19,159	48,506	12,311	5,872	6,964	15,525	67	108,404
PRODUCTION (TONS).								
Average for three years ended—								
1938–39 ..	52,158	137,583	17,191	20,342	23,678	109,285	143	360,380
1948–49 ..	62,701	191,590	26,470	32,149	38,722	148,389	598	500,619
1958–59 ..	68,533	245,937	50,989	48,072	50,024	92,367	391	556,315
Year—								
1955–56 ..	44,162	163,239	37,561	36,460	42,079	77,930	439	401,870
1956–57 ..	54,459	227,307	49,499	43,665	53,741	89,700	601	518,974
1957–58 ..	66,689	251,159	56,468	49,965	49,229	101,500	420	575,433
1958–59 ..	84,450	259,346	46,999	50,587	47,103	85,900	152	574,537
1959–60 ..	81,908	242,548	51,468	48,923	56,000	98,000	360	579,207
YIELD PER ACRE (TONS).								
Average for three years ended—								
1938–39 ..	2.48	3.41	1.49	4.58	5.12	3.41	2.42	3.16
1948–49 ..	3.07	3.56	2.45	5.28	5.73	3.84	5.81	3.66
1958–59 ..	4.13	5.44	3.93	7.97	6.27	4.86	4.16	5.16
Year—								
1955–56 ..	3.33	4.41	3.68	6.79	6.16	3.74	5.93	4.29
1956–57 ..	3.64	5.73	3.83	7.69	6.28	4.69	6.01	5.14
1957–58 ..	3.85	5.04	3.92	7.98	5.92	4.68	4.57	4.88
1958–59 ..	4.83	5.62	4.05	8.20	6.68	5.31	1.69	5.49
1959–60 ..	4.28	5.00	4.18	8.33	8.04	6.31	5.37	5.34

(a) Includes Northern Territory.

After the outbreak of war in the Pacific in December, 1941, the area sown to potatoes increased rapidly and reached a maximum of 241,803 acres in 1944–45. Areas sown in subsequent seasons were considerably less, however, and the figure for 1959–60 was 108,404 acres.

The average yield in Australia for 1959–60 was 5.34 tons per acre, only slightly less than the record yield of 5.49 tons obtained the previous season.

2. **Gross Value of Potato Crop.**—The estimated gross value of the potato crop of each State for the 1959–60 season and the value per acre are shown in the following table:—

POTATOES : VALUE OF CROP, 1959–60.

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Aust.
Aggregate value £'000	1,682	5,808	1,275	1,009	1,740	1,938	8	13,460
Value per acre £	88	120	104	171	250	125	119	124

3. **Consumption.**—The annual consumption of potatoes in Australia during each of the three years 1957–58 to 1959–60 amounted to 515,700 tons, 511,900 tons and 514,600 tons respectively, or 118.5 lb., 115.2 lb. and 113.3 lb. respectively per head of population. These figures exclude the quantities used for seed, which averaged about 54,000 tons annually over this period. New South Wales, Queensland and, in some seasons, South Australia do not produce the quantities necessary for their requirements and must import from Tasmania and Victoria, which have a surplus.

4. **Marketing.**—Commonwealth control of potato marketing under war-time legislation ceased at the end of 1948 with the completion of sales of the 1947–48 crop.

Potato Marketing Boards were subsequently established in all States under separate State legislation. The life of the Queensland Board was not extended when its term ended in 1954, and the New South Wales Board was voted out by growers in 1956. As the Victorian Board does not acquire the State crop, potato marketing is now conducted chiefly on an open marketing system.

5. **Exports.**—Prior to the 1939–45 War, small quantities of potatoes were exported, principally to the Pacific Islands and Papua. After the war, the export trade expanded considerably. It reached a peak of 37,570 tons in 1952–53, but then fell sharply. Details showing exports for the years 1955–56 to 1959–60 are given in the following table:—

POTATOES : EXPORTS, AUSTRALIA.

Particulars.		1955–56.	1956–57.	1957–58.	1958–59.	1959–60.
Quantity	tons	3,478	3,958	7,410	4,489	4,742
Value	£'000	225	263	227	152	134

Imports of potatoes into Australia in 1959–60 amounted to 1 cwt. only, valued at £1.

§ 11. Onions.

1. **Area, Production and Yield per Acre.**—Australia's supply of onions comes chiefly from Victoria, which accounted for 43 per cent. of the total area and 49 per cent. of the quantity produced in 1959–60. Queensland was next with 38 per cent. of the area and 26 per cent. of the production. The Victorian crop consists almost entirely of brown onions of good keeping qualities, and the bulk of the crop is grown in a small section of the Western Division of the State, where soil conditions have been found to be particularly suitable for onion growing on a commercial scale. Details of the area, production and yield per acre are given in the following table for the years 1955–56 to 1959–60 together with averages for the three-year periods ended 1938–39, 1948–49 and 1958–59.

ONIONS : AREA, PRODUCTION AND AVERAGE YIELD.

Season.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Aust.
AREA (ACRES).								
Average for three years ended—								
1938–39 ..	126	5,634	1,187	521	122	8	6	7,604
1948–49 ..	433	6,245	2,234	534	468	26	4	9,944
1958–59 ..	491	4,614	3,655	635	413	29	9	9,846
Year—								
1955–56 ..	318	3,337	2,480	524	321	22	8	7,010
1956–57 ..	532	4,503	3,258	608	428	28	5	9,362
1957–58 ..	498	5,368	4,296	694	415	37	9	11,317
1958–59 ..	444	3,971	3,412	602	397	21	13	8,860
1959–60 ..	697	3,994	3,550	641	392	29	12	9,315
PRODUCTION (TONS).								
Average for three years ended—								
1938–39 ..	324	34,039	3,040	3,904	915	42	21	42,285
1948–49 ..	1,703	41,156	10,489	5,032	3,831	153	24	62,388
1958–59 ..	2,496	31,982	15,505	5,625	4,599	132	71	60,410
Year—								
1955–56 ..	1,759	20,299	9,157	4,911	3,547	140	42	39,855
1956–57 ..	2,669	26,811	14,279	5,611	4,606	114	32	54,122
1957–58 ..	2,343	40,678	18,653	5,945	4,149	186	76	72,030
1958–59 ..	2,476	28,456	13,584	5,318	5,043	97	106	55,080
1959–60 ..	3,658	27,808	14,708	5,644	4,830	135	39	56,822
YIELD PER ACRE (TONS).								
Average for three years ended—								
1938–39 ..	2.57	6.04	2.56	7.49	7.50	5.25	3.50	5.56
1948–49 ..	3.93	6.59	4.70	9.42	8.19	5.88	6.00	6.27
1958–59 ..	5.08	6.93	4.24	8.86	11.14	4.55	7.89	6.14
Year—								
1955–56 ..	5.53	6.08	3.69	9.37	11.05	6.36	5.25	5.69
1956–57 ..	5.02	5.95	4.38	9.23	10.76	4.07	6.40	5.78
1957–58 ..	4.70	7.58	4.34	8.57	10.00	5.03	8.44	6.36
1958–59 ..	5.58	7.17	3.98	8.83	12.70	4.62	8.15	6.22
1959–60 ..	5.25	6.96	4.14	8.80	12.32	4.66	3.25	6.10

2. **Gross Value of Onion Crop.**—The estimated gross value of the onion crop and the value per acre are shown in the following table for the 1959–60 season:—

ONIONS : VALUE OF CROP, 1959-60.

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Aust.
Aggregate value £'000	174	1,012	1,101	319	229	6	..	2,841
Value per acre £	249	253	310	498	584	207	..	305

3. **Consumption.**—The annual consumption of onions in Australia averaged 61,500 tons or 13.9 lb. per head of population during the three years ended 1959–60. These figures exclude an estimated wastage which averaged 3,000 tons per annum.

4. **Exports.**—Onions are the only root crop, other than potatoes, in which any considerable oversea trade is carried on by Australia. In 1959–60, exports amounted to 1,124 tons, valued at £70,052, and were shipped mainly to New Caledonia and Australian Territories. The quantity of exports in 1958–59 was 1,998 tons, valued at £61,793. Imports of onions, while not recorded separately prior to 1959–60, amounted to 2,061 tons, valued at £72,195 in that year.

§ 12. Hay.

1. General.—(i) *Area and Production.* As already stated, the chief crop in Australia in terms of area, is wheat grown for grain. Up to and including 1946–47, hay was next, but in recent years it has dropped in relative importance. In 1959–60, the areas sown to green fodder, oats for grain, and barley (two and six row) for grains were larger than that sown to hay.

In 1959–60, the hay area represented 8.1 per cent. of the total area cropped. A graph showing the area sown to hay crops since 1900–01 appears on page 897. In most European countries, hay consists almost entirely of meadow and other grasses, but in Australia a very large proportion consists of oats, lucerne and wheat. The area, production and yield per acre of hay of all kinds in the several States during the years 1955–56 to 1959–60 and the averages for the three-year periods ended 1938–39, 1948–49 and 1958–59 are shown below:—

HAY : AREA, PRODUCTION AND YIELD PER ACRE.

Season.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Aust.
AREA ('000 ACRES).								
Average for three years ended—								
1938–39 ..	859	1,122	67	540	439	81	3	3,111
1948–49 ..	516	642	66	287	245	93	3	1,852
1958–59 ..	556	978	64	336	305	129	4	2,372
Year—								
1955–56 ..	562	879	63	326	269	137	5	2,241
1956–57 ..	367	782	45	299	242	123	3	1,861
1957–58 ..	554	871	69	291	339	110	3	2,237
1958–59 ..	747	1,282	78	419	333	154	5	3,018
1959–60 ..	482	848	81	245	319	127	3	2,105
PRODUCTION ('000 TONS).								
Average for three years ended—								
1938–39 ..	975	1,181	94	591	434	120	3	3,398
1948–49 ..	618	987	119	396	275	153	4	2,552
1958–59 ..	752	1,712	129	476	377	248	7	3,701
Year—								
1955–56 ..	846	1,526	137	461	384	261	10	3,625
1956–57 ..	538	1,423	96	453	289	238	6	3,043
1957–58 ..	535	1,413	122	304	386	205	4	2,969
1958–59 ..	1,183	2,299	169	672	455	302	10	5,090
1959–60 ..	779	1,351	179	207	433	221	7	3,177
YIELD PER ACRE (TONS).								
Average for three years ended—								
1938–39 ..	1.14	1.05	1.40	1.09	0.99	1.48	1.00	1.09
1948–49 ..	1.20	1.54	1.80	1.38	1.12	1.65	1.33	1.38
1958–59 ..	1.35	1.75	2.02	1.42	1.24	1.92	1.75	1.56
Year—								
1955–56 ..	1.51	1.74	2.17	1.41	1.42	1.91	2.08	1.62
1956–57 ..	1.47	1.82	2.12	1.52	1.19	1.94	1.81	1.63
1957–58 ..	0.96	1.62	1.77	1.05	1.14	1.86	1.39	1.33
1958–59 ..	1.58	1.79	2.17	1.60	1.37	1.96	1.98	1.69
1959–60 ..	1.62	1.59	2.21	0.84	1.36	1.75	2.15	1.51

For a number of reasons, particularly the variations in the relative prices of grain and hay and the favourableness or otherwise of the season for a grain crop, the area of hay is apt to fluctuate considerably. The area under hay in Australia during the season 1915–16, 3,598,000 acres, was the largest on record, while the area recorded in 1958–59, 3,018,000 acres, was the largest since 1938–39. The area in 1959–60 was only 2,105,000 acres.

A graph showing the production of hay appears on page 899.

(ii) *Varieties Grown.* Information regarding areas cut for hay in 1959–60 is given in the following table.

HAY : AREA OF VARIOUS KINDS GROWN, 1959-60.
(Acres.)

State.	Wheaten.	Oaten.	Lucerne.	Other.	Total.
New South Wales	82,429	58,722	166,926	174,039	482,116
Victoria	41,708	207,351	61,443	537,046	847,548
Queensland	7,049	2,713	65,785	5,272	80,819
South Australia	52,076	118,149	21,174	53,900	245,299
Western Australia	53,399	176,565	755	88,767	319,486
Tasmania	2,069	15,843	1,088	107,544	126,544
Northern Territory ..	..	..	..	326	326
Australian Capital Territory ..	24	754	1,267	1,014	3,059
Australia	**238,754**	**580,097**	**318,438**	**967,908**	**2,105,197**

For all States and the Territories combined, the proportions of the areas sown to the principal kinds of hay in 1959–60 were 28 per cent. for oaten, 15 per cent. for lucerne, 11 per cent. for wheaten, and 46 per cent. for other hay. In that year, oaten hay predominated in South Australia and Western Australia, lucerne in Queensland, and meadow and grass hay in the remaining States.

2. **Value of Hay Crop.**—The following table shows the estimated gross value, and the value per acre, of the hay crop of the several States for the 1959–60 season:—

HAY : VALUE OF CROP, 1959-60.

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Aust.
Aggregate value £'000	7,334	14,583	3,033	3,403	3,877	2,104	93	(a)34,433
Value per acre £	15.2	17.2	37.5	13.9	12.1	16.6	30.4	16.4

(a) Includes £6,000 in the Northern Territory.

3. **Farm Stocks of Hay.**—Particulars of stocks so held at 31st March in each year 1956 to 1960 are given in the table below.

STOCKS OF HAY HELD ON FARMS.
(Tons.)

31st March—	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Australia.
1956 ..	830,619	1,870,214	149,187	474,456	306,586	270,138	7,778	3,908,978
1957 ..	775,464	2,008,678	156,599	555,681	222,941	296,257	7,617	4,023,237
1958 ..	553,691	1,643,876	89,897	384,143	211,069	256,199	3,492	3,142,367
1959 ..	1,463,334	2,464,050	166,657	679,003	290,988	311,825	9,323	5,385,180
1960 ..	1,535,252	1,766,857	203,675	304,227	292,086	255,471	10,778	4,368,346

4. **Exports.**—Under normal conditions, hay, whether whole or in the form of chaff, is somewhat bulky for oversea trade, and consequently does not figure largely among the exports of Australia. During 1959–60, exports amounting to 1,822 tons, valued at £35,007 were made principally to Singapore, the Federation of Malaya and Hong Kong. Imports of hay were 4 tons valued at £70 in 1959–60.

§ 13. Green Fodder.

1. **Nature and Extent.**—Considerable areas are devoted to the growing of green fodder, mainly in connexion with the dairying industry. In the 1959–60 season, green fodder ranked second to wheat in area of crops throughout Australia. A graph showing the area sown to green fodder appears on page 897. The areas recorded in respect of green fodder include areas of crops cut for feeding to live-stock as green fodder, or ensilage, together with areas fed off to stock as green forage. Included with the latter are areas which may have been sown with the intention of harvesting for grain, but which, owing to adverse conditions, showed no promise of producing grain or even hay and were fed off to live-stock. The principal crops cut for green fodder are oats, wheat and lucerne, while small quantities

of barley, sorghum, maize, rye and sugar-cane are also used in this way. In 1959–60, the area under green fodder (4,094,094 acres) consisted of oats (1,810,284 acres), lucerne (1,475,492 acres), wheat (163,693 acres), barley (141,033 acres), sorghum (122,595 acres), maize (34,847 acres), rye (22,492 acres), sugar cane (1,652 acres) and other crops (322,006 acres). Particulars concerning the area of green fodder in the several States during each of the years 1955–56 to 1959–60 are given in the following table.

GREEN FODDER : AREA.
(Acres.)

Season.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Aust.
1955–56 ..	826,789	345,723	689,469	583,559	666,398	54,401	..	970	3,167,309
1956–57 ..	813,642	333,115	640,316	657,967	752,072	48,435	2	772	3,246,321
1957–58 ..	993,039	465,009	714,048	748,089	770,739	54,094	4	1,032	3,746,054
1958–59 ..	1,238,314	319,150	638,667	550,366	769,199	61,322	273	667	3,577,958
1959–60 ..	1,578,759	422,237	725,155	595,713	708,793	62,229	240	968	4,094,094

2. **Value of Green Fodder Crops.**—The value of these crops is variously estimated in the several States, but the Australian total, excluding Western Australia, may be taken as approximately £7,000,000 for the 1958–59 season and £7,600,000 for the 1959–60 season.

§ 14. Sugar-cane.

1. **Area.**—Sugar-cane growing appears to have commenced in Australia in or about 1862, and is confined to New South Wales and Queensland. A brief outline of the development of the industry was included in earlier issues of the Official Year Book (*see* No. 38, page 985). The area of sugar cane in Australia for the seasons 1955–56 to 1959–60 and the averages for the three year-periods ended 1938–39, 1948–49 and 1958–59 are shown in the following table:—

SUGAR-CANE : AREA.(*a*)
(Acres.)

Season.	New South Wales.			Queensland.			Australia.			
	Area crushed.	Area of stand-over and newly-planted cane.	Area cut for plants.	Area crushed.	Area of stand-over and newly-planted cane.	Area cut for plants.	Area crushed.	Area of stand-over and newly-planted cane.	Area cut for plants.	Total.
Average for three years ended—										
1938–39	10,468	10,366	(*b*)	247,632	89,690	(*b*)	258,100	100,056	(*b*)	(*b*)
1948–49	7,687	8,666	338	230,905	90,448	12,891	238,592	99,114	13,229	350,935
1958–59	11,094	9,462	619	360,709	110,786	12,596	371,803	120,248	13,215	505,266
Year—										
1955–56	7,522	8,728	670	365,252	104,782	12,111	372,774	113,510	12,781	499,065
1956–57	9,182	9,419	522	360,932	106,734	12,450	370,114	116,153	12,972	499,239
1957–58	10,734	9,241	720	364,985	107,424	12,946	375,719	116,665	13,666	506,050
1958–59	13,368	9,727	616	356,210	118,200	12,391	369,578	127,927	13,007	510,512
1959–60	14,248	10,510	392	299,732	151,114	11,039	313,980	161,624	11,431	487,035

(*a*) Excludes areas cut for green fodder. (*b*) Not available.

2. **Productive and Unproductive Cane.**—The areas shown in the preceding table do not include the small acreage cut for green fodder, which in 1959–60 amounted to 1,652 acres. The whole area planted is not cut for crushing during any one season, there being always a considerable amount of young and " stand-over " cane as well as a small quantity required for plants. Thus the season in which the highest acreage is recorded may not show the greatest area of cane cut for crushing. In 1959–60, a considerably larger area than that actually cut was available for crushing but because of restrictions on production (*see* para 8, page 923) remained as standover cane. As a result the area of standover cane was much higher than normal in 1959–60.

3. **Production of Cane and Sugar.**—For Queensland, statistics of the production of sugar-cane are not available for seasons prior to 1897–98. In that season, the total for Australia was 1,073,883 tons, compared with 9,002,258 tons in the 1959–60 season. The record production of 10,212,593 tons was achieved in 1958–59.

In the following table, production data relating to cane and raw sugar are shown for the seasons 1955–56 to 1959–60 and averages for the three-year periods ended 1938–39, 1948–49 and 1958–59:—

SUGAR-CANE : PRODUCTION OF CANE AND SUGAR.
(Tons.)

Season.	New South Wales.		Queensland.		Australia.	
	Cane.	Sugar.(a)	Cane.	Sugar.(a)	Cane.	Sugar.(a)
Average for three years ended—						
1938–39	324,531	43,419	5,215,217	760,994	5,539,748	804,413
1948–49	283,613	35,444	4,767,291	700,053	5,050,904	735,497
1958–59	356,324	43,881	9,221,497	1,260,564	9,577,821	1,304,445
Year—						
1955–56	284,539	36,028	8,616,163	1,135,685	8,900,702	1,171,713
1956–57	294,087	35,918	8,978,081	1,171,879	9,272,168	1,207,797
1957–58	303,086	36,854	8,945,617	1,256,271	9,248,703	1,293,125
1958–59	471,798	58,870	9,740,795	1,353,543	10,212,593	1,412,413
1959–60	574,527	70,677	8,427,731	1,217,803	9,002,258	1,288,480

(a) Raw sugar at 94 net titre.

The production of raw sugar in Australia in 1959–60 amounted to 1,288,480 tons manufactured from 9,002,258 tons of cane.

Official annual data are not available regarding the total number of persons engaged in the sugar industry in New South Wales and Queensland. However, according to data obtained from the population census of 30th June, 1954, the number of persons engaged in the sugar-cane industry in New South Wales and Queensland comprised 20,185 males and 431 females, a total of 20,616 persons, of whom 4,245 were employers and 5,118 were self-employed.

The number of separate holdings growing 5 acres or more of cane was 7,273 in 1959–60.

4. **Average Production of Cane Sugar.**—Owing to climatic variations, comparison between the average yields of cane per productive acre in Queensland and New South Wales cannot be made accurately except on an annual basis. In New South Wales, the crop matures in from 20 to 24 months, whereas in Queensland a period of from 12 to 14 months is sufficient. The average yields of cane and sugar per acre for the years 1955–56 to 1959–60 and for the three-year periods ended 1938–39, 1948–49 and 1958–59 are shown below. Allowance should be made in interpreting these figures for the disparity in maturing periods noted above.

SUGAR-CANE AND SUGAR : YIELD PER ACRE.
(Tons.)

Season.	New South Wales.			Queensland.			Australia.		
	Cane per acre Crushed.	Sugar per acre Crushed.	Cane to each ton of Sugar.	Cane per acre Crushed.	Sugar per acre Crushed.	Cane to each ton of Sugar.	Cane per acre Crushed.	Sugar per acre Crushed.	Cane to each ton of Sugar.
Average for three years ended—									
1938–39.. ..	31.00	4.15	7.47	21.06	3.07	6.85	21.46	3.12	6.89
1948–49.. ..	36.90	4.61	8.00	20.65	3.03	6.81	21.17	3.08	6.87
1958–59.. ..	32.12	3.96	8.12	25.57	3.49	7.32	25.76	3.52	7.34
Year—									
1955–56.. ..	37.83	4.79	7.90	23.59	3.11	7.59	23.88	3.14	7.60
1956–57.. ..	32.03	3.91	8.19	24.87	3.25	7.66	25.05	3.26	7.68
1957–58.. ..	28.24	3.43	8.22	24.51	3.44	7.12	24.62	3.44	7.15
1958–59.. ..	35.29	4.40	8.01	27.35	3.80	7.20	27.63	3.82	7.23
1959–60.. ..	40.32	4.96	8.41	28.12	4.06	6.92	28.67	4.10	6.99

5. **Quality of Cane.**—The quantity of cane required to produce a ton of sugar varies with the variety planted, the district, and the season. In 1959–60, a record yield of 4.10 tons of sugar per acre was achieved.

The Bureau of Sugar Experiment Stations in Queensland is rendering useful service to the sugar industry by advocating and demonstrating better methods of cultivation and the more scientific use of fertilizers, lime, etc., and by producing and distributing improved varieties of cane.

6. **Production and Utilization.**—Details of the production and utilization of raw sugar for the years 1955–56 to 1959–60 are shown below. It should be noted that the details of sugar production refer to the annual periods shown, without regard to the season in which the sugar was produced. Consumption is shown in terms of refined sugar, including that consumed in manufactured products.

RAW SUGAR : PRODUCTION AND UTILIZATION, AUSTRALIA.

Year.	Changes in Stocks.	Production.	Exports. (a)	Miscellaneous Uses.(b)	Consumption in Australia.(a)	
					Total.(c)	Per Head. (c)
	'000 tons.	'000 tons.	'000 tons.	'000 tons.	'000 tons.	lb.
1955–56	+40.5	1158.0	617.0	21.7	478.8	115.1
1956–57	+21.1	1217.7	698.7	20.0	477.9	112.3
1957–58	−21.1	1222.2	733.8	29.4	480.1	110.3
1958–59	+10.3	1353.4	827.4	18.4	497.3	111.9
1959–60	+22.6	1270.6	725.2	18.6	504.2	111.0

(a) Includes sugar content of manufactured products. (b) Includes industrial uses and losses in refining. (c) In terms of refined sugar.

7. **Consumption in Factories.**—The quantity of refined sugar used in factories in 1959–60 amounted to 293,822 tons compared with 274,575 tons in 1958–59 and 278,764 tons in 1957–58. Particulars of sugar used in establishments not classified as factories are not available, and consequently these quantities are deficient to that extent. In 1959–60, consumption by factories engaged in the production of jams, jellies and preserved fruit amounted to 82,231 tons, by those producing confectionery, ice cream, etc., to 60,033 tons, by breweries to 43,775 tons and by factories producing aerated waters, cordials, etc. to 44,565 tons.

8. *Control of Cane Production in Queensland.*—Agreements between the Commonwealth and Queensland Governments have fixed the wholesale price of sugar and sugar products from time to time. Details of prices are shown in para. 14 of this section (*see* page 925).

The Queensland Government acquires the whole of the sugar production of that State and of New South Wales by legislation and private agreement respectively. The net proceeds of all sugar sold are pooled and a uniform price paid to mills.

Sugar production barely met local requirements in 1923, but increased rapidly until 1925 when approximately 44 per cent. of the production was exported. Steps were taken by the Government to restrict planting of new areas and production was fairly stable until 1929. In that year, the pool was reorganized and mills received the full pool price for sugar up to the amount of their previous maximum production, further output being acquired at export prices.

Between 1929 and 1939, production rose by more than 70 per cent. despite the restrictions above-mentioned and the fact that export prices were generally less than half the pool price.

In 1939, following the International Sugar Agreement, which limited exports, the Queensland Government limited the pool (mill peaks) to 737,000 tons in respect of Queensland production. Mill quotas were allotted on the understanding that mills would allot quotas to individual growers. Mill peaks have been raised since 1939, following the negotiation of the Commonwealth Countries Sugar Marketing Agreement of 1949, which allowed the Queensland Government to initiate a planned expansion of the industry. In 1959, they were 1,213,500 tons and in 1960, 1,214,600 tons.

9. **Sugar Agreement in Australia—Embargo on Imports, etc.**—Reference was made in Official Year Book No. 37, pages 940–41, to the agreement operating between the Commonwealth and Queensland Governments in respect of the sugar industry in Australia. Briefly, the agreement places an embargo on sugar importations and fixes the price of sugar consumed in Australia. The current agreement operates for a five year period from 1st September, 1956, to 31st August, 1961. On 28th November, 1960, the Commonwealth Government appointed a Committee of Enquiry to investigate all facets of the sugar and canned fruits industries. At the end of May, 1961, the Committee had concluded its hearings, but had not submitted a report.

10. **International Sugar Agreement.**—The International Sugar Agreement of 1937 was superseded by the International Sugar Agreement of 1953 which came into force on 1st January, 1954. Details of the 1937 Agreement were given in Official Year Book No. 40, pages 881 and 882, and previous issues.

The 1953 agreement, which was amended by protocol from 1st January, 1957, was for the five year period ended 31st December, 1958.

In October, 1958, a new agreement was negotiated at a conference held in Geneva under the auspices of the United Nations. The new agreement, which follows the lines of the 1953 agreement, is for five years commencing 1st January, 1959, with provision for a review during the third year. It is designed to assure supplies of sugar to importing countries and markets for sugar to exporting countries at equitable and stable prices, to facilitate a steady increase in the consumption of sugar and a corresponding increase in the supply of sugar, and, in general, to further international co-operation in connexion with world sugar problems. Basic export quotas of exporting countries are established and provision is made for adjustment of quotas according to fluctuations in the world sugar price. A number of price levels are stipulated at which the International Sugar Council may or must take action. The Council has considerable discretion to adjust quotas during the quota year.

Under the 1953 agreement, the British Commonwealth, as a whole, was granted an export quota of 2,375,000 tons rising to 2,500,000 tons in 1958. Under the 1958 agreement, the quota remains at 2,500,000 tons for 1959 but is increased by 75,000 tons to 2,575,000 tons in 1960 and 1961. This quota is not subject to the fluctuations mentioned above. The allocation of the total quota among exporting members of the British Commonwealth is a matter for internal arrangement by those countries and territories themselves. Australia's quota for 1960 and 1961 was approximately 651,000 tons.

Details of the marketing arrangements for Australian sugar are given in paragraph 15 below.

11. **Net Return for Sugar Crop.**—Details of the disposal of the crop, net value of exports and the average price realized during each of the years 1955–56 to 1959–60 are shown in the following table:—

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

Year.	Proportion Exported. (*b*)	Net Value of Exports per Ton. (*b*)	Average Price per Ton for Whole Crop.	Estimated Value of Crop.
	Per cent.	£ s. d.	£ s. d.	£'000.
1955–56	53.46	38 11 4	42 9 0	49,727
1956–57	56.01	41 6 5	46 14 3	56,403
1957–58	57.44	45 16 8	49 7 6	63,829
1958–59	60.53	39 8 2	45 9 11	64,263
1959–60	55.42	40 6 2	47 9 11	61,131

(*a*) 94 net titre. (*b*) As supplied by the Queensland Sugar Board.

The estimated value of the raw sugar produced has been based upon details taken from the audited accounts of the Queensland Sugar Board. The values stated represent the gross receipts from sales in Australia and overseas, less refining costs, freight, administrative charges, etc., and export charges, but including concessions to the fruit industry and other rebates which in 1959–60 amounted to £662,207. The value thus obtained represents the net market value of all raw sugar sold, which, less the rebates, is divided between the growers and millers in the approximate proportions of 70 per cent. and 30 per cent. respectively.

12. **Exports of Sugar.**—Particulars of the exports of cane sugar (raw and refined) for each year from 1955–56 to 1959–60 are as follows:—

SUGAR : EXPORTS, AUSTRALIA.

Particulars.		1955–56.	1956–57.	1957–58.	1958–59.	1959–60.
Quantity	tons	592,229	675,282	707,806	802,971	701,319
Value	£'000	24,723	28,780	34,996	32,163	26,671

13. **Sugar By-products.**—Large quantities of molasses are produced as a by-product in the sugar mills. Details for a series of years of the quantities produced and the amounts used for distilling, fuel, manure and other purposes will be found in Chapter VI.—Manufacturing Industry.

Other by-products include industrial chemicals and building boards. These boards are made from the residue of crushed fibre after removal of the sugar content from sugar-cane and possess high insulating and sound-absorbing properties which make them particularly suitable for use in walls and ceilings.

14. **Sugar Prices.**—The prices of sugar in Australia, from 1952 to 1959 in the case of raw sugar, and from 1952 to 1961 in the case of refined sugar (as determined under the Sugar Agreement in Australia—*see* para. 9 above), are shown in the following table:—

SUGAR : PRICES IN AUSTRALIA.

Year.	Raw Sugar, 94 Net Titre.						Refined Sugar.			
	Average Return per Ton Received by Millers and Growers for—						Date of Determination.	Wholesale Price to Retailer per Ton.		Retail Price, Capital Cities per lb.
	Home Consumption.			Exports.(a)			Whole Crop. (a)											
	£	s.	d.	£	s.	d.	£	s.	d.		£	s.	d.	d.
1952 ..	44	3	0	41	2	0	42	12	9	24.3.52 to 12.10.52	65	12	10	8
1953 ..	47	18	6	38	13	9	42	10	8	13.10.52 to 13.5.56	73	16	11	9
1954 ..	47	1	0	37	8	0	41	6	11	14.5.56 to 15.5.60	82	1	0	10
1955 ..	46	18	0	38	11	6	42	9	0	16.5.60 to 31.8.61	90	5	2	11
1956 ..	53	11	6	41	6	5	46	14	3					
1957 ..	54	3	0	45	16	8	49	7	6					
1958 ..	54	15	0	39	8	2	45	9	11					
1959 ..	56	8	6	40	6	2	47	9	11					

(a) Including " Excess " Sugar.

15. **Marketing Arrangements.**—From 1939 to 1952, the British Ministry of Food purchased Australia's surplus raw sugar at prices negotiated annually and varying from £stg.11 5s. in 1939 to £stg.38 10s. a ton in 1952 including tariff preference (for prices in other years *see* earlier issues of the Year Book).

On 1st January, 1953, the British Commonwealth Sugar Agreement became effective. This agreement, which has been extended to 1965, provides for Australia to export a maximum of 600,000 tons per annum, subject to annual review. Of the 600,000 tons, 315,000 tons is purchased by the United Kingdom Government at an annually negotiated price and the balance is sold at world market prices plus tariff preferences where applicable. The negotiated prices for 1959 and 1960 were £stg.45 2s. and £stg.43 16s. 8d. In 1960 and 1961, Australia has an additional quota of 51,000 tons as her share of the increased allocation to Commonwealth exporters under the current International Sugar Agreement. This tonnage will not receive the benefit of tariff preferences.

The Sugar Bill introduced into the House of Commons on 5th July, 1955, provided for the reversion of dealings in sugar in the United Kingdom to a trader to trader basis as from 1st January, 1957. However, under the Bill, a Sugar Board was created which is responsible for the purchase of the negotiated price sugar which the United Kingdom Government has contracted to take under the British Commonwealth Sugar Agreement.

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

Until 15th May, 1960, a rebate of £2 4s. per ton of refined sugar used in processing approved fruit products was paid to Australian manufacturers, provided they bought the fresh fruit at prices not lower than those declared by the Committee as reasonable. This was increased to £5 per ton from 16th May, 1960.

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

Under the Supplementary Sugar Agreement for 1956–1961, the Queensland Government contributes to the fund £264,000 annually and also reimburses the Committee for the actual expenditure on export sugar rebates. 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 scientific research for the purpose of increasing the yield per acre of Australian fruit.

17. **Bulk Handling of Sugar.**—The conversion of the Australian sugar industry to bulk handling and mechanized loading and unloading of raw sugar is well advanced. About 80 per cent. of raw sugar in Australia is now handled in bulk without being bagged at any stage.

Terminals for the bulk loading of sugar were opened at Mackay in 1957, at Lucinda and Bundaberg in 1958, at Townsville in 1959, and at Moorilyan in 1960.

Bulk receiving facilities are in operation, or in the course of construction, at all Australian refineries.

§ 15. Vineyards.

1. **Progress of Cultivation.**—(i) *Area of Vineyards.* Since the early days of Australian settlement, the expansion of the cultivation of vines has been most rapid in Victoria and South Australia, the area under vineyards in the 1959–60 season in these two States comprising 78 per cent. of the total area. The purposes for which grapes are grown in Australia are (*a*) for wine-making, (*b*) for table use and (*c*) for drying. The total area of vines in the several States during each of the years 1955–56 to 1959–60 and the averages for the three-year periods ended 1938–39, 1948–49 and 1958–59 are shown in the following table:—

VINEYARDS : AREA.

(Acres.)

Season.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Aust.(*a*)
Average for three years ended—						
1938–39	16,824	42,071	2,670	57,185	6,197	124,947
1948–49	16,482	44,114	3,099	58,971	9,965	132,631
1958–59	17,210	44,823	2,926	57,199	8,967	131,125
Years—						
1955–56	18,099	44,817	2,916	59,862	9,107	134,801
1956–57	17,394	44,902	2,916	57,409	8,996	131,617
1957–58 . ..	16,984	44,767	2,821	57,439	9,023	131,034
1958–59	17,252	44,801	3,041	56,749	8,881	130,724
1959–60—						
Wine	6,896	4,515	285	43,488	3,602	58,786
Table	2,599	2,065	2,798	272	1,496	9,230
Drying	7,741	37,549	..	13,093	3,853	62,236
Total	*17,236*	*44,129*	*3,083*	*56,853*	*8,951*	*130,252*

(*a*) Excludes particulars for Australian Capital Territory and Northern Territory.

NOTE.—There are no vineyards in Tasmania.

(ii) *Wine Production, Bounties, etc.* The total production of wine (beverage and distillation) in Australia has shown a marked increase in recent years, rising from 14.3 million gallons in 1938–39 to 28.4 million gallons in 1959–60. In the same period, consumption of beverage wine in Australia has increased from 4.5 million gallons (0.7 gallons per head of population) to 11.7 million gallons (1.16 gallons per head of population). For many years prior to the 1939–45 War, a bounty was paid from the Wine Export Encouragement Account on wine shipped overseas under the provisions of the Wine Export Bounty Act 1930. Details of the bounty, payment of which was discontinued in 1947, may be found in Official Year Book No. 39, page 992.

(iii) *Wine Research Trust Fund.* Under the Wine Research Act of 1955, the sum of £500,000 was made available from a Wine Industry Assistance Account (established by the Wine Export Bounty Act of 1947) for the establishment of the Australian Wine Research Institute, which is a limited liability company established under the Companies Act of South Australia. When the Export Bounty on wine was abolished in 1947, there remained £1.1 million in the Wine Export Encouragement Account, referred to in (ii), above. This sum had been collected from an additional Excise duty on spirit used in fortifying wine, which was also abolished in 1947.

The quantity of wine produced in the several States during the 1955–56 to 1959–60 seasons, together with the averages for the three-year periods ended 1938–39, 1948–49 and 1958–59, are shown in the following table:—

WINE: PRODUCTION.(a)
('000 Gallons.)

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Australia.
Average for three years ended—						
1938–39	2,712	1,359	31	14,021	396	18,519
1948–49	4,178	3,040	31	25,906	689	33,844
1958–59	3,974	2,435	36	25,190	743	32,378
Years—						
1955–56	2,327	1,342	37	18,403	786	22,895
1956–57	3,412	2,369	38	24,038	886	30,743
1957–58	4,150	2,583	21	26,400	700	33,854
1958–59	4,360	2,354	49	25,131	644	32,538
1959–60	3,835	2,147	37	21,576	801	28,396

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

2. **Imports and Exports of Wine.**—(i) *Imports.* Imports for 1959–60 amounted to 60,029 gallons valued at £130,265 compared with 51,812 gallons valued at £121,599 in the previous year.

During 1959–60, Italy supplied 20,208 gallons valued at £24,558, France supplied 19,864 gallons valued at £67,776, and the Federal Republic of Germany supplied 5,327 gallons valued at £12,918. The bulk of the sparkling wines were obtained from France.

(ii) *Exports.* Exports in 1959–60 totalled 1,745,347 gallons, of which the United Kingdom received 1,312,999 gallons, New Zealand 54,791 gallons, Canada 269,520 gallons, and other countries 108,037 gallons.

Exports for the five years ended 1959–60 are shown in the following table:—

WINE: EXPORTS FROM AUSTRALIA.

Year.	Quantity (Gallons).			Value (£).		
	Sparkling.	Other.	Total.	Sparkling.	Other.	Total.
1955–56.. ..	5,997	1,197,995	1,203,992	19,833	714,235	734,068
1956–57.. ..	6,701	1,743,648	1,750,349	23,737	1,108,314	1,132,051
1957–58.. ..	4,872	1,484,656	1,489,528	18,194	978,616	996,810
1958–59.. ..	5,203	1,742,046	1,747,249	10,989	1,141,036	1,152,025
1959–60.. ..	6,480	1,738,867	1,745,347	19,898	1,245,755	1,265,653

3. **Oversea Marketing of Wine.**—(i) *The Wine Overseas Marketing Act* 1929–1954. This Act was introduced to place the oversea marketing of surplus wine on an orderly basis. The Australian Wine Board (formerly The Wine Overseas Marketing Board), consisting of representatives from wineries and distilleries, grape-growers and the Commonwealth Government, supervises the sale and distribution of Australian wine exported and recommends conditions under which export licences should be issued. The Board also contributes to wine publicity and trade promotion activities both in Australia and overseas. A London office is maintained by the Board.

(ii) *The Wine Grapes Charges Act* 1929–1957. This Act provides for the imposition of a levy on all grapes used in Australia for the manufacture of wine or spirit used for fortifying wine. The proceeds of the levy are used to defray the administrative and other expenses of the Board, and provision is made for such exemptions from the levy as the Board may recommend.

4. **Other Viticultural Products.**—(i) *Table Grapes.* Grapes for table use are grown in all States except Tasmania, but the area of this type was only about 7 per cent. of the productive area of vines in 1959–60. The quantities of table grapes produced during the season 1959–60 in each State are shown in § 3 of this chapter. (*See* p. 887.)

(ii) *Raisins and Currants.* The quantities of raisins (including sultanas and lexias) and currants dried during each of the seasons 1955–56 to 1959–60 and the averages for the three-year periods ended 1938–39, 1948–49 and 1958–59 are shown in the following table:—

RAISINS(*a*) AND CURRANTS : PRODUCTION.

(Tons.)

Season.	N.S. Wales.		Victoria.		South Aust.		Western Aust.		Australia.	
	Raisins.	Currants.	Raisins.	Currants.	Raisins.	Currants.	Raisins.	Currants.	Raisins.	Currants.
Average for three years ended—										
1938–39 ..	5,464	1,163	39,810	8,953	13,215	9,009	723	2,179	59,212	21,304
1948–49 ..	5,429	994	40,027	7,380	8,811	5,243	580	3,179	54,847	16,796
1958–59 ..	10,300	705	53,178	4,294	11,115	4,432	118	1,746	74,711	11,177
Year—										
1955–56 ..	4,313	725	29,417	5,150	11,699	5,009	95	2,463	45,524	13,347
1956–57 ..	9,380	585	50,085	3,954	9,716	3,941	148	2,048	69,329	10,528
1957–58 ..	10,608	674	56,742	4,153	11,306	4,824	111	2,136	78,767	11,787
1958–59 ..	10,914	856	52,707	4,776	12,323	4,531	94	1,055	76,038	11,218
1959–60 ..	7,722	462	44,764	3,331	9,192	2,844	73	1,402	61,751	8,039

(*a*) Including sultanas and lexias.

5. **Production and Disposal of Dried Vine Fruit.**—As the production of dried vine fruit is far in excess of Australia's requirements, considerable quantities are available for export. Total production during the 1959–60 season amounted to 69,790 tons, while exports for the 12 months ended December, 1960, were 47,728 tons, leaving an estimated 22,062 tons available for Australian consumption from that season's production. Australian consumption includes amounts delivered to biscuit manufacturers, bakeries, etc., as well as retail sales for household consumption.

The following table shows the oversea exports of raisins and currants during each of the years 1955–56 to 1959–60:—

RAISINS AND CURRANTS(a): EXPORTS, AUSTRALIA.

Year.	Raisins.		Currants.		Total Raisins and Currants.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Tons.	£'000.	Tons.	£'000.	Tons.	£'000.
1955–56.. ..	51,734	6,224	9,561	1,151	61,295	7,375
1956–57.. ..	38,496	5,377	6,521	831	45,017	6,208
1957–58.. ..	52,297	8,019	7,398	938	59,695	8,957
1958–59.. ..	68,245	11,215	7,585	1,051	75,830	12,266
1959–60.. ..	45,634	7,726	4,540	637	50,174	8,363

(a) Excludes quantities exported as mincemeat.

The chief countries importing Australian raisins and currants are the United Kingdom, Canada and New Zealand, the quantities exported thereto in 1959–60 being 25,663 tons, 15,257 tons and 5,302 tons respectively.

6. Oversea Marketing of Dried Fruits.—(i) *The Dried Fruits Export Control Act* 1924–1953. This Act was passed to organize oversea marketing of Australian dried vine fruits. The Dried Fruits Control Board, consisting of growers' representatives, members with commercial experience in marketing dried fruits and a Government representative, controls the sale and distribution of dried fruit exports, recommends the licensing of exporters and contributes to dried vine fruits publicity activity overseas.

In conjunction with its London agency, the Board has improved dried fruit marketing overseas by its system of appraisement, regulation of shipments and advertising.

(ii) *Dried Fruits Export Charges Act* 1924–1929. This Act provides for a levy on exports of dried fruits to defray costs and expenses incurred by the Board. Provision is made for exemption from the levy upon recommendation by the Board.

(iii) *Post-war Contracts.* For details of the agreements which were negotiated between the Governments of the United Kingdom and Australia during the period 1946–1953, *see* Official Year Book No. 40, page 888. From 1st December, 1953, exports have been made on a trader to trader basis.

§ 16. Orchards and Fruit Gardens.

1. Area.—The largest area of orchards and fruit-gardens prior to the 1939–45 War was 281,899 acres, which was attained in 1933–34. Since then, the acreage has varied but has not fallen below 260,000 acres. It reached 290,000 acres in 1947–48 but declined somewhat in subsequent years, rising again to 289,000 acres in 1959–60.

ORCHARDS AND FRUIT-GARDENS: AREA.

(Acres.)

Season.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Aust.
1955–56 ..	93,482	65,214	41,253	32,998	21,943	23,795	104	118	278,907
1956–57 ..	87,920	63,319	39,561	33,998	22,040	22,994	94	113	270,039
1957–58 ..	88,170	66,221	40,856	35,295	22,186	23,013	81	93	275,915
1958–59 ..	92,780	66,746	43,911	37,237	22,903	23,168	86	89	286,920
1959–60 ..	93,870	68,567	42,587	37,355	23,757	22,713	103	57	289,009

2. **Varieties of Crops.**—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 fruits (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, peaches, pears, oranges and apricots. In Queensland, pineapples, apples, bananas, oranges, mandarins, peaches and plums are the varieties most largely cultivated. In South Australia, in addition to apples, oranges, apricots, peaches and pears, almonds and olives are grown extensively. In Western Australia, apples, oranges, pears and plums are the chief varieties. In Tasmania, apples occupy over three-quarters of the fruit-growing area, but small fruits, such as currants, raspberries and gooseberries are grown extensively, the balance of the area being mainly taken up with pears, apricots and plums. The following table shows the acreage—bearing and non-bearing—of the principal kinds of fruit, and the quantities produced.

ORCHARDS AND FRUIT-GARDENS, 1959-60.

Fruit.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Aust.
AREA, BEARING AND NON-BEARING (ACRES).									
Apples ..	16,086	20,556	11,146	5,665	14,034	17,733	..	49	85,269
Apricots ..	2,036	4,014	387	4,547	374	701	..	..	12,059
Bananas ..	24,921	..	6,361	..	398	..	28	..	31,708
Cherries ..	2,295	1,674	13	552	41	41	..	..	4,616
Citrus—									
Oranges ..	25,623	5,724	3,525	10,214	4,215	..	27	..	49,328
Mandarins ..	2,019	229	1,610	275	291	..	2	..	4,426
Lemons and Limes ..	2,361	1,319	460	313	618	..	7	..	5,078
Other ..	519	300	68	392	136	..	4	..	1,419
Nuts	248	440	171	3,323	177	..	..	2	4,361
Peaches ..	7,400	11,642	1,677	4,770	829	56	..	2	26,376
Pears ..	3,375	15,076	611	2,038	1,000	1,583	..	1	23,684
Pineapples ..	453	..	12,157	..	..	..	22	..	12,632
Plums and Prunes	4,645	2,120	1,380	1,264	1,058	99	..	3	10,569
Small Fruits ..	31	1,210	226	121	17	2,470	..	..	4,075
Other Fruits ..	1,858	4,263	2,795	3,881	569	30	13	..	13,409
Total ..	93,870	68,567	42,587	37,355	23,757	22,713	103	57	289,009
PRODUCTION.									
Apples '000 bus.	2,261	3,006	910	1,266	1,150	5,473	..	3	14,069
Apricots " "	263	468	23	698	29	65	..	..	1,546
Bananas " "	4,171	..	636	..	108	..	..	..	4,915
Cherries " "	157	101	..	46	1	3	..	..	308
Citrus—									
Oranges "	3,988	1,029	463	1,620	348	..	2	..	7,450
Mandarins "	212	20	212	27	21	..	..	..	492
Lemons and Limes "	364	156	94	32	109	..	..	..	755
Other "	159	67	23	94	20	..	1	..	364
Nuts .. '000 lb.	106	271	43	1,715	35	..	1	..	2,171
Peaches '000 bus.	866	1,210	95	689	50	6	..	..	2,916
Pears " "	603	3,583	50	431	138	463	..	..	5,268
Pineapples " "	82	..	4,658	..	..	..	1	..	4,741
Plums and Prunes " "	462	183	78	109	55	17	..	..	904
Small Fruits '000 cwt.	..	19	10	2	..	94	..	..	125

3. **Principal Fruit Crops.**—The area and production of the principal fruit crops and the gross value of production during the seasons 1955–56 to 1959–60 are shown hereunder.

PRINCIPAL FRUIT CROPS : AREA, PRODUCTION AND GROSS VALUE OF PRODUCTION.

Season.	Apples.	Apricots.	Bananas.	Citrus Fruits.	Peaches.	Pears.	Plums and Prunes.
AREA, BEARING AND NON-BEARING (ACRES).							
1955–56..	82,336	13,087	29,331	59,271	23,454	22,030	10,915
1956–57..	81,965	12,493	26,981	57,189	22,020	21,499	10,679
1957–58..	82,595	12,689	26,981	58,631	23,451	21,989	10,816
1958–59..	83,614	12,103	31,798	59,033	25,215	23,014	10,385
1959–60..	85,269	12,059	31,708	60,251	26,376	23,684	10,569
PRODUCTION ('000 BUSHELS).							
1955–56..	13,464	1,383	4,736	8,212	2,582	4,206	842
1956–57..	10,792	1,417	3,625	7,943	2,179	4,606	674
1957–58..	14,703	1,575	3,360	7,575	2,967	5,307	828
1958–59..	13,044	1,430	4,504	7,302	2,592	4,738	802
1959–60..	14,069	1,546	4,915	9,061	2,916	5,268	904
GROSS VALUE OF PRODUCTION. (£'000.)							
1955–56..	16,594	2,286	5,749	8,556	3,365	4,681	1,380
1956–57..	15,188	2,731	7,288	8,367	3,724	5,483	1,398
1957–58..	19,211	2,400	9,121	10,709	3,854	6,635	1,478
1958–59..	16,539	2,054	8,588	10,873	3,194	4,916	1,479
1959–60..	17,174	2,013	7,613	9,390	3,293	5,361	1,579

4. **Production of Jams and Jellies and Preserved Fruit.**—In Australia, considerable quantities of fruit are used in the production of jams and jellies and for preserving. During 1959–60, output of jams, conserves, fruit spreads, etc. amounted to 84,702,000 lb. while output of preserved fruit amounted to 344,294,000 lb. Of the latter figure, pears accounted for 111,891,000 lb., peaches 96,457,000 lb. and pineapples 47,198,000 lb.

The recorded consumption of fruit in factories for all purposes, including that used for juice and cordial manufacture and for drying, was 248,069 tons in 1959–60.

5. ***Consumption of Fruit and Fruit Products.***—*Details of the estimated consumption* of fruit and fruit products per head of population for a series of years ending 1959–60 are shown in Chapter XXX.—Miscellaneous, of this Year Book.

6. **Imports and Exports of Fruit.**—(i) *General.* The imports of fresh fruit into Australia are negligible, while those of dried fruit consist mainly of dates.

A considerable export trade in both fresh and dried fruit is carried on by Australia with oversea countries. The values of the shipments in 1959–60 amounted to £9,293,783 and £9,065,956 respectively. Apples constitute the bulk of the fresh fruit exported, although exports of pears and citrus fruit are considerable.

(ii) *Fresh Fruit.* Particulars of the Australian export trade in fresh and frozen fruit for each of the years 1955–56 to 1959–60 are shown in the following table:—

FRESH AND FROZEN FRUIT : EXPORTS, AUSTRALIA.

Year.	Apples.		Pears.		Citrus.		Total.(a)	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	'000 bus.	£'000.	'000 bus.	£'000.	'000 bus.	£'000.	'000 bus.	£'000.
1955–56 ..	5,023	6,513	1,012	1,470	585	869	6,689	9,138
1956–57 ..	3,969	5,582	1,020	1,731	613	926	5,670	8,585
1957–58 ..	5,892	9,076	1,448	2,755	572	882	7,961	13,062
1958–59 ..	4,948	6,625	1,100	1,783	415	664	6,559	9,413
1959–60 ..	4,885	6,123	1,328	1,970	589	918	6,892	9,294

(a) Total, including exports of all other fresh and frozen fruit.

(iii) *Dried Tree Fruit.* The quantity and value of oversea imports and exports of dried fruit, other than raisins and currants, for the years 1955–56 to 1959–60 are shown below. Normally, the bulk of the imports consists of dates obtained almost entirely from Iraq.

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

Year.	Imports.(*b*)		Exports.	
	Quantity.	Value.	Quantity.	Value.
	'000 lb.	£'000.	'000 lb.	£'000.
1955–56	8,627	204	3,681	428
1956–57	7,052	158	2,887	378
1957–58	8,683	209	1,366	186
1958–59	8,411	203	3,352	482
1959–60	10,791	310	6,221	703

(*a*) Excludes raisins and currants referred to separately under Vineyards (*see* p. 929). (*b*) Imports of dates and figs only.

(iv) *Jams and Jellies.* Exports of jams and jellies reached large proportions immediately following the 1939–45 War and in 1946–47 amounted to 65,434,000 lb., compared with the average for the five years ended 1938–39 of 7,118,000 lb. Since 1949–50, when exports totalled 65,229,000 lb., there has been a marked decline and in 1959–60 exports amounted to only 6,512,838 lb., valued at £470,417. Imports of jams and jellies are negligible.

(v) *Preserved Fruit.* The total quantity of fruit preserved in liquid, or partly preserved in liquid, or pulped, imported into Australia during 1959–60 was 660,173 lb. valued at £137,240. Large quantities of fruit preserved in liquid are normally exported from Australia, the quantity recorded in 1959–60 being 199,944,662 lb. valued at £12,385,091. Exports in 1959–60 were principally made up of pears (89,980,557 lb.), peaches (53,624,956 lb.), apricots (14,133,784 lb.) and pineapples (30,314,381 lb.). In addition, the exports of pulped fruits during 1959–60 amounted to 5,294,606 lb. valued at £376,586.

7. **Marketing of Apples and Pears.**—(i) *Apple and Pear Organization Act* 1938–1960. This Act, which was passed by the Commonwealth Parliament at the request of the apple and pear industry, provides for the establishment of an Australian Apple and Pear Board comprising representatives of growers, exporters, employees and the Commonwealth Government. An oversea representative has also been appointed by the Board.

The function of the Board is the organization and control of exports of fresh apples and pears, and it has the power to regulate shipments, determine export quotas, allocate consignments from each State and recommend the licensing of exporters. The Board contributes to apple and pear publicity activities overseas.

(ii) *Apple and Pear Export Charges Act* 1938–1960. This Act provides for an export levy to meet the expenses of the Board.

(iii) *Apple and Pear Acquisition.* Exports of apples and pears were seriously curtailed during the war and the 1940 to 1948 crops were acquired and marketed under National Security and Defence Regulations. Details of the acquisition scheme will be found on pages 1003 and 1004 of Official Year Book No. 38 and in earlier issues.

8. **Marketing of Canned Fruit.**—(i) *The Canned Fruits Export Control Act* 1926–1959. This legislation was introduced with the object of organizing the oversea marketing of canned fruit. The Australian Canned Fruits Board, comprising members representing the Commonwealth Government, canners of apricots, peaches, pears, pineapples and fruit salad, and a representative of the growers of canning apricots, peaches and pears, was appointed to organize the oversea marketing of canned fruit and also to recommend the licensing of exporters. The Board establishes terms and conditions of sale overseas and contributes to overseas publicity connected with the canned fruit industry.

The system of marketing adopted by the Board has resulted in the satisfactory disposal of the exportable surplus of canned fruits.

(ii) *The Canned Fruits Export Charges Act* 1926–1956. This Act provides for a levy on exports to meet the Board's expenses. Provision has been made for certain exemptions when recommended by the Board.

(iii) *The Australian Canned Fruit Sales Promotion Committee.* This Committee was established in 1959 to promote the sale of canned deciduous fruits 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 processors of canning fruit and a representative of the Commonwealth Government.

§ 17. Vegetables for Human Consumption.

1. **Area and Production of Fresh Vegetables.**—Details of the areas planted and production of individual kinds of vegetables, excluding potatoes and onions referred to in §§ 10 and 11 of this chapter, are shown below for the seasons 1957–58 to 1959–60.

FRESH VEGETABLES(*a*) FOR HUMAN CONSUMPTION: AUSTRALIA.

Vegetable.	1957–58.		1958–59.		1959–60.	
	Area Sown.	Production.	Area Sown.	Production.	Area Sown.	Production.
	Acres.	Tons.	Acres.	Tons.	Acres.	Tons.
Asparagus	3,788	5,300	3,620	4,702	3,450	4,210
Beans, French and Runner	17,517	23,217	17,457	25,012	16,714	26,527
Beans, Navy	1,728	266	1,855	371	2,250	451
Beetroot	2,102	13,967	1,976	13,439	1,866	12,804
Cabbages and Brussels Sprouts	6,471	69,475	6,308	70,363	6,088	68,892
Carrots	5,001	47,648	4,625	43,743	4,817	46,391
Cauliflowers	7,734	89,385	7,361	93,913	6,892	80,663
Celery(*b*)	653	9,949	669	10,265	504	9,320
Cucumbers(*b*)	1,616	5,822	1,711	6,441	1,435	5,544
Lettuces	4,595	17,017	4,745	19,254	4,770	19,418
Parsnips	1,530	12,426	1,342	11,349	1,441	12,185
Peas, Blue	7,323	3,860	2,571	1,342	3,226	2,148
Peas, Green	47,988	51,714	46,388	52,298	45,130	54,309
Tomatoes	17,096	119,964	16,382	118,819	15,865	126,171
Turnips, Swede and White	4,670	18,701	4,214	20,044	1,886	12,345
All Other	33,739	..	31,640	..	30,992	..
Total	**163,551**	..	**152,864**	..	**147,326**	..

(*a*) Excludes potatoes and onions. (*b*) Incomplete, excludes New South Wales.

2. **Production of Processed Vegetables.**—Total production of canned vegetables in 1959–60 amounted to 83,167,000 lb., which was considerably higher than pre-war production, but only about 70 per cent. of the peak war-time production of 119,149,000 lb. recorded in 1944–45. The principal canned vegetables produced in 1959–60 were green peas (including mint-pro peas) 23,087,000 lb., green beans 3,010,000 lb., baked beans (including pork and beans) 24,573,000 lb., asparagus 6,922,000 lb., beetroot 8,480,000 lb., and mushrooms 3,166,000 lb.

The production of dehydrated vegetables, which was initiated by the Commonwealth Government during the 1939–45 War, rose to a maximum of 22,000,000 lb. in 1945–46, but in 1959–60 it was only 807,000 lb. Production of potato crisps, chips and flakes, which has increased substantially in recent years, amounted to 8,001,000 lb. in 1959–60.

There has been rapid development in the quick-frozen vegetable industry. Data were collected for the first time in 1957–58, when 13,846,000 lb. of frozen vegetables were produced, made up primarily of 10,131,000 lb. of peas and 2,540,000 lb. of beans. In 1959–60, production had risen to 22,899,000 lb., of which 16,962,000 lb. were peas and 4,150,000 lb. were beans.

3. **Imports and Exports of Vegetables.**—The quantity and value of oversea exports of pulse and fresh vegetables during 1959–60 were respectively:—pulse, 8,008 tons, £307,079; onions, 1,124 tons, £70,052; potatoes, 4,748 tons, £133,669; other vegetables, 2,955 tons, £223,043. Imports of pulse amounted to 5,246 tons, valued at £428,829, while imports of fresh vegetables in total were 2,556 tons, valued at £196,722.

In 1959–60, exports of vegetables preserved in liquid consisted of:—Asparagus, 717,629 lb. (£96,532); Beans (including baked), 104,658 lb. (£6,938); Peas, 155,743 lb. (£13,336); Tomatoes, 58,656 lb. (£4,709); Other Vegetables, 385,902 lb. (£45,192).

4. **Consumption of Vegetables.**—Details of the estimated consumption of vegetables for a series of years ending 1959–60 are shown in Chapter XXX.—Miscellaneous, of this Year Book.

§ 18. Tobacco.

1. States, Area and Production.—Tobacco has been grown in Australia for a considerable number of years. As early as the season 1888–89, the area of this crop amounted to 6,641 acres, of which 4,833 were in New South Wales, 1,685 in Victoria and 123 in Queensland. Thereafter, the industry fluctuated for many years, reaching a peak in 1932–33 when 26,272 acres were planted. After the 1939–45 War the area fell to below 4,000 acres, but it has increased again largely as a result of the beneficial effect of improved varieties and techniques on average yields and of the protection to Australian growers given by the tariff (*see* also (vi) Tobacco Factories, p. 935).

In 1959–60, the area planted was 19,654 acres. This exceeded the highest post-war level of 15,151 acres, reached in 1958–59, by 4,503 acres, or 30 per cent. The production of dried leaf in 1959–60 at 19,068,000 lb. was also a record.

In the following table, particulars of the area and production of tobacco are given by States for each of the seasons 1955–56 to 1959–60, together with averages for the three-year periods ended 1938–39, 1948–49 and 1958–59.

TOBACCO : AREA AND PRODUCTION.

Season.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	Aust.
AREA (ACRES).								
Average for three years ended—								
1938–39 ..	697	4,262	3,842	77	1,055	134	(*a*)	10,067
1948–49 ..	415	1,046	1,948	..	609	..	..	4,018
1958–59 ..	1,257	3,478	7,479	..	1,295	..	(*a*)	13,509
Year—								
1955–56 ..	893	2,876	6,301	..	1,235	..	1	11,306
1956–57 ..	1,031	2,935	7,029	..	1,176	..	1	12,172
1957–58 ..	1,193	3,252	7,493	..	1,266	..	..	13,204
1958–59 ..	1,543	4,248	7,916	..	1,444	..	..	15,151
1959–60 ..	2,142	6,424	9,527	..	1,561	..	..	19,654
PRODUCTION OF DRIED LEAF ('000 lb.).								
Average for three years ended—								
1938–39 ..	471	1,603	2,173	17	741	104	(*b*)	5,109
1948–49 ..	380	670	1,725	..	523	..	..	3,298
1958–59 ..	1,066	3,770	5,563	..	1,016	..	(*b*)	11,415
Year—								
1955–56 ..	547	1,135	3,702	..	722	..	..	6,106
1956–57 ..	805	2,741	4,344	..	819	..	..	8,709
1957–58 ..	1,235	3,683	5,618	..	1,031	..	..	11,567
1958–59 ..	1,158	4,885	6,729	..	1,198	..	..	13,970
1959–60 ..	1,438	7,401	9,149	..	1,080	..	..	19,068

(*a*) Less than half an acre. (*b*) Less than 500 lb.

2. The Tobacco Industry.—(i) *Marketing.* In the early days, purchase of the leaf at the farms was the usual practice, but towards the end of the 1930's the auction system was introduced by arrangement between the growers' associations and the manufacturers.

On 9th May, 1941, the Australian Tobacco Board was constituted under the National Security (Australian Tobacco Leaf) Regulations for the purpose of facilitating and regulating the marketing of Australian grown tobacco leaf. All leaf was under the control of the Board, the growers being paid on the valuation as appraised by the Board. The Board ceased to function on 24th September, 1948, and subsequent crops have been marketed at open auction in the respective States. Queensland has had its own Tobacco Leaf Marketing Board since 1948. Growers in New South Wales voluntarily submit their leaf to the Queensland Board for sale at auction. Leaf from Victoria is sold at auction in Melbourne for the Victoria Tobacco Growers' Association. In Western Australia, the leaf is sold in Perth for the Western Australian Tobacco Growers' Association (Inc.).

(ii) *Central Tobacco Advisory Committee.* The Australian Agricultural Council formed the Standing Advisory Committee on Tobacco during 1950. This Committee consisted of representatives of tobacco growers, tobacco manufacturers and the Commonwealth and State Governments. Its main functions were to review the industry and make recommendations on its problems.

The Committee was reconstituted by the Agricultural Council during 1952–53 and its terms of reference are as follows:—

"To report annually to the Agricultural Council, through the Standing Committee on Agriculture and also to the Commonwealth Minister for Customs and Excise, through the Chairman of the Council, on the following:—

(i) The percentage of Australian tobacco which should be incorporated in locally manufactured tobacco under Customs regulations, having regard to the anticipated volume of Australian production of usable leaf available for absorption by the manufacturing industry;

(ii) The progress of the industry during the year with particular reference to—
(*a*) marketing problems encountered,
(*b*) a review of prices being paid to farmers in relation to quality of leaf,
(*c*) such other problems as may be retarding the progressive development of the industry, such as the volume of importation of manufactured tobacco and cigarettes."

(iii) *Industry Inquiries.* The tobacco industry has been the subject of a number of investigations during the past 30 years. The Tariff Board inquired into the industry in 1923, 1926, 1931 and 1940 and reports were issued in respect of the last three inquiries.

(iv) *Commonwealth Grants.* Details of the recommendations by the Tobacco Inquiry Committee and grants periodically approved by the Commonwealth Government up to 30th June, 1953, are given in Official Year Book No. 40, pages 895, 896 and in previous issues.

(v) *Research and Investigations.* The Commonwealth Scientific and Industrial Research Organization has been investigating many fundamental problems connected with tobacco culture. One of the major achievements of this organization was the development in the mid-1930's of a technique to control blue mould in the seed bed. State Departments of Agriculture are also carrying out investigations over a wide range of problems, being concerned mainly with variety trials, irrigation, disease and pest control, crop rotation and cultural practices. The New South Wales Department of Agriculture has developed a commercial blue mould resistant hybrid.

In 1955, the Central Tobacco Advisory Committee formulated a programme for increased research and advisory activities. The capital costs of establishing this programme were estimated at £168,000, of which the Commonwealth Government and tobacco manufacturers each agreed to contribute half. Annual contributions are made to the fund by the Commonwealth and State Governments, tobacco growers and manufacturers. A Tobacco Industry Trust Account was established to receive these contributions. This programme commenced in 1956.

During the first four years of the operation of the Trust Account, £628,402 was paid to State and Commonwealth departments. The allocation for 1960–61 is £217,915.

(vi) *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 rose from 3 per cent. for cigarettes and 5 per cent. for tobacco in November, 1946, to 28½ per cent. and 24½ per cent. respectively from 1st July, 1960. The percentages to apply from 1st July, 1961, when most of the 1960 tobacco crop will be used in manufacture, are 35 per cent. and 32 per cent. respectively. In 1959–60, the quantity of cured leaf used in tobacco factories in Australia amounted to 49.8 million lb., of which 11.6 million lb. was of local origin. The balance was imported, chiefly from the United States of America.

3. Oversea Trade.—Imports of tobacco and manufactures thereof into Australia during 1959–60 were valued at £13.8 million, including 37.0 million lb. of unmanufactured tobacco valued at £13.7 million. Exports of tobacco and tobacco manufactures during 1959–60 were valued at £354,049.

§ 19. Hops.

Hop-growing in Australia is practically confined to Tasmania and some of the cooler districts of Victoria, the total area for 1959–60 being 1,927 acres, of which 1,461 acres were in Tasmania, and 466 acres in Victoria. A small area was also under hops in Western Australia, but the details are not available for publication. The Tasmanian area, though still small, has increased during the present century, the total for 1901–2 being 599 acres. The cultivation of hops was much more extensive in Victoria some 70 years ago than at present, the area in 1883–84 being 1,758 acres.

The production of hops in Australia is insufficient to meet local requirements, and additional supplies are imported to meet the needs of the brewing industry. In the following table, details of the production and imports of hops and the quantity of hops used in breweries are shown for each of the years 1955–56 to 1959–60. Exports of hops are not recorded separately, but are negligible.

HOPS : PRODUCTION AND DISPOSAL, AUSTRALIA.

Year.	Production.		Imports.	Net Available Supplies. (a)	Quantity used in Breweries.
	Quantity.	Gross Value.			
	Cwt.	£'000.	Cwt.	Cwt.	Cwt.
1955–56	34,374	1,102	16,880	51,254	43,638
1956–57	25,230	857	3,074	28,978	40,250
1957–58	32,710	1,137	4,502	37,212	39,370
1958–59	36,499	1,273	8,471	44,970	38,664
1959–60	31,790	1,159	..	31,790	40,357

(a) Disregards movements in stocks.

The Tariff Board conducted an inquiry into the hop-growing industry and issued its report on 12th June, 1945.

§ 20. Flax.

1. **Flax for Fibre.**—During the 1914–18 and 1939–45 Wars, there was an acute shortage of flax fibre and the expansion of production was encouraged by the Commonwealth Government, the area sown reaching a maximum of more than 61,000 acres in 1944–45.

In recent years, the growing of flax for fibre has been confined to Victoria, South Australia and Western Australia. In Victoria and South Australia, production has been directed and controlled by the Flax Commission, which took over the Commonwealth flax undertakings from the Flax Production Committee on 1st November, 1954. In Western Australia, the industry is carried on by a co-operative company.

In November, 1957, the Government approved a three-year extension of bounty assistance to flax producers and decided that the Commonwealth should withdraw from flax fibre production. One important factor which influenced the Government in making this decision was the view expressed by the defence authorities that the industry no longer has the same defence significance as it had when the Flax Commission was first established.

In accordance with the decision, growing of flax under contract to the Flax Commission was discontinued in 1959, all of the Commonwealth mills ceasing to operate before the end of the year. Western Australia is now the only producing State, the mill at Boyup Brook being the only flax mill left in production.

Many former growers of flax for fibre in Victoria are now growing flax for linseed.

Details of the area under flax and the production of straw are given in the following table:—

FLAX FOR FIBRE : AREA AND PRODUCTION.

Season.	Victoria.	S. Aust.	W. Aust.	Australia.
AREA (ACRES).				
1955–56	2,550	526	1,594	4,670
1956–57	2,196	1,864	1,757	5,817
1957–58	5,550	1,410	1,002	7,962
1958–59	..	..	2,015	2,015
1959–60	..	..	1,307	1,307
PRODUCTION (TONS OF STRAW).				
1955–56	4,637	1,150	1,875	7,662
1956–57	4,013	4,606	2,051	10,670
1957–58	9,923	3,077	1,246	14,246
1958–59	..	..	3,665	3,665
1959–60	..	..	2,723	2,723

2. Flax for Linseed.—Prior to 1948–49, the growing of flax for linseed oil had not been developed extensively in Australia. Since then, however, action has been taken to develop this industry, the ultimate objective being the production of sufficient linseed to meet Australia's total oil requirements. Development of the industry proceeded rapidly until 1951–52 when 53,741 acres were sown. In 1952–53, there was a decline in the acreage and a further decline in 1953–54 when 6,343 acres only were sown. Since then, an increase in the guaranteed price to £70 per ton, f.o.r. ports, which is notified to growers by the crushers early in each season, has led to an increase in the area sown. A record 99,493 acres of flax for linseed were sown in 1959–60, yielding 26,799 tons of linseed, also a record.

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

Details of the area and production of flax for linseed are shown in the following table for the seasons 1955–56 to 1959–60:—

FLAX FOR LINSEED : AREA AND PRODUCTION.

Season.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
			AREA (ACRES).				
1955–56	1,817	580	45,202	128	..	..	47,727
1956–57	2,404	1,143	86,265	290	..	..	90,102
1957–58	2,251	4,091	90,255	221	549	..	97,367
1958–59	4,622	8,817	22,839	703	244	..	37,225
1959–60	11,933	24,850	60,837	1,687	186	..	99,493
			PRODUCTION (TONS OF LINSEED).				
1955–56	400	94	12,738	15	..	..	13,247
1956–57	622	306	17,644	76	..	..	18,648
1957–58	36	1,149	7,279	49	68	..	8,581
1958–59	1,196	2,769	6,510	151	42	..	10,668
1959–60	2,922	7,391	16,247	191	48	..	26,799

§ 21. Peanuts.

The production in Australia of peanuts, or groundnuts, is mainly confined to Queensland, although small quantities are grown in New South Wales, Western Australia and the Northern Territory. Details of the area and production are given in the table below.

PEANUTS : AREA AND PRODUCTION.

Season.	Area (Acres).				Production (Tons).			
	N.S.W.	Q'land.	N.T.	Aust.(a)	N.S.W.	Q'land.	N.T.	Aust.(a)
1955–56	414	31,493	544	32,451	174	8,633	40	8,847
1956–57	419	25,017	208	25,644	234	8,676	17	8,927
1957–58	686	34,739	156	35,581	401	18,326	15	18,742
1958–59	867	59,279	211	60,357	581	31,084	121	31,786
1959–60	837	41,547	388	42,772	532	18,016	215	18,763

(a) Excludes Western Australia for which details are not available for publication.

The gross value of the 1959–60 crop (excluding the small crop in Western Australia) was £1,782,000, which was approximately £1,738,000 less than in 1958–59.

Formerly, considerable quantities of peanut kernels were imported, chiefly from India, for the extraction of oil. These imports were suspended from 1946 to 1949, but have since been resumed on an increasing scale. Total supplies available for consumption in Australia in 1959–60 were 25,224 tons (shell equivalent), after allowing for an increase in stocks held by the Peanut Marketing Board of 5,378 tons. Supplies were made up of 27,494 tons from Australian production received into store by the Board and 3,108 tons imported.

§ 22. Cotton.

1. **General.**—The production of cotton in Australia has been, until recently, restricted to Queensland, where cultivation began in 1860. Cotton has been grown experimentally in some other States in recent years and the first commercial crop outside Queensland was grown in Victoria in the 1959–60 season. Details of areas sown for years prior to 1930 and of Government financial assistance to growers up to 1940 appear in Official Year Book No. 39 and earlier issues.

Australia produces only a small part of its requirements of raw cotton, the balance in 1959–60 being obtained chiefly from the United States of America and Mexico. Since the 1939–45 War, efforts have been directed towards increasing production by an extension of area, the introduction of irrigation methods and payment of bounties. These have met with some measure of success, although production has not reached the 1939–40 level of 17,550,000 lb. of seed cotton. Cotton spinning and weaving industries are referred to in Chapter VI.—Manufacturing Industry.

The Raw Cotton Bounty Act 1940 provided an extension, until 31st December, 1946, of assistance previously granted by way of bounty. The Act was amended in August, 1946, to provide a guaranteed net average return to cotton-growers of 15d. per lb. of raw cotton for five years from 1st January, 1947. It was superseded by the Cotton Bounty Act 1951, which guaranteed a net average return of 9½d. per lb. of seed cotton for five years from 1st January, 1951. The 1951 Act was amended in 1952 to provide for a guaranteed return of 14d. per lb. of seed cotton for the 1953 crop, and for variation by regulation of the guaranteed return, in succeeding seasons, with a minimum of 9½d. per lb. The Act, as amended in 1952 and 1957, was extended in 1958 to cover production up to 31st December, 1963. The guaranteed return has remained at 14d. per lb. of seed cotton since the 1953 season.

2. **Area and Production.**—The area under cultivation and the production in Queensland for the years 1955 to 1959 are shown hereunder. Details of the production of ginned cotton are derived from published statistics of the Queensland Cotton Marketing Board.

COTTON: AREA AND PRODUCTION IN QUEENSLAND.

Season ended December—	Area Sown.	Production of Cotton.				Average Yield per Acre Sown.	
		Unginned.		Ginned.	Ginned—Equivalent in Bales. (a)	Unginned.	Ginned.
		Quantity.	Gross Value.				
	Acres.	'000 lb.	£'000.	'000 lb.	Bales.	lb.	lb.
1955	13,290	5,359	307	2,164	4,386	403	163
1956	11,338	3,809	224	1,460	3,046	336	129
1957	10,364	3,390	213	1,341	2,845	327	129
1958	10,493	4,004	249	1,492	3,073	382	142
1959	20,229	9,463	556	3,592	7,621	468	178

(a) Bales of approximately 500 lb.

3. **Consumption of Raw Cotton.**—The following table shows details of the availability and actual consumption of raw cotton in Australian factories, during the last five years:—

RAW COTTON: PRODUCTION, IMPORTS AND CONSUMPTION, AUSTRALIA.

('000 lb.)

Year.	Production.	Imports.	Total.	Consumption of Raw Cotton.
1955–56	2,164	37,614	39,778	45,262
1956–57	1,460	47,805	49,265	46,699
1957–58	1,341	42,578	43,919	49,054
1958–59	1,492	43,984	45,476	47,323
1959–60	3,592	41,519	45,111	51,689

§ 23. Financial Assistance to Primary Producers.

NOTE.—*See also* Chapter XXI.—Public Finance, page 822.

Direct financial assistance to primary producers by the Commonwealth Government takes the form of bounties, subsidies and other financial assistance. Brief details of some of the more important payments are given below:—

(i) *Cotton Bounty.* The Cotton Bounty Act provides for payment of a bounty on seed cotton delivered by growers to processors. The present rate of bounty is designed to give growers an average return of 14d. per lb. The total payment in 1958–59 was £139,454 and in 1959–60 it was £214,456.

(ii) *Dairy Products Bounty.* Under the provisions of the Dairy Industry Act 1952, a subsidy was paid to dairymen to ensure them a return based upon the estimated cost of production for a specified quantity equal to local consumption plus twenty per cent. The Dairy Industry Act 1957 provided for continuation of the scheme for a further five years. A new feature, however, was that any subsidy made available under the scheme would be determined before the commencement of each season and would be on the basis of a fixed amount in any dairying year. In 1960–61, total payments amounted to £13,500,000, the same as in each of the previous four years.

(iii) *Flax Fibre Bounty.* From 1954 to 1958, a bounty was paid on scutched flax fibre produced from flax grown in Australia. In 1957, the Act was amended to provide for the calculation of the bounty payable on the basis of fibre sold, in lieu of fibre produced. In 1957–58, payments amounted to £62,348. Expenditure in 1958–59 was £93,167 and in 1959–60, £82,676. The period covered by the bounty terminated on 31st October, 1960.

Other forms of financial assistance to primary producers include payments for Cattle Tick Control, the Dairy Industry Extension Grant, Flood, Drought and Bush Fire Relief, Food Production, Expansion of Agricultural Advisory Services and Assistance to the Tobacco Industry.

§ 24. Fertilizers.

1. **General.**—In the early days of settlement in Australia, scientific cultivation was little understood. It was common, as in other new countries, for the land to be cropped continuously to a degree of exhaustion. This practice is very much less in evidence now than in the early days of Australian agricultural development. Under the guidance of the State Departments of Agriculture and the relevant Commonwealth authorities, such as the Bureau of Agricultural Economics and the Commonwealth Scientific and Industrial Research Organization, scientific farming is now much more widely practised. The importance of fallowing, crop rotation, and the application of suitable fertilizers in adequate quantities is now appreciated by farmers. The introduction of the modern seed-drill, acting also as a fertilizer-distributor, has greatly facilitated the use of artificial manures and much land formerly regarded as useless for cultivation has now been made productive. With the rapid increase in the area of sown pastures, particularly since the 1939–45 War, large quantities of artificial fertilizers have been used. Fertilizer is generally applied at the time of sowing, and periodical (usually annual) top-dressings are carried out afterwards to keep the pastures in good condition. In addition, increasing areas of native pastures have been top-dressed in recent years. In 1959–60, pastures accounted for almost 60 per cent. of both the total area fertilized and the total quantity of fertilizers used. The application of fertilizers from aircraft, particularly to pastures, has become a feature of modern farm technique, and has enabled the artificial fertilization of some areas which would not be readily accessible to ground machinery. Details of the area treated and quantity of fertilizer used by both aerial and ground methods of application in total are shown in para. 3, below, while further details on aerial top-dressing are given in § 25.

In order to protect the users of artificial fertilizers, legislation has been passed in each of the States regulating the sale and prohibiting the adulteration of fertilizers. A list of these Acts and their main features are given in Official Year Book No. 12, page 378.

2. **Imports and Exports.**—The Australian output of prepared fertilizers is derived chiefly from imported rock phosphate and is sufficient for local requirements.

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

The imports of artificial fertilizers during the five years ended 1959–60 are shown in the following table:—

ARTIFICIAL FERTILIZERS : IMPORTS INTO AUSTRALIA.

Fertilizer.		1955–56.	1956–57.	1957–58.	1958–59.	1959–60.
Ammonium Sulphate	tons	9,466	28,251	20,945	19,979	11
	£'000	228	624	522	497	(*a*)
Potash Salts ..	tons	39,099	38,246	53,570	43,912	36,204
	£'000	652	638	882	710	499
Rock Phosphate ..	tons	1,418,527	1,321,607	1,273,766	1,353,739	1,322,173
	£'000	2,828	2,804	3,325	3,750	3,654
Sodium Nitrate ..	tons	14,102	11,219	14,430	7,505	6,837
	£'000	323	252	354	152	139
Other	tons	506	785	4,619	16,951	24,119
	£'000	16	20	125	497	519
Total ..	**tons**	**1,481,700**	**1,400,108**	**1,367,330**	**1,442,086**	**1,389,344**
	£'000	**4,047**	**4,338**	**5,208**	**5,606**	**4,811**

(*a*) Less than £500.

Exports of fertilizers (practically all of which were manufactured locally) amounted to 20,900 tons valued at £313,000 in 1959–60 compared with 14,059 tons valued at £442,000 in 1958–59.

3. **Quantities Used Locally.**—Information regarding the area treated with artificial fertilizers and the quantity of artificial fertilizers (superphosphate, bonedust, nitrates, etc.) used in each State during the 1959–60 season is given in the following table. Details of the area fertilized with natural manure (stableyard, etc.) are no longer collected.

AREA FERTILIZED AND QUANTITY OF ARTIFICIAL FERTILIZERS USED, 1959-60.

State or Territory.	Area Fertilized ('000 Acres).			Fertilizers Used (Tons).		
	Crops.	Pasture Lands.	Total.	Crops.	Pasture Lands.	Total.
New South Wales	3,353	5,043	8,396	139,079	261,623	400,702
Victoria	4,079	9,153	13,232	217,319	522,716	740,035
Queensland	481	20	501	99,628	2,013	101,641
South Australia	3,679	3,471	7,150	188,733	202,895	391,628
Western Australia	6,382	5,752	12,134	315,213	266,018	581,231
Tasmania	167	1,029	1,196	24,015	81,951	105,966
Northern Territory	(*a*)	1	1	134	16	150
Australian Capital Territory ..	3	42	45	263	2,270	2,533
Total	**18,144**	**24,511**	**42,655**	**984,384**	**1,339,502**	**2,323,886**

(*a*) Less than 500 acres.

Particulars of the quantity of artificial fertilizers used in each State and Territory during each of the seasons 1955–56 to 1959–60, are shown in the next table. These details include the quantity used for the top-dressing of pasture lands.

QUANTITY OF ARTIFICIAL FERTILIZERS USED.
(Tons.)

Season.	N.S.W.	Vic.	Q'land.	S. Aust.	W.Aust.	Tas.	N.T.	A.C.T.	Total.
1955–56 ..	307,608	653,591	99,075	380,783	468,108	82,967	67	2,982	1,995,181
1956–57 ..	292,261	644,830	103,915	389,952	481,981	89,598	54	2,805	2,005,396
1957–58 ..	337,865	739,322	114,681	418,539	539,192	99,042	156	3,189	2,251,986
1958–59 ..	344,490	730,863	111,741	410,896	560,091	102,280	144	2,724	2,263,229
1959–60 ..	400,702	740,035	101,641	391,628	581,231	105,966	150	2,533	2,323,886

4. **Local Production.**—Complete information regarding local production of fertilizers is not available. The number of firms engaged in the manufacture of chemical fertilizers in Australia for the year 1959–60 was 49, made up as follows:—New South Wales, 14; Victoria, 5; Queensland, 8; South Australia, 9; Western Australia, 6; and Tasmania, 7. The production of superphosphate in Australia during 1959–60 amounted to 2,380,000 tons.

§ 25. Aerial Agriculture.

During recent years, aircraft have been used for top dressing and seeding (principally of pastures) and for spraying and dusting of crops and pastures. During the year ended 31st March, 1960, the total area treated by aircraft was 3,668,828 acres—2,594,167 acres were top-dressed and/or seeded, 960,788 acres were sprayed or dusted with insecticides, fungicides or herbicides, and 113,873 acres were baited for rabbit destruction. For 1956–57 (the first year for which data are available), the total area treated was 1,465,959 acres. The following table shows details of area treated and materials used for each State for the year ended 31st March, 1960. The information was collected by the Department of Civil Aviation.

AERIAL AGRICULTURE : OPERATIONS DURING 1959–60.

Item.	Unit.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Total. (a)
Top-dressing and Seeding—								
Area treated with—								
Superphosphate	Acres.	1,765,577	370,597	800	28,564	88,910	58.005	2,312,453
Seed	,,	223,352	1,200	89,864	3,890	28,304	2,480	349,090
Other.. ..	,,	96,130	800	578	..	..	..	97,508
Total(a) ..	,,	*1,951,819*	*372,597*	*90,442*	*32,314*	*88,910*	*58,085*	*2,594,167*
Materials used—								
Superphosphate	Tons.	91,773	22,976	80	1,725	4,908	4,367	125,829
Seed	lb.	271,477	24,000	164,995	19,500	140,580	162	620,714
Spraying and Dusting—								
Area treated with—								
Insecticides ..	Acres.	45,068	70,929	50,620	18,019	258,834	5,596	449,066
Fungicides ..	,,	..	..	3,340	..	..	..	3,340
Herbicides ..	,,	65,587	67,556	23,308	7,346	357,186	128	521,111
Total(a) ..	,,	*110,655*	*134,561*	*75,267*	*25,365*	*609,216*	*5,724*	*960,788*
Total Area Treated(a)	,,	**2,066,974** (b)	**616,531** (c)	**165,709**	**57,679**	**698,126**	**63,809**	**3,668,828** (b) (c)

(a) Areas treated with more than one type of material in one operation are counted once only. (b) Includes 4,500 acres baited for rabbit destruction. (c) Includes 109,373 acres baited for rabbit destruction.

§ 26. Ensilage.

1. **Government Assistance.**—The several State Governments devote a considerable amount of attention to the education of the farming community with regard to the value of ensilage. Monetary aid is afforded in the erection of silos, and expert advice is supplied in connexion with the design of the silos and the cutting and packing of the ensilage.

2. **Quantity Made and Stocks Held on Farms.**—Information regarding production and farm stocks of ensilage for the years ended 31st March, 1957 to 1960, are given in the following table.

ENSILAGE : PRODUCTION AND FARM STOCKS.

(Tons.)

Period.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Total.
Production during—								
1956–57 season ..	106,521	187,220	46,255	50,900	12,644	60,454	210	464,204
1957–58 „ ..	91,486	194,850	41,367	23,230	27,988	52,125	58	431,104
1958–59 „ ..	243,990	301,839	73,365	68,988	76,997	63,974	410	829,563
1959–60 „ ..	202,821	281,566	60,129	19,744	73,265	46,933	90	684,548
Farm Stocks, as at—								
31st March, 1957 ..	135,302	(a)	74,705	41,338	8,466	67,135	580	(a)
„ „ 1958 ..	134,895	(a)	77,972	20,605	16,501	52,263	205	(a)
„ „ 1959 ..	333,178	254,695	126,693	50,170	53,549	62,758	435	881,478
„ „ 1960 ..	404,777	201,584	136,317	21,773	51,807	50,671	330	867,259

(a) Not available.

The drought of 1902–3 drew increased attention to the value of stocks of ensilage, and in the following seasons there was an increase both in the number of holdings on which ensilage was made and in the quantity produced. The accumulated stocks proved of great value during the 1914 drought. In recent years, there has been an increasing tendency to produce more ensilage. From 117,000 tons in 1950–51, the quantity produced rose fairly uniformly to 464,000 tons in 1956–57 and subsequently to a record level of 830,000 tons in 1958–59. Output in 1959–60 at 685,000 tons was 17 per cent. less than the previous year.

§ 27. Agricultural Colleges and Experimental Farms.

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

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

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

§ 28. Tractors on Rural Holdings.

The growth of mechanization in agriculture is indicated by the increase in the number of tractors on rural holdings from 41,943 in 1939 to 242,348 in 1960. The annual increase in numbers reached its peak in 1951–52 when over 20,000 additional tractors were enumerated on holdings. The rate of increase has declined in more recent years and over the last five years averaged only about 11,000 per annum.

The table below sets out the number of wheeled and crawler type tractors by States or the five years ended 1960.

TRACTORS ON RURAL HOLDINGS.

At 31st March—	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Aust.
WHEELED TYPE TRACTORS.									
1956	50,005	49,584	37,443	21,155	18,537	6,272	70	193	183,259
1957	52,477	52,275	39,627	22,826	19,352	6,967	83	191	193,798
1958	55,816	55,263	41,072	23,952	20,086	7,395	82	188	203,854
1959	56,453	57,818	42,709	25,116	20,989	7,838	103	193	211,219
1960	60,533	59,438	45,493	25,774	21,962	8,395	101	190	221,886
CRAWLER OR TRACK TYPE TRACTORS.									
1956	4,001	1,645	5,313	3,190	3,654	745	32	10	18,590
1957	4,232	1,621	5,576	3,186	3,556	843	31	8	19,053
1958	4,437	1,652	6,506	3,336	3,877	974	38	7	20,827
1959	4,493	1,684	6,998	3,416	3,996	968	38	7	21,600
1960	4,535	1,730	6,313	3,191	3,650	997	40	6	20,462
TOTAL TRACTORS.									
1956	54,006	51,229	42,756	24,345	22,191	7,017	102	203	201,849
1957	56,709	53,896	44,873	26,012	22,908	7,810	114	199	212,521
1958	60,253	56,915	47,578	27,288	23,963	8,369	120	195	224,681
1959	60,946	59,502	49,707	28,532	24,985	8,806	141	200	232,819
1960	65,068	61,168	51,806	28,965	25,612	9,392	141	196	242,348

§ 29. Number and Area of Rural Holdings and Employment Thereon.

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

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 under short-term lease or other arrangement, and the areas so occupied tend to fluctuate with the seasons. Similarly, there are rugged areas in the mountain country of some States which are also occasionally occupied.

The following table shows the recorded number and area of the holdings in each State for the seasons 1955–56 to 1959–60.

RURAL HOLDINGS : NUMBER AND AREA.

Season.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Aust.
NUMBER OF RURAL HOLDINGS.									
1955–56 ..	77,855	69,528	43,459	28,585	21,323	11,647	229	222	252,848
1956–57 ..	77,812	69,509	43,292	27,936	21,385	11,538	230	223	251,925
1957–58 ..	78,120	69,590	43,457	27,971	21,593	11,389	230	225	252,575
1958–59 ..	77,857	69,770	43,290	28,105	21,563	11,374	243	221	252,423
1959–60 ..	77,499	69,778	42,912	28,527	21,832	11,202	268	224	252,242

RURAL HOLDINGS : NUMBER AND AREA—*continued.*

Season.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Aust.
				TOTAL AREA OF RURAL HOLDINGS. ('000 ACRES.)					
1955–56 ..	172,255	37,857	367,464	149,965	229,734	6,628	160,153	389	1,124,445
1956–57 ..	172,411	37,659	368,689	149,932	232,689	6,508	168,447	390	1,136,725
1957–58 ..	173,278	37,822	368,833	152,045	236,667	6,547	167,210	392	1,142,794
1958–59 ..	172,978	37,755	370,240	152,312	238,264	6,573	156,897	381	1,135,400
1959–60 ..	172,721	37,735	371,373	155,437	244,619	6,512	158,806	382	1,147,585

2. **Special Tabulation Relating to Rural Holdings.**—(i) *Classification by Size.* Some of the information obtained from the 1955–56 Agricultural and Pastoral Census was classified by size, and the results of these tabulations are shown in detail in *Primary Industries, Part I.—Rural Industries*, Bulletin No. 51, and in summarized form in Official Year Book No. 44, page 913. Similar tabulations are being undertaken for 1959–60, but the results are not yet available.

(ii) *Classification by Type.* An experimental classification of holdings by type was carried out for New South Wales for 1955–56 in conjunction with the classification by size referred to above. An outline of the methods used and the results obtained are shown on page 914 of Official Year Book No. 44. The methods used in the 1955–56 experimental classification have been used as the basis for an Australia-wide classification of holdings by type being carried out for the 1959–60 season in conjunction with the classification of certain characteristics by size for that year.

3. **Employment on Rural Holdings.**—The following table shows, for each State, the recorded number of males working on rural holdings as at 31st March, 1960. Additional particulars relating to the number of males employed in agriculture are available up to 1941–42 in Official Year Book No. 36, page 852, and previous issues. Similar details for later years are not available.

MALES(*a*) ENGAGED ON RURAL HOLDINGS AT 31st MARCH, 1960.

Particulars.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	N.T.(*b*)	A.C.T.	Aust.
Permanent Males—									
Owners, Lessees or Share-farmers	(*c*)	(*c*)	44,707	23,022	20,231	7,888	192	167	(*c*)
Relatives of Owner, Lessee or Share-farmer over 14 years of age, not receiving wages or salary			3,452	2,690	1,433	197	28	5	
Employees, including Managers and Relatives working for wages or salary			18,401	8,059	8,916	4,457	626	122	
Total Permanent Males			*66,560*	*33,771*	*30,580*	*12,542*	*846*	*294*	
Temporary Males ..			*14,397*	*17,308*	*4,713*	*5,196*	*1,533*	*47*	
Total Males ..			80,957	51,079	35,293	17,738	2,379	341	

(*a*) Details for females not available. (*b*) 1,361 male full-blood aboriginals employed are included as temporary employees. (*c*) Not available.

The next table shows for Australia as a whole the number of persons working full-time on rural holdings as at 31st March of the five years 1954 to 1958.

PERSONS ENGAGED ON RURAL HOLDINGS, AUSTRALIA.(a)

Particulars.	As at 31st March—				
	1954.(b)	1955(b).	1956.	1957.	1958.
Permanent—					
Males—					
Owners, Lessees or Share-farmers ..	241,149	240,879	245,621	244,111	241,247
Relatives of Owner, Lessee or Share-farmer over 14 years of age, not receiving wages or salary ..	22,736	23,529	21,232	21,734	21,535
Employees, including managers and relatives working for wages or salary	93,748	91,479	89,334	90,599	91,308
Total, Males	357,633	355,887	356,187	356,444	354,090
„ Females	49,782	46,656	42,104	41,373	39,763
Total Permanent ..	*407,415*	*402,543*	*398,291*	*397,817*	*393,853*
Temporary—					
Total, Males	86,644	87,400	84,607	86,267	93,142
„ Females	8,365	9,238	9,638	11,324	12,986
Total Temporary ..	*95,009*	*96,638*	*94,245*	*97,591*	*106,128*
Grand Total ..	**502,424**	**499,181**	**492,536**	**495,408**	**499,981**

(a) Australian totals for 1959 and 1960 are not available. (b) Excludes Northern Territory.

4. **Salaries and Wages Paid to Employees on Rural Holdings.**—Particulars of salaries and wages paid to employees (including amounts paid to contractors) working full-time on rural holdings have been collected uniformly in all States from 1949–50. Details are set out below for each State for the year 1959–60, and for Australia as a whole for the years 1954–55 to 1957–58.

RURAL HOLDINGS : SALARIES AND WAGES(a) PAID TO EMPLOYEES, 1959-60. (£'000.)

Particulars.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Permanent—Males ..	(b)	(b)	13,582	5,629	6,022	3,206	501	129	(b)
Females ..			1,108	237	49	72	38	7	
Temporary(c)—Males ..			19,208	4,870	5,091	1,769	343	100	
Females ..			245	348	43	215	33	3	
Total			34,143	11,084	11,205	5,262	915	239	

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

RURAL HOLDINGS : SALARIES AND WAGES(a) PAID TO EMPLOYEES, AUSTRALIA.(b) (£'000.)

Particulars.	1954–55.(c)	1955–56.	1956–57.	1957–58.
Permanent—Males	53,951	55,752	58,707	63,397
Females	2,468	2,456	2,456	2,793
Temporary(d)—Males	53,855	53,200	54,431	59,982
Females	1,323	1,476	1,498	1,656
Total	**111,597**	**112,884**	**117,092**	**127,828**

(a) Includes value of keep. (b) Australian totals for 1958–59 and 1959–60 are not available. (c) Excludes Northern Territory. (d) Includes amounts paid to contractors.

5. **Persons (of all ages) Residing Permanently on Holdings.**—Particulars of persons (of all ages) residing permanently on rural holdings have been collected by all States at the annual Agricultural and Pastoral Census each year since 1954. Details for each State as at 31st March, 1960, and for Australia as a whole for the years 1955 to 1958, are shown below.

RURAL HOLDINGS : PERSONS (OF ALL AGES) RESIDING PERMANENTLY ON HOLDINGS AT 31st MARCH, 1960.

Particulars.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Males ..	(a)	145,056	106,430	58,889	47,878	27,788	1,134	530	(a)
Females ..		126,555	85,158	52,320	39,025	24,475	525	466	
Total ..		**271,611**	**191,588**	**111,209**	**86,903**	**52,263**	**1,659**	**996**	

(a) Not available.

RURAL HOLDINGS : PERSONS (OF ALL AGES) RESIDING PERMANENTLY ON HOLDINGS, AUSTRALIA.(a)

Particulars.	As at 31st March—			
	1955.	1956.	1957.	1958.
Males	549,734	557,274	563,894	560,196
Females	462,163	469,805	475,587	474,333
Total	**1,011,897**	**1,027,079**	**1,039,481**	**1,034,529**

(a) Australian totals for 1959 and 1960 are not available.