

CHAPTER XX.

AGRICULTURAL PRODUCTION.

NOTE.—Except where otherwise stated the "agricultural" years hereafter mentioned are taken as ending on 30th June.

Values of Australian oversea trade shown throughout this chapter are expressed as f.o.b. Australian currency, except where otherwise indicated.

§ 1. Introductory.

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.*)

§ 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.

At a muster taken in 1808 the following was the return of crops:—Wheat, 6,874 acres; maize, 3,389 acres; barley, 544 acres; oats, 92 acres; peas and beans, 100 acres; potatoes, 301 acres; turnips, 13 acres; orchards, 546 acres; and flax and hemp, 37 acres.

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

The 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 and during each of the eleven seasons ended 1949–50, and on page 973 there is a graph showing the area of crops in Australia from 1860 onward:—

AREA OF CROPS.
(Acres.)

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Australia.
1860–61	246,143	387,283	3,353	359,284	24,705	152,860	..	..	1,173,628
1870–71	385,151	692,840	52,210	801,571	54,527	157,410	..	..	2,143,709
1880–81	606,277	1,548,809	113,978	2,087,237	63,902	140,788	..	..	4,560,991
1890–91	852,704	2,031,955	224,993	2,093,515	69,678	157,376	..	..	5,430,221
1900–01	2,446,767	3,114,132	457,397	2,369,680	201,338	224,352	..	..	8,813,666
1910–11	3,386,017	3,952,070	667,113	2,746,334	855,024	286,920	360	..	11,893,838
1920–21	4,165,143	4,489,503	779,497	3,231,083	1,804,987	297,383	296	1,966	15,069,858
1930–31	6,811,247	6,715,660	1,144,216	5,426,075	4,792,017	267,632	1,550	5,419	25,163,816
1939–40	6,381,531	5,002,362	1,726,091	4,541,614	4,331,299	258,038	340	8,119	22,249,394
1940–41	6,374,354	4,467,191	1,734,248	4,234,348	4,026,969	253,941	322	6,457	21,117,830
1941–42	5,929,553	4,734,613	1,671,336	3,976,232	3,852,092	280,970	(a)	5,549	20,450,345
1942–43	5,297,313	3,816,430	1,742,802	3,436,675	2,819,713	300,005	(a)	6,779	17,419,717
1943–44	4,797,385	3,462,537	1,737,396	2,760,778	2,782,414	334,933	(a)	6,769	15,902,212
1944–45	5,044,792	4,310,152	1,796,833	3,179,374	2,790,376	342,916	(a)	7,410	17,471,853
1945–46	6,087,566	5,327,122	1,822,108	3,824,128	2,944,879	411,824	(a)	8,846	20,426,473
1946–47	6,511,493	5,102,980	1,617,280	3,884,459	3,589,971	361,120	(a)	9,282	21,076,585
1947–48	7,168,068	5,023,149	1,848,539	3,851,855	4,026,201	342,311	(a)	11,409	22,271,532
1948–49	5,714,369	4,644,841	1,952,495	3,757,426	4,215,112	344,734	(a)	9,790	20,635,757
1949–50	5,670,364	4,480,202	2,056,918	3,617,252	4,398,525	368,057	(a)	9,633	20,609,951

(a) Not available.

The progress of agriculture was practically uninterrupted from 1860 to 1915-16, when, as the result of a special effort to raise wheat during the 1914-18 War, 18,528,234 acres were cultivated in Australia. Four years later the area of crops declined to 13,296,407 acres owing to the accumulation of wheat stocks consequent upon the difficulty of securing freight space during the war years. After the termination of hostilities the area again began to expand and rose steadily to a new maximum of 25,163,816 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. Subsequently the area increased and reached a maximum of 23½ million acres in 1938-39. Thereafter it declined to less than 16 million acres in 1943-44, rising in each succeeding year up to and including 1947-48, when 22.3 million acres were under crop. A fall to 20.6 million acres was recorded in 1948-49, and this level was maintained in 1949-50. As the area under wheat in Australia constitutes a large proportion of the total areas cropped (58 per cent. during the ten years ended 1949-50), fluctuations in the latter follow broadly the same pattern as changes in wheat areas.

3. **Area under Sown Pastures.**—In all the 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, which are not included in "area of crops", have expanded from 5½ million acres in 1929-30 to 18.2 million acres in 1949-50.

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 Minister for Commerce and Agriculture 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 technical committee known as the Standing Committee on Agriculture was formed to act in an advisory capacity to the Council. Its functions, in addition to advising the Agricultural Council on the above-mentioned matters, include the following:—(i) to secure co-operation and co-ordination in agricultural research throughout Australia; (ii) to advise the Commonwealth and State Governments, either directly or through the Council, on matters pertaining to the initiation and development of research on agricultural problems; and (iii) to secure co-operation between the Commonwealth and States and between the States in respect of quarantine measures relating to pests and diseases of plants and animals, and to advise the Commonwealth and State Governments. The personnel of this Committee consists of the permanent heads of the State Departments of Agriculture, members of the Executive Committee of the Commonwealth Scientific and Industrial Research Organization, the Commonwealth Director-General of Health, the Secretary, Department of Commerce and Agriculture, the Director-General of Agriculture and a representative of the Commonwealth Treasury. The Council and the Standing Committee meet normally two or three times a year according to the nature and urgency of the problems to be discussed.

§ 3. Distribution, Production and Value of Crops.

1. **Distribution of Crops.**—The following table shows the areas in the several States and Territories of each of the principal crops for the season 1949-50. Similar details for the season 1948-49 appear in Part II. of *Production Bulletin* No. 43.

AREA OF PRINCIPAL CROPS, 1949-50.

(Acres.)

Crop.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Aust.(a)
Cereals for Grain—								
Barley—								
2 Row ..	9,463	211,852	16,992	651,214	33,846	3,990	..	927,357
6 Row ..	3,352	24,271	8,082	42,544	34,119	356	..	112,724
Maize ..	72,872	5,136	115,550	..	20	10	3	193,591
Oats ..	374,729	483,190	20,456	261,416	584,603	22,812	346	1,747,552
Rice ..	37,540	..	..	..	..	..	..	37,540
Rye ..	1,155	16,690	309	39,537	5,223	246	..	63,160
Wheat ..	4,011,744	2,828,273	600,013	1,896,324	2,894,020	5,473	4,460	12,240,307
Hay ..	339,091	606,525	55,108	294,590	216,320	91,335	2,271	1,605,240
Green Fodder ..	584,541	(b) 44,928	581,811	277,265	550,690	136,412	2,249	2,177,896
Other Stock Fodder ..	4,680	18,672	16,359	17,251	10,142	24,608	..	91,712
Grass and other Seeds ..	9,242	12,028	1,809	27,896	17,049	2,097	..	70,121
Industrial Crops—								
Cotton ..	..	..	2,688	..	..	..	..	2,688
Broom Millet ..	2,815	94	191	..	..	..	..	3,100
Flax for Fibre ..	..	5,261	..	1,753	2,441	..	..	9,455
Hops ..	..	278	..	..	(c)	1,315	..	(d) 1,593
Sugar-cane—								
Productive ..	8,517	..	272,812	..	..	..	..	281,329
Unproductive ..	8,378	..	108,517	..	..	..	..	116,895
Tobacco ..	327	919	2,677	..	661	..	..	4,584
Vegetables—								
Legumes—								
Beans, Navy ..	(e)	..	2,147	..	..	30	..	(d) 2,177
Peas, Blue ..	(e)	151	..	..	..	7,662	..	(d) 7,813
Onions ..	225	4,093	2,371	435	371	28	3	7,526
Potatoes, ordinary ..	23,369	50,651	11,624	7,245	6,895	34,110	108	134,002
Other vegetables for human consumption ..	54,050	35,210	32,304	8,560	8,432	6,480	80	145,116
Vines—								
Bearing ..	15,067	42,552	2,651	54,378	8,269	..	10	122,927
Not bearing ..	1,864	2,834	484	5,875	1,407	..	..	12,464
Orchards and other Fruit Gardens ..	94,725	71,046	35,986	26,858	22,744	28,471	98	279,928
All other Crops ..	12,618	15,548	165,977	4,111	1,273	2,622	5	202,154
Total Area ..	5,670,364	4,480,202	2,056,918	3,617,252	4,398,525	368,057	9,633	20,600,951

(a) Excludes Northern Territory, details for which are not available. (b) Excludes 56,834 acres of pasture land sown to lucerne and 191,493 acres sown to oats, for grazing. (c) Not available for publication. Included with "All other Crops". (d) Incomplete. (e) Not available. Included with "All other Crops".

2. **Relative Areas of Crops in States and Territories.**—The proportion of each of the crops cultivated to the extent of over 100,000 acres in the various States and Territories on the total area of crops for the season 1949-50 is shown in the next table. Similar details for the season 1948-49 appear in Part II. of *Production Bulletin* No. 43. In four of the States, namely, New South Wales, Victoria, South Australia and Western Australia, wheat-growing for grain is by far the most extensive crop. In Queensland the most extensive crops are wheat, green fodder and sugar-cane, and in Tasmania, green fodder, hay and potatoes.

As pointed out previously, wheat is the main crop in Australia, the area thereof, for grain only, representing approximately 60 per cent. of the total area of crops in 1949-50.

RELATIVE AREAS UNDER CROP, 1949-50.
(Per Cent.)

Crop.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Aust.(a)
Wheat (Grain) ..	70.74	63.13	29.17	52.42	65.80	1.49	46.30	50.42
Green Fodder(b) ..	10.27	1.00	28.17	7.67	12.52	37.06	23.35	10.55
Oats (Grain) ..	6.61	10.79	0.99	7.23	13.29	6.20	3.59	8.48
Hay ..	5.98	13.54	2.68	8.14	4.92	24.81	23.57	7.79
Barley (Grain) ..	0.23	5.27	1.22	19.18	1.54	1.18	..	5.05
Sugar-cane ..	0.31	..	18.66	..	..	..	..	1.95
Orchards and Fruit Gardens ..	1.67	1.59	1.75	0.74	0.52	7.74	1.02	1.36
Maize (Grain) ..	1.29	0.11	5.62	..	..	..	0.03	0.94
Vineyards ..	0.30	1.01	0.15	1.67	0.22	..	0.10	0.66
Potatoes, ordinary ..	0.41	1.13	0.57	0.20	0.15	9.27	1.12	0.65
All other ..	2.19	2.43	11.02	2.75	1.04	12.25	0.92	3.15
Total ..	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

(a) Excludes Northern Territory, details for which are not available. (b) Includes green forage except in Victoria.

3. Area of Principal Crops in Australia.—The area of the principal crops during each of the five seasons ended 1949-50, compared with the average for the decennium ended 1938-39 is shown hereunder:—

AREA OF PRINCIPAL CROPS : AUSTRALIA.
(’000 Acres.)

Crop.	Average, ten years ended 1938-39.	1945-46.	1946-47.	1947-48.	1948-49.	1949-50.
Cereals for Grain—						
Barley, 2 Row ..	428	593	663	745	899	927
Maize ..	295	236	260	223	182	194
Oats ..	1,393	1,949	1,728	2,105	1,770	1,748
Rice ..	22	28	32	26	33	38
Wheat ..	14,345	11,425	13,180	13,880	12,583	12,240
Hay ..	2,994	2,757	2,006	1,970	1,580	1,605
Green Fodder ..	1,272	1,806	1,602	1,705	2,011	2,178
Vegetables—						
Beans and Peas ..	49	35	19	11	10	10
Onions ..	8	12	9	11	10	8
Potatoes, ordinary ..	130	176	145	146	120	134
Other vegetables for human consumption ..	(a) 34	231	186	156	166	145
Industrial Crops—						
Cotton ..	43	8	8	8	6	3
Hops ..	1	1	1	2	2	2
Sugar-beet ..	3	..	1	1	..	..
Sugar-cane ..	332	337	324	345	384	398
Tobacco ..	12	4	4	4	4	5
Vineyards ..	118	129	130	132	135	135
Orchards ..	276	270	280	290	287	280
All other Crops ..	203	429	499	512	454	551
Total ..	21,958	20,426	21,077	22,272	20,636	20,601

(a) Market Gardens.

4. Weights and Measures.—The production of agricultural commodities in Australia is recorded in terms of either capacity or weight. When measured in terms of capacity the unit is the bushel of 2,218.192 cubic inches or gallon of 277.274 cubic inches. When measured in terms of weight, the unit adopted is either the long ton of 2,240 lb. (except in the case of flour, bran and pollard, when the short ton of 2,000 lb. is used), the hundred-weight (cwt.) of 112 lb. or pound (lb.).

The production of cereals and fruit is recorded in bushels, the production of wine in gallons, while hay, vegetables, grapes and industrial crops are measured by weight, generally in terms of long tons or owt.

In the following table the weights adopted per bushel are shown for the more important cereals, fruits, etc. Several types of cases are used for fruits, but in determining the average weights shown below, that with a capacity of 2,223 cubic inches was adopted. The packed weight of a bushel of fruit also is subject to considerable variation according to the kind and variety of fruit.

Data compiled by the State Departments of Agriculture made available to this Bureau were used in determining these average weights.

APPROXIMATE BUSHEL EQUIVALENTS.

Commodity.	Approximate Bushel Equivalent in lb.	Commodity.	Approximate Bushel Equivalent in lb.
Cereals—		Fruit—continued.	
Barley	50	Bananas	56
Canary Seed	56	Cherries	48
Maize	56	Citrus—	
Millets	60	Oranges	48
Oats	40	Mandarins	48
Panicum	60	Lemons	48
Rice (Paddy)	42	Grape Fruit	42
Rye	60	Custard Apples	35
Sorghum	60	Figs	44
Wheat	60	Mangoes	40
Legumes—		Nectarines	50
Beans	60	Passion Fruit	34
Peas	60	Peaches	45
Other Crops—Flax Seed	56	Pears	45
Fruit—		Persimmons	44
Apples	42	Plums and Prunes	58
Apricots	48	Quinces	42

5. Production of Principal Crops in Australia.—The following table shows the production of the principal crops for the five years ended 1949-50, and for the decennium ended 1938-39:—

PRODUCTION OF PRINCIPAL CROPS: AUSTRALIA.

Crop.	Unit of Quantity.	Average, ten years ended 1938-39.	1945-46.	1946-47.	1947-48.	1948-49.	1949-50.
Cereals for Grain—							
Barley, 2 Row	'000 bus.	7,480	9,581	10,558	18,937	15,929	17,569
Maize	" "	7,228	5,729	5,808	6,168	5,188	5,996
Oats	" "	16,437	25,774	15,566	40,697	23,601	27,391
Rice	" "	2,005	2,755	2,978	2,676	2,739	3,783
Wheat	" "	169,398	142,410	117,262	220,116	190,703	218,221
Hay	" tons	3,490	3,493	2,357	3,008	2,292	2,430
Vegetables—							
Beans and Peas (Dry)	" "	20	10	8	5	5	5
Onions	" "	43	67	45	86	57	48
Potatoes, ordinary	" "	351	646	544	498	460	471
Industrial Crops—							
Cotton, Unginned	" lb.	15,667	1,819	3,022	2,064	(a) 1,821	719
Hops	" "	2,127	2,222	2,495	(a) 2,738	(a) 1,912	(a) 2,575
Sugar (from Beet)	" tons	5	5	10	0.6	..	..
Sugar (from Cane)	" "	658	666	552	605	943	937
Tobacco (Dried leaf)	" lb.	5,113	2,505	3,994	2,484	3,410	4,138
Vineyards—							
Grapes	" tons	381	447	435	510	436	432
Wine made	" gals.	16,330	25,858	33,190	34,159	34,183	33,966
Raisins and Currants	" tons	70	74	65	85	65	68

(a) Incomplete, excludes Western Australia.

6. **Average Yield per Acre of Principal Crops in Australia.**—The following table shows the yield per acre for Australia of the principal crops for the five years ended 1949-50 and the decennium ended 1938-39.

AVERAGE YIELD PER ACRE OF PRINCIPAL CROPS : AUSTRALIA.

Crop.	Unit of Quantity.	Average, ten years ended 1938-39.	1945-46.	1946-47.	1947-48.	1948-49.	1949-50.
Cereals for Grain—							
Barley, 2 Row	Bushel	17.49	16.15	15.92	25.43	17.72	18.95
Maize	"	24.53	24.30	22.36	27.69	28.51	30.97
Oats	"	11.80	13.22	9.01	19.33	13.34	15.67
Rice	"	93.00	96.40	93.08	102.12	83.79	100.78
Wheat	"	11.81	12.46	8.90	15.86	15.15	17.83
Hay	Ton	1.17	1.27	1.18	1.53	1.45	1.51
Vegetables—							
Onions	"	5.54	5.38	4.77	8.00	5.81	6.34
Potatoes, ordinary	"	2.71	3.67	3.76	3.42	3.84	3.52
Industrial Crops—							
Cotton, Unginned (a)	lb.	366	236	382	244	293	267
Hops (a)	"	2,003	1,754	1,702	1,831	1,250	1,616
Sugar (from Beet)	Ton	1.40	..	1.35	1.06	..	..
Sugar (from Cane) (a)	"	2.76	2.83	2.43	2.72	3.54	3.33
Tobacco (Dried leaf)	lb.	463	631	889	646	918	903
Vineyards—							
Grapes (a)	Ton	3.45	3.62	3.52	4.12	3.53	3.51
Wine (a)	Gallon	340	471	570	608	580	584
Baisins and Currants (a)	Ton	1.28	1.23	1.14	1.43	1.15	1.22

(a) Per acre of productive crops.

7. **Gross Value of Agricultural Production in Australia.**—The following table shows the gross value of recorded agricultural production at the principal markets in Australia for the decennium ended 1938-39 and the five years ended 1949-50 :—

GROSS VALUE OF AGRICULTURAL PRODUCTION : AUSTRALIA.
(£'000.)

Crop.	Average, ten years ended 1938-39.	1945-46.	1946-47.	1947-48.	1948-49.	1949-50.
Cereals for Grain—						
Barley	1,214	(a) 3,406	(a) 4,847	16,299	7,394	10,709
Maize	1,537	2,054	2,119	2,340	2,640	2,806
Oats	1,937	(a) 4,573	(a) 3,432	12,823	5,458	8,254
Rice	397	672	892	950	1,032	1,653
Wheat (a)	30,125	51,421	52,124	156,174	107,224	(b) 128,798
Hay	11,413	18,445	11,586	17,096	14,561	17,770
Green Fodder	2,775	3,854	3,627	(c) 3,518	(c) 3,635	(c) 3,894
Vegetables—						
Beans and Peas (Dry)	230	493	495	608	808	1,046
Onions	245	961	744	1,245	863	1,058
Potatoes, ordinary	2,314	7,989	6,734	6,543	8,125	9,142
Other vegetables for human consumption	(d) 1,973	15,124	12,838	12,025	12,599	14,590
Industrial Crops—						
Cotton, Unginned	(a) 298	(a) 42	66	46	48	26
Hops	157	226	278	(c) 318	(c) 284	(c) 465
Sugar-beet	73	3	27	19	..	..
Sugar-cane	7,895	10,400	9,035	11,422	17,996	18,581
Tobacco (Dried leaf)	474	328	538	405	695	1,146
Vineyards	3,907	6,505	6,727	8,398	7,475	8,886
Orchards	(a) 7,953	(a) 18,750	17,933	22,066	20,160	26,273
All other Crops	2,578	3,851	4,294	5,165	6,608	6,994
Total, Gross Value	77,490	149,097	138,336	277,460	217,695	262,091

(a) Includes Governmental assistance. (b) Subject to revision. (c) Incomplete. (d) Market Gardens.

8. **Value of Production.**—(i) *Gross and Net Values, 1948-49 and 1949-50.* Uniform methods for arriving at the gross and net values of production in the various States were determined at a Conference of Statisticians held in March, 1935. The returns for the year 1933-34 and subsequent years have been valued on the new basis, and a revaluation

was made for the years back to 1928-29. 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 XXIX.—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 figure stated is inflated to that extent.

GROSS, FARM AND NET VALUES OF AGRICULTURAL PRODUCTION, 1948-49 AND 1949-50.
(£'000.)

State.	Gross Production valued at Principal Markets.	Marketing Costs.	Gross Production valued at Farm.	Farm Costs.		Net Value of Production. (a)	Depreciation (estimated).
				Seed used, and Fodder for Farm Stock.	Value of other Materials used in process of production.		
1948-49.							
New South Wales ..	62,222	8,335	53,887	6,338	(c) 1,344	46,205	(d)
Victoria ..	59,432	5,268	45,164	6,965	2,160	36,039	950
Queensland ..	36,695	3,820	32,875	2,790	2,550	27,535	1,690
South Australia ..	31,793	3,253	28,540	3,074	1,333	23,933	595
Western Australia ..	29,715	2,585	26,530	1,936	2,853	21,741	(d)
Tasmania ..	7,311	1,763	5,548	1,333	(c) 234	3,981	126
Total ..	217,568	25,024	192,544	22,436	10,674	159,434	(e) 3,361
1949-50.(b)							
New South Wales ..	78,927	10,436	68,491	5,028	(c) 1,373	62,090	(d)
Victoria ..	64,980	6,645	58,335	7,139	2,489	48,707	950
Queensland ..	39,231	4,080	35,151	2,980	2,730	29,441	1,810
South Australia ..	38,096	3,552	34,544	2,495	1,001	30,448	594
Western Australia ..	31,504	3,018	28,486	1,676	3,265	23,545	(d)
Tasmania ..	9,201	1,863	7,338	1,667	(c) 337	5,334	130
Total ..	261,939	29,594	232,345	20,985	11,795	199,565	(e) 3,484

(a) No deduction has been made for depreciation and maintenance. (b) Subject to revision.
(c) No allowance made for costs of power, power kerosene, petrol and other oils. (d) Not available.
(e) Incomplete.

(ii) *Net Values, 1929-30 to 1949-50.* 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 1945-46 to 1949-50 in comparison with the averages for the decennial periods ended 1938-39 and 1949-50:—

NET VALUE OF AGRICULTURAL PRODUCTION.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Total.
NET VALUE.(a)(£'000.)							
Average ten years 1929-30 to 1938-39	13,304	10,508	10,189	6,540	4,903	1,824	47,268
1945-46 ..	39,199	20,327	18,731	13,781	9,472	4,344	105,854
1946-47 ..	29,351	29,266	15,373	18,871	11,842	3,339	99,042
1947-48 ..	79,308	48,173	27,730	39,938	26,949	3,937	221,035
1948-49 ..	45,205	36,039	27,535	23,933	21,741	3,981	159,434
1949-50 (b)	62,090	48,707	29,441	30,448	23,545	5,334	199,565
Average ten years 1940-41 to 1949-50	34,238	25,511	19,139	17,189	12,217	4,005	112,299
NET VALUE PER HEAD OF POPULATION. (£ s. d.)							
Average ten years 1929-30 to 1938-39	5 1 2	5 14 11	10 13 0	11 3 10	11 0 9	7 18 5	7 1 4
1945-46 ..	13 7 4	10 1 8	17 5 7	21 16 9	20 1 9	17 7 1	14 4 10
1946-47 ..	6 17 4	14 6 11	14 0 3	29 9 3	23 16 4	13 2 3	13 3 4
1947-48 ..	26 7 8	23 5 8	20 8 6	61 4 7	52 19 2	15 0 10	28 18 7
1948-49 ..	15 1 7	17 1 1	24 5 4	35 19 8	41 12 8	14 16 9	20 8 10
1949-50(b)	19 11 6	22 8 11	25 6 3	44 6 8	43 2 10	19 4 7	24 15 10
Average ten years 1940-41 to 1949-50	11 9 9	12 8 3	17 10 8	26 12 6	24 2 11	15 16 1	14 16 9

(a) No deduction has been made for depreciation and maintenance. (b) Subject to revision.

§ 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.

Reference to the financial assistance to the wheat industry will be found in § 20. Bounties, hereafter.

2. **Wheat Costs of Production Committee.**—A Wheat Costs of Production Committee was appointed by the Commonwealth Government in February, 1947, to enquire into and report upon :—(i) the reasonable costs of production of wheat per bushel in Australia's main wheat-growing districts, and (ii) whether basic items of costs could be established as an index to periodical variations in costs of the production of wheat. The Committee in its report to the Commonwealth Government in March, 1948, found that the cost of growing wheat in the Commonwealth was 6s. per bushel at sidings and advised that basic items of cost could be established as an index to periodical variations in wheat production costs.

3. **Licensing of Areas Sown to Wheat, and Acreages Sown.**—Details of the operations of the Wheat Stabilization Board in licensing wheat growing during the seasons 1941-42 to 1948-49 will be found in Official Year Book No. 38, pp. 940, 941. The Board ceased to function on 31st December, 1948.

4. **Legislation relating to Wheat Industry.**—(i) *Financial Assistance to Wheat Growers.* Details of financial assistance rendered by the Commonwealth Government to wheat growers between the years 1931-32 and 1944-45 were given on page 1296 of Official Year Book No. 37.

(ii) *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 permanent Wheat Stabilization Plan in 1948, were given in the Appendix to Official Year Book No. 37 (pp. 1295-99).

(iii) *Wheat Stabilization Plan.* Briefly, the principal provisions of the Wheat Stabilization Plan, which is operated by the Australian Wheat Board conjointly with State Wheat Boards and similar authorities nominated by State Governments, are as follows :—

- (a) The Commonwealth Government has guaranteed a price for wheat grown and delivered to the Australian Wheat Board or other approved organizations for each season 1947-48 to 1952-53.
- (b) The price guaranteed was 6s. 3d. per bushel f.o.r. ports, bulk basis (this being related to costs of producing wheat in the 1947-48 season), subject to variation, as agreed upon by the Commonwealth Minister for Commerce and Agriculture in consultation with the appropriate State Ministers, in accordance with variations in the cost of producing wheat in subsequent seasons. Following reviews of wheat production costs, the guaranteed price was increased to 6s. 8d. per bushel f.o.r. ports, bulk basis for the 1948-49 season and to 7s. 1d. per bushel for the 1949-50 season. For the 1947-48 and 1948-49 seasons the price of wheat fixed for home consumption was the guaranteed price of 6s. 3d. and 6s. 8d. per bushel respectively, but for the 1949-50 season it remained unchanged from the previous year at 6s. 8d. per bushel. The additional 5d. per bushel payable to growers for wheat for home consumption in 1949-50 was met by subsidy provided by the Commonwealth Government. For the 1950-51 season the subsidy was withdrawn and the guaranteed and home consumption prices fixed at 7s. 10d. per bushel (f.o.r. ports, bulk basis).

- (c) The guaranteed price applies in respect of the export from any one season's crop up to a maximum of 100,000,000 bushels.
- (d) A Wheat Prices Stabilization Fund has been established by means of a tax on wheat exported. The tax applies when the export price is greater than the guaranteed price, the rate of tax being 50 per cent. of the difference between the two but not exceeding 2s. 2d. per bushel.
- (e) The Stabilization Fund will be drawn upon as required to meet the guaranteed price when this exceeds the export price. If amounts held in the Fund are at any time insufficient for this purpose, the deficiency will be provided by the Commonwealth Government from Consolidated Revenue.

(iv) *The Australian Wheat Board and the Stabilization Fund.* The Australian Wheat Board, as reconstituted under the Commonwealth Wheat Industry Stabilization Act 1948, commenced to perform its functions under the Act on 18th December, 1948.

The provisions of the Commonwealth Wheat Stabilization Plan relating to the levy of a tax on wheat exported and the establishment of a Stabilization Fund were implemented by the Commonwealth Government under legislation passed in 1946 in respect of the 1945-46, 1946-47 and 1947-48 harvests. Contributions to the Stabilization Fund from these harvests amounted to about £7,000,000, £4,000,000 and £16,400,000 respectively, these amounts having since been refunded to growers. Contributions to the Fund from the 1948-49 and 1949-50 (collected under the 1948 legislation) harvests were approximately £12,500,000 and £15,000,000 respectively. The 1948-49 harvest contributions were also refunded to growers early in 1952.

5. *War-time and Post-war Marketing of Wheat.*—(i) *General.* On page 908 of Official Year Book No. 37 an outline was given of the circumstances leading up to the establishment by the Commonwealth Government on 21st September, 1939 of the Australian Wheat Board under the National Security (Wheat Acquisition) Regulations.

(ii) *Australian Wheat Board.* Under the Wheat Acquisition Regulations the Board was empowered, subject to directions of the Minister for Commerce and Agriculture, 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 necessary to give effect to the regulations under which it was created. The Australian Wheat Board was reconstituted and vested with similar powers under the Commonwealth Wheat Stabilization Act 1948 for the purpose of administering the post-war Wheat Stabilization Plan (see paragraph 4 (iii) above). The reconstructed Board commenced operations on 18th December, 1948.

(iii) *Wheat Acquired and Disposed of.* (a) *Wheat Acquired.* Particulars of wheat acquired by the Australian Wheat Board up to 30th November, 1950 are shown in the following table:—

AUSTRALIAN WHEAT BOARD : WHEAT ACQUIRED TO 30th NOVEMBER, 1950.
('000 Bushels.)

Pool.	Harvest.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Australia.
1	1938-39a	6,226	2,805	..	5,884	2,925	..	17,840
2 and 3	1939-40	66,688	46,960	6,255	38,130	37,370	41	195,444
4	1940-41	16,919	9,985	5,287	13,818	17,575	75	63,659
5	1941-42	41,235	48,135	2,680	27,738	34,078	78	153,944
6	1942-43	44,709	40,213	4,403	34,660	17,983	22	141,990
7	1943-44	40,880	17,227	4,599	18,141	13,853	57	94,757
8	1944-45	12,167	941	5,837	6,758	13,079	39	38,821
9	1945-46	54,889	25,621	7,492	18,162	17,742	23	123,929
10	1946-47	8,635	44,482	444	24,818	20,521	68	98,968
11 and 11A	1947-48	89,416	44,402	10,017	29,572	31,128	59	204,594
12	1948-49	58,358	46,661	13,544	23,515	32,828	103	175,009
13	1949-50	75,447	55,236	11,195	26,374	34,577	88	202,917
Total to 30th November, 1950.. ..	.. ..	515,569	382,668	71,753	267,570	273,659	653	1,511,872

(a) Balance only.

(b) *Wheat Disposal.* Details relating to the disposal of this wheat are shown in the following table :—

**AUSTRALIAN WHEAT BOARD : DISPOSAL OF WHEAT
TO 30th NOVEMBER, 1950.**

('000 Bushels.)

Particulars.	To 30th November, 1945.	1946.	1947.	1948.	1949.	1950.	Total to 30th November, 1950.
Sold for export as wheat ..	197,055	19,820	13,314	104,253	67,225	80,931	482,598
Sold for export as flour ..	149,557	37,487	34,927	45,553	41,938	30,947	340,409
Sold for local consumption as flour	203,004	32,204	30,833	33,606	34,493	35,484	369,624
Sold for all other purposes..	151,723	26,283	25,071	22,702	24,109	25,499	275,387

(iv) *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.

**AUSTRALIAN WHEAT BOARD : FINANCIAL OPERATIONS
TO 30th NOVEMBER, 1950.**

(£.)

Particulars.	No. 8 Pool. (a)	No. 9 Pool. (a)	No. 10 Pool.(a)	Nos. 11 and 11A Pools.(b)	No. 12 Pool.(b)	No. 13 Pool.(b)
Paid to growers	8,843,681	44,274,573	43,683,708	126,316,867	83,493,879	62,058,452
Rail freight	758,564	2,460,831	1,795,753	5,118,191	4,560,000	6,130,000
Expenses	1,103,715	1,810,734	1,769,592	3,829,313	3,162,630	4,070,000
Total Payments	10,705,960	48,546,138	47,249,053	135,264,371	91,216,509	72,258,452
Value of sales delivered	8,842,989	47,785,890	45,309,645	(e) 152,729,793	(f) 104,365,597	(g) 105,673,044
Value of flour tax	1,862,971	760,248	1,939,408	..	..	..

(a) Complete. (b) Incomplete. (c) Includes £6,900,000 collected under Wheat Export Charges Act 1946 and subsequently distributed to growers, plus interest, £219,633. (d) Includes £4,329,780 collected under Wheat Export Charges Act 1946 and subsequently distributed to growers, plus interest, £99,224. (e) Includes £16,420,334 paid into Wheat Prices Stabilization Fund under Wheat Export Charges Act 1948, since refunded and distributed to growers, plus interest £579,666. (f) Includes £12,486,161 paid into Wheat Prices Stabilization Fund under Wheat Export Charges Act 1948, plus interest, £464,027. (g) Includes £8,681,376 paid into Wheat Prices Stabilization Fund under Wheat Export Charges Act, 1948.

NOTE.—Details of earlier pools will be found in Official Year Books No. 36, p. 798, No. 37, p. 909 and No. 38, p. 943.

(v) *Advances to Growers.* Full details of advances made to wheat growers in respect of No. 7 and preceding pools were given in Official Year Book No. 37 (pp. 910, 911) and in earlier issues of the Year Book.

The table below shows particulars of advances made in pools Nos. 11, 11A, 12, 13 and 14 to 31st August, 1951.

WHEAT POOLS Nos. 11 to 14 : ADVANCES MADE TO GROWERS TO 31st AUGUST, 1951.

Particulars.	Amount Paid (Trucks Terminal Port Basis).									
	No. 11 Pool.(a)		No. 11A Pool.(a)(b)		No. 12 Pool.(c)		No. 13 Pool.(c)		No. 14 Pool.(c)	
	Per Bushel.	Total.	Per Bushel.	Total.	Per Bushel.	Total.	Per Bushel.	Total.	Per Bushel.	Total.
	<i>s. d.</i>	£'000.	<i>s. d.</i>	£'000.	<i>s. d.</i>	£'000.	<i>s. d.</i>	£'000.	<i>s. d.</i>	£'000.
Advances made to Growers—										
1st Payment—										
Bulk ..	4 6	} 46,608	4 6	} 1,672	5 6	} 45,339	6 0	} 62,833	6 7	} 57,066
Bagged ..	5 0		5 0		5 0		6 6		7 3	
2nd Payment—										
Bulk ..	2 0	} 19,789	2 0	} 670	1 6	} 13,126	2 0	} 20,291	1 0	} 8,454
Bagged ..	2 0		2 0		1 6		2 0			
3rd Payment—										
Bulk ..	2 0	} 19,789	2 0	} 670	1 0	} 8,750	1 6	} 15,218		
Bagged ..	2 0		2 0		1 0		1 6			
4th Payment—										
Bulk ..	2 0	} 19,789	1 6	} 503	2 0	} 17,501	1 6	} 15,212		
Bagged ..	2 0		1 6		2 0		1 6			
5th Payment—										
Bulk ..	1 6	} 14,842	1 0	} 335	3 3	} 3,093	0 5	} 5,529		
Bagged ..	1 6		1 0		5 9		0 9			
6th Payment—										
Bulk ..	0 7	} 6,292	0 11½	} 362						
Bagged ..	0 8½		1 1							
7th Payment—										
Bulk ..	1 8.715	} 17,180	1 8.277	} 574						
Bagged ..	1 9		1 8.562							
Total—										
Bulk ..	14 3.715	} 144,289	13 7.777	} 4,786	9 9.3	} 87,809	11 5	} 119,083	7 7	} 65,520
Bagged ..	14 11½		14 3.562		10 5.9		12 3		8 3	

(a) Rail freight was deducted from 2nd payment.

(b) This Pool refers to low grade wheat (under 54 lb. per bushel) which was segregated from other wheat received in No. 11 Pool.

(c) Rail freight was deducted from 1st payment.

6. International Wheat Agreement.—Following a series of unsuccessful attempts extending over a period of years to secure an arrangement for the stabilization of international trade in wheat, an International Wheat Agreement was signed in Washington, D.C., United States of America, on 6th March, 1948, by 33 importing nations and the three exporting countries of Canada, United States of America and Australia. However, principally owing to the failure of the Government of the United States of America to ratify the Agreement within the prescribed time, it was allowed to lapse.

A further International Wheat Agreement was signed in Washington in March and April, 1949 by the representatives of 41 nations, comprising all the important wheat importing countries excluding Germany and Japan and the wheat exporting countries of Canada, United States of America, Australia, France and Uruguay. The 1949 Agreement is similar to that proposed in 1948, its stated objectives being "to assure supplies of wheat to importing countries and markets for wheat to exporting countries at equitable and stable prices".

The new Agreement covers a period of four years from 1st August, 1949 to 31st July, 1953, with provision for extension beyond that date, if desired. Under its terms, the exporting countries participating in the Agreement must sell specified minimum quantities of wheat each year if required by importing countries to do so at the maximum price quoted in the Agreement, while the importing countries are obliged to buy specified quantities if required by the exporter at the minimum price quoted for the relevant year. Expressed in Australian currency equivalent, the maximum price in respect of transactions under the Agreement is approximately 16s. 1d. per bushel for each year, while minimum prices range from 13s. 5d. per bushel in 1949-50 to 10s. 9d. per bushel in 1952-53.

The export and import quotas originally specified in the Agreement, totalling 456.3 million bushels, have subsequently been varied because of—(i) the withdrawal of certain countries from participation in the Agreement (Uruguay as an exporter, and China, principally, of the importing countries), and (ii) the admission of new members to the Agreement. The principal new participants were Germany (from late 1949) and Japan (from 1951–52), for which the United States of America had originally accepted responsibility for wheat supplied outside the provisions of the Agreement.

Details of the adjusted quotas (which totalled 562.5 million bushels for 1950–51) for the principal exporting and importing countries participating in the Agreement are shown in the following table. The table also shows transactions recorded under the Agreement for the year August, 1950 to July, 1951.

INTERNATIONAL WHEAT AGREEMENT : GUARANTEED ANNUAL SALES AND PURCHASES AND TRANSACTIONS RECORDED FOR 1950–51.
(’000,000 Bushels.)

Exporting Country.	Guaranteed Annual Sales.(a)	Sales Recorded 1950–51.	Importing Country.	Guaranteed Annual Purchases.(a)	Purchases Recorded 1950–51.
United States of America ..	248.1	249.1	United Kingdom	177.1	177.1
Canada	221.6	191.0	Germany	66.1	59.4
Australia	88.7	87.3	Italy	40.4	30.0
France	4.1	3.9	India	38.3	55.2
			Netherlands	27.6	23.0
			Belgium	20.2	20.3
			Union of South Africa	11.0	8.3
			Remaining Importing Countries	181.8	158.0
Total	562.5	531.3	Total	562.5	531.3

(a) Wheat and wheat flour as wheat.

7. **Wheat Farms.**—(i) *Number.* Particulars of the number of farms growing 20 acres and upwards of wheat for grain during each of the years 1946–47 to 1950–51, compared with the average for the five years ended 1938–39, 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.	Average 1934–35 to 1938–39.	1946–47.	1947–48.	1948–49.	1949–50.	1950–51.
New South Wales ..	15,657	15,971	16,797	15,674	15,594	14,279
Victoria	12,393	13,155	12,703	12,105	11,491	11,203
Queensland	2,403	2,006	2,921	3,804	3,744	3,862
South Australia ..	12,255	10,412	10,171	9,405	9,346	8,416
Western Australia ..	8,859	7,460	7,551	7,779	7,808	7,814
Tasmania	269	122	126	123	58	79
Total (a)	51,836	49,126	50,269	48,890	48,041	45,653

(a) Excludes Australian Capital Territory.

(ii) *Special Tabulations relating to Wheat Holdings.* With the co-operation of State Statisticians, a series of special tabulations relating to rural holdings was undertaken for all States for the year 1949–50. The tabulations, which covered, *inter alia*, a series of size classifications of wheat farms, have been published in detail in *Primary Industries Bulletin*, 1949–50, No. 44. A similar tabulation was made for the year 1947–48, a summary of the results being published in *Production Bulletin* No. 42, *Primary Industries*, and *Official Year Book* No. 38, page 947.

8. Area, Production and Average Yield.—(i) Area. Wheat is the principal crop raised in Australia, and its progress since 1860 has been almost continuous. 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 superphosphate as an aid to production, and the introduction of new and more suitable varieties 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 most serious interruptions in more recent years were those occasioned by the two World Wars and the economic depression of the early 'thirties.

As previously mentioned, any variation in the acreage sown to this cereal materially affects the total area of crops. The area, production and average yield per acre of wheat for grain in each State are shown below for the years 1945-46 to 1949-50 in comparison with the averages for the decennial periods ended 1938-39 and 1949-50 :—

WHEAT FOR GRAIN : AREA, PRODUCTION AND AVERAGE YIELD.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Aust.
AREA ('000 ACRES).								
Average, 1929-30 to 1938-39 ..	4,302	3,063	277	3,526	3,158	17	2	14,345
1945-46 ..	3,774	3,251	392	2,165	1,836	5	2	11,425
1946-47 ..	4,475	3,501	248	2,519	2,426	8	3	13,180
1947-48 ..	5,043	3,227	462	2,375	2,760	8	5	13,880
1948-49 ..	4,038	2,996	608	2,063	2,867	7	4	12,583
1949-50 ..	4,012	2,828	600	1,896	2,894	6	4	12,240
Average, 1940-41 to 1949-50 ..	3,834	2,731	387	2,107	2,290	6	3	11,358
PRODUCTION ('000 BUSHELS).(a)								
Average, 1929-30 to 1938-39 ..	55,935	38,416	4,118	34,700	35,812	374	43	169,398
1945-46 ..	62,520	29,634	8,188	21,034	20,929	67	38	142,410
1946-47 ..	15,682	48,971	705	27,906	23,800	139	59	117,262
1947-48 ..	95,227	46,962	10,685	32,524	34,500	118	100	220,116
1948-49 ..	64,704	49,064	14,317	26,136	36,250	156	76	190,703
1949-50 ..	81,939	57,434	11,778	28,351	38,500	127	92	218,221
Average, 1940-41 to 1949-50 ..	50,883	35,758	7,151	25,078	26,562	118	49	145,599
AVERAGE YIELD PER ACRE (BUSHELS).(a)								
Average, 1929-30 to 1938-39 ..	13.00	12.54	14.88	9.84	11.34	21.73	20.63	11.81
1945-46 ..	16.57	9.11	20.86	9.72	11.40	13.38	21.20	12.46
1946-47 ..	3.50	13.99	2.84	11.08	9.81	18.47	18.09	8.90
1947-48 ..	18.88	14.55	23.11	13.70	12.50	15.20	20.90	15.86
1948-49 ..	16.02	16.38	23.56	12.67	12.64	22.69	18.23	15.15
1949-50 ..	20.42	20.31	19.63	14.95	13.30	23.26	20.55	17.83
Average, 1940-41 to 1949-50 ..	13.27	13.09	18.47	11.90	11.60	19.72	19.01	12.82

(a) 60 lb. per bushel.

A graph showing the expansion of the area sown to wheat for grain in Australia since 1860 appears on page 973 while a graph showing the distribution of areas growing wheat for grain throughout Australia in 1947-48 appears on pp.977-8. Similar graphs showing the distribution of wheat areas in 1924-25 and 1938-39 appeared in Official Year Book No. 22, p. 695, and Official Year Book No. 34, p. 451, respectively.

(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 and inconsistencies in this respect are reflected in the yearly production.

It should be noted, however, 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, average yields per acre during five decades to 1950 have shown a continued improvement.

Australia's wheat production in 1949-50 was 218.2 million bushels, representing an average yield of 17.83 bushels per acre. This was 72.6 million bushels more than the average for the decennium ended 1949-50 and 48.8 million bushels more than the average for the ten years ended 1938-39.

(iii) *Average Yield.* Short-term variations in this are due chiefly to the vagaries of the seasons. The best average yields for single seasons since 1901 were obtained in 1920-21, 16.08 bushels; in 1942-43, 16.78 bushels; and in 1949-50, 17.83 bushels.

(iv) *Decennial Averages, 1861-70 to 1941-50.* The following table shows the average area, production and yield per acre for decennial periods since 1861, together with the average wholesale price since 1871. Up to and including 1939 the price quoted represents the arithmetic mean of the annual averages at Melbourne (f.o.r. Williamstown), and may be accepted as fairly representative for Australia; from 1940 the price represents the average return to the grower for all wheat, bulk and bagged, f.o.r. ports basis.

**WHEAT FOR GRAIN : AVERAGE AREA, PRODUCTION AND WHOLESALE PRICE.
AUSTRALIA.**

Decennium.	Area.	Production.	Yield per Acre.	Average Wholesale Price.
	'000 Acres.	'000 Bushels.	Bushels.	s. d.
1861-70	831	10,622	12.77	(a)
1871-80	1,646	17,711	10.76	5 1
1881-90	3,258	26,992	8.29	4 7
1891-1900	4,087	29,934	7.32	3 8
1901-10	5,711	56,058	9.82	3 10
1911-20	8,928	95,480	10.69	5 0
1921-30	11,291	135,400	11.99	5 8
1931-40	14,176	177,758	12.54	3 4
1941-50	11,358	145,599	12.82	(b) 7 8

(a) Not available.

(b) Subject to revision. See letterpress above.

(v) *Relation to Population.* 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 from the mainland to satisfy its needs, though partly in exchange it ships flour made from local wheat which is particularly suitable for biscuits. Normally the production of wheat greatly exceeds Australian requirements, and from half to three-quarters of the crop is exported overseas.

9. *Varieties of Wheat Sown.*—(i) *General.* The breeding of wheat suitable to local conditions has long been established in Australia. Farrar (1845-1905) did invaluable work in pioneering this field and the results of his labour and the continued efforts of those who have since followed him have proved of immense benefit to the wheat industry of Australia. Their efforts have resulted in better average yields, a greater uniformity of sample, with which has 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 the principal varieties grown during each season is restricted to about 40.

(ii) *States, 1950.* Particulars of the varieties of wheat sown and the areas thereunder were collected annually up to 1940. The collection was then suspended but was resumed in 1946-47 and was collected again in the four main wheat States for the 1948-49 and 1950-51 seasons. Details of the nine principal varieties sown in 1950 in the four main producing States and the proportion each bears to the total area sown are given in the following table.

WHEAT : PRINCIPAL VARIETIES SOWN, 1950.

New South Wales.		Victoria.		South Australia.		Western Australia.	
Variety.	Proportion.	Variety.	Proportion.	Variety.	Proportion.	Variety.	Proportion.
	%		%		%		%
Bencubbin ..	35.73	Quadrat ..	38.27	Bencubbin ..	17.97	Bungulla ..	29.61
Gabo ..	13.97	Insignia ..	22.50	Gabo ..	14.01	Bencubbin ..	24.89
Kendee ..	6.63	Pinnacle ..	15.04	Warigo ..	8.57	Glueclub ..	13.24
Ford ..	5.02	Bencubbin ..	7.06	Quadrat ..	4.95	Kondut ..	8.37
Charter ..	4.89	Magnet ..	6.21	Waratah ..	4.62	Koordra ..	3.33
Celebration ..	4.34	Pindar ..	2.03	Reldepe ..	4.30	Eureka ..	2.91
Bordan ..	3.91	Bladem ..	2.00	Scimitar ..	4.07	Ranee ..	2.61
Magnet ..	2.81	Baldwin ..	1.55	Marathon ..	3.89	Wongoondy ..	1.73
Quadrat ..	2.71	Ghurka ..	1.52	Gluyas ..	3.64	Merredin ..	1.36
All other (a) ..	19.99	All other (a) ..	3.82	All other ..	33.98	All other ..	11.95
Total ..	100.00	Total ..	100.00	Total ..	100.00	Total ..	100.00

(a) Includes not stated.

Continued progress in the breeding of new and better wheats has resulted in many changes in the varieties sown. Bencubbin, although not as widely sown as in 1948, retained its position as leading variety in New South Wales and South Australia, being displaced by Bungulla in Western Australia. Quadrat is still the leader in Victoria at 38.27 per cent., although the area planted to Insignia increased considerably since 1948. The varieties which were second in importance in the other States were Gabo in New South Wales and South Australia, and Bencubbin in Western Australia.

10. **F.A.Q. Standard of Wheat.**—The Chambers of Commerce in each of the four main wheat States each year determine the "f.a.q." standard for the State. "F.a.q." means "fair average quality", and the standard is used as the basis for sales of the season's crop. It represents the average quality for the season, and this average varies from year to year, and from State to State. "F.a.q." is an Australian term, and the method 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.

Samples of wheat are obtained by the Chambers of Commerce from the different wheat districts, and are 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 one-litre scale chondrometer.

The following table sets out the f.a.q. weight of a bushel of wheat in each of the four main wheat-producing States from 1946-47 to 1950-51.

F.A.Q. STANDARD WEIGHT OF A BUSHEL OF WHEAT.

(1b.)

Year.				New South Wales.	Victoria.	South Australia.	Western Australia.
1946-47	..	..	..	62½	63½	61½	63
1947-48	..	..	..	60½	60½	61	64½
1948-49	..	..	..	63½	63	63½	63½
1949-50	..	..	..	63	64	62	64½
1950-51	..	..	..	61½	62½	64½	64½

11. *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 is shown in the table below for the years indicated.

**AUSTRALIAN WHEAT BOARD'S PRICE FOR WHEAT FOR HOME CONSUMPTION :
AUSTRALIA.**

(s. d. per Bushel, Bulk Basis).

Particulars.	1939.	1946.	1947.	1948.	1949.	1950(a).	1951.
For Flour ..	(b)	(c) 3 11	(c) 3 11	6 3	6 8	6 8	7 10
For Stock Feed ..	(b)	(d) 4 3	4 11	6 3	6 8	6 8	7 10

(a) Excludes 5d. per bushel subsidy paid by the Commonwealth Government, making the total return to growers 7s. 1d. per bushel, bulk basis. (b) Not available. (c) Excludes 1s. per bushel recovered from Flour Tax and included in advances to growers. (d) Disregards subsidies paid by the Commonwealth Government which were included in advances to growers. These approximated 8d. per bushel.

(ii) *Export Wheat Prices.* (a) *Australian Wheat Board's Basic Selling Price.* Details of the export wheat prices are given in the table below for the years stated. Owing to changes which have occurred in the manner of selling export wheat, it is not possible to quote prices on a strictly comparable basis throughout the period covered by the table. The prices for 1939 represent the "weighted average shippers' limits f.o.r. ports for growers' bagged and bulk lots, Sydney, Melbourne and Adelaide." Following the acquisition of the 1939-40 and later wheat crops by the Commonwealth Government, it was no longer possible to record prices on this basis. The prices shown below for the years 1946 to 1951 are the basic export selling prices of the Australian Wheat Board.

The quotations are more or less nominal, as the market is "broad" and wheat is sold at times above and below this basic price, depending upon conditions of sale. Much of the wheat is sold at prices fixed under contract for delivery over lengthy periods. The prices shown below do not, therefore, necessarily represent the prices actually received for wheat currently being shipped. This matter is referred to in sub-paragraph (b) below.

With the introduction of the International Wheat Agreement (*see par. 6* preceeding) from August, 1949, it has become necessary to distinguish between prices applicable under the Agreement and those applicable to excess wheat sold above the quota fixed under the Agreement. The price at which wheat is sold overseas, therefore, may be broadly classified as follows:—(i) wheat sold within the terms fixed by the International Wheat Agreement, and (ii) wheat sold in excess of the quota (at present 88.7 million bushels) fixed under the Agreement at prices negotiated on the "free" market.

As from August, 1949, under the terms of the International Wheat Agreement, Australia has undertaken to sell, if required, 80.8 million bushels (since increased to 88.7 million bushels) per year (August to July) to contracting importing countries. The prices at which Australia is prepared to sell wheat under the terms of the Agreement are shown in terms of Australian currency in the table below. To July, 1951, this has been the maximum price prescribed by the Agreement. As the prices were fixed basically in terms of gold the maximum prices expressed in terms of Australian currency rose from 11s. 2d. prior to devaluation to 16s. 1d. per bushel after devaluation (19th September, 1949). After commitments under the International Wheat Agreement have been met, Australia is free to sell any additional wheat available at any price which may find a market.

**AUSTRALIAN WHEAT BOARD'S SELLING PRICE FOR WHEAT FOR EXPORT :
AUSTRALIA.**

(s. d.)

Year ended December.	Average price per bushel for bulk and bagged lots f.o.r. ports basis.	Year ended July.	Average price per bushel for f.a.q. bulk wheat, f.o.b. basis.	
			Wheat for sale under the International Wheat Agreement.	Wheat for sale other than under the International Wheat Agreement.
	s. d.		s. d.	s. d.
1939(a)	2 4	1950	15 5	18 6
1946	10 11	1951	16 1	18 9
1947	16 8			
1948	18 8			
1949(b)	15 1			

(a) Weighted average of shippers' limits for growers' bulk and bagged lots, Sydney, Melbourne and Adelaide, for eight months ended August, 1939. (b) Average for seven months ended July, 1949.

(b) *Average Bushel Value of Wheat Actually Exported.* The following table shows for the years indicated the wheat price used in compiling the Export Price Index. The figure for 1939 represents the weighted average of shippers' limits f.o.r. ports for growers' bagged and bulk lots, Sydney, Melbourne and Adelaide. For 1946 and succeeding years the prices are based on the average actual realizations for current shipments, as it was impossible to determine representative average prices at which current sales were being effected because a very large proportion of Australia's exportable wheat was sold forward on long-term contracts at widely differing prices outside the basic price shown in the table above. The prices shown in the following table, therefore, give the average realizations f.o.b. for wheat shipped during the years shown.

AVERAGE VALUE OF WHEAT ACTUALLY EXPORTED : AUSTRALIA.

(s. d.)

Particulars.	Year ended December.					Year ended July.	
	1939.	1946.	1947.	1948.	1949.(a)	1950.	1951.
Average actual realizations per bushel f.o.b. basis	2 4	10 1	14 5	18 0	15 0	16 2	17 4

(a) Average for seven months ended July.

(iii) *Payments to Growers.* Reference is made in par. 5 (v) of this section to the amounts paid to growers from the wheat pools.

12. *Value of the Wheat Crop.*—The estimated value of the wheat crop in each State and in Australia during the seasons 1948-49 and 1949-50 is shown below. The values are on a gross basis at the principal market in each State and are based upon payments made to producers. Pending the finalizing of the accounts of the Australian Wheat Board values for 1949-50 are subject to revision.

WHEAT FOR GRAIN : VALUE OF CROP(a), 1948-49 AND 1949-50.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Australia.
1948-49—								
Aggregate value £	37,676,350	25,543,904	7,172,220	15,948,770	20,783,857	60,380	38,699	107,224,180
Value per acre ..	£9/6/7	£8/10/6	£11/16/0	£7/14/7	£7/5/0	£8/15/10	£9/5/11	£8/10/5
1949-50—								
Aggregate value £	48,306,460	33,708,712	6,688,519	17,660,298	22,330,796	48,750	54,221	128,797,756
Value per acre ..	£12/0/10	£11/18/4	£11/2/11	£9/6/3	£7/14/4	£8/18/2	£12/3/2	£10/10/5

(a) Gross value of total crop, including drought relief and also seed used on farm, but excluding value of straw.

13. 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 cereal years ended 30th November, 1947 to 1951 in comparison with the average for the three years ended November, 1937 to 1939. The particulars respecting local consumption refer to sales actually executed by the Australian Wheat Board, whilst those respecting exports represent actual shipments. (For particulars of production and exports from 1860 see graph, p. 974.)

WHEAT : PRODUCTION AND DISPOSAL, AUSTRALIA.
(’000,000 Bushels.)

Particulars.	Average, Three Years ended 30th Nov- ember, 1939.	Year ended 30th November—				
		1947.	1948.	1949.	1950.	1951.
Opening stocks (including flour as wheat)	10.2	20.0	13.3	26.3	19.0	43.8
Production	164.7	117.3	220.1	190.7	218.2	184.2
Total Available Supplies	174.9	137.3	233.4	217.0	237.2	228.0
Exports—						
Wheat	75.0	12.0	86.9	82.5	82.8	85.9
Flour as wheat	30.6	32.6	43.0	35.7	36.9	41.6
Local Consumption—						
Flour as wheat	30.9	33.5	33.6	34.5	35.5	37.6
Stock feed	9.3	22.2	20.7	22.6	23.5	27.4
Seed	14.6	13.8	12.5	12.2	11.6	10.7
Breakfast foods and other uses	(b)	4.2	4.2	4.2	3.0	4.3
Balance retained on farm (excluding seed)	(c)	4.7	3.9	4.2	4.7	4.0
Closing stocks (including flour as wheat)	14.5	13.3	26.3	19.0	43.8	19.4
Total Disposals	174.9	136.3	231.1	214.9	241.8	230.9
Excess (+) or Deficiency (–) of Disposals in respect of Available Supplies (d) .. .. .	..	–1.0	–2.3	–2.1	+4.6	+2.9

(a) Subject to revision. (b) Included with flour (local consumption.) (c) Included with stock feed. (d) Includes allowance for unrecorded movements in stocks, gain or loss in out-turn, etc.

14. **Consumption of Wheat in Australia.**—Details of the average Australian consumption of wheat as flour, for stock feeding and for seed are shown in the following table in total and per head of population for the periods of three years ended November, 1939 and 1950.

CONSUMPTION OF WHEAT : AUSTRALIA.

Particulars.	Average, 1936-37 to 1938-39.		Average, 1947-48 to 1949-50.	
	Total.	Per Head of Population.	Total.	Per Head of Population.
	Tons.(a)	lb.	Tons.(a)	lb.
Flour—As flour	667,400	194.3	745,100	187.8
Flour—Equivalent as Wheat (b) ..	mill. bush.	bush.	mill. bush.	bush.
Wheat for—	30.9	4.50	34.5	4.35
Stock Feed	9.3	1.35	21.9	2.76
Seed	14.6	2.13	12.2	1.54
Total as Wheat	54.8	7.98	68.6	8.65

(a) Ton = 2,000 lb.

(b) One ton (2,000 lb.) of flour is taken to be equivalent to 46.3 bushels of wheat.

15. **Exports of Wheat and Flour.**—(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 1945-46 to 1949-50 compared with the average for the five years ended 1938-39. 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 have been imported to tide over lean seasons on only two occasions since 1900; in 1902-3 the wheat harvest was as low as 12,378,000 bushels, and wheat and flour representing 12,468,000 bushels of wheat were imported, whilst an equivalent of 7,279,000 bushels was imported in 1914-15 to supplement the yield of 25 million bushels produced in that season. During the five years ended 1949-50 exports in terms of wheat averaged 83,466,000 bushels compared with the average of 106,432,000 bushels for the five years ended 1938-39.

WHEAT AND FLOUR : EXPORTS FROM AUSTRALIA.

Year.	Quantity.				Value (£'000.)		
	Wheat.	Flour.		Total as Wheat.	Wheat.	Flour.	Total.
		As Flour.	As Wheat. (a)				
	'000 bush.	Tons. (2,000lb.)	'000 bush.	'000 bush.			
Average, 1934-35							
1938-39	76,473	647,073	29,959	106,432	14,813	5,058	19,871
1945-46	12,484	518,876	24,024	36,508	6,223	11,337	17,560
1946-47	12,176	765,098	35,424	47,600	6,338	22,535	28,873
1947-48	60,174	784,370	36,316	96,490	52,813	31,823	84,636
1948-49	83,030	854,780	39,576	122,606	64,705	33,721	98,426
1949-50	78,426	771,109	35,702	114,128	62,173	26,333	88,506

(a) One ton (20,000 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 1949-50, and the average for the five years ended 1938-39.

WHEAT : EXPORTS FROM AUSTRALIA.
(’000 Bushels).

Country to which Exported.	Average, 1934-35 to 1938-39.	1945-46.	1946-47.	1947-48.	1948-49.	1949-50.
United Kingdom	45,195	..	..	17,226	34,523	9,435
India	1,602	9,123	6,692	21,336	16,939	35,254
New Zealand	1,537	944	4,332	4,401	7,395	5,756
Union of South Africa	602	286	38	5	1,623	2,242
Other British Countries	3,985	993	1,105	4,900	4,885	2,435
Egypt	503	..	1	509	8,510	6,511
Finland .. ..	..	..	..	..	..	1,337
Japan	6,471	..	..	..	1,843	6,885
Netherlands	760	..	..	402	352	1,339
Persia (Iran) .. ..	..	..	..	23	2,260	1,023
Spain	246	..	..	..	..	1,655
Sweden .. ..	..	..	..	556	746	1,029
Other Foreign Countries	15,512	1,138	8	10,816	3,954	3,525
Total	76,473	12,484	12,176	60,174	83,030	78,426

(b) *Flour.* The following table shows the exports of flour to various countries for each of the five years ended 1949-50, and the average for the five years ended 1938-39 :—

FLOUR : EXPORTS FROM AUSTRALIA.
(Tons of 2,000 lb.)

Country to which Exported.	Average, 1934-35 to 1938-39.	1945-46.	1946-47.	1947-48.	1948-49.	1949-50.
United Kingdom	142,912	3,267	99,954	56,366	233,544	35,236
Ceylon	16,915	152,040	171,191	190,104	187,932	131,348
Hong Kong	44,966	28,231	33,950	21,988	9,820	90,699
India	2,732	95,115	49,581	58,922	71,778	188,358
Malaya (British)	63,309	117,749	194,036	136,255	100,223	77,831
Mauritius	54,960	22,969	42,243	46,367	19,722	33,204
Singapore	(a)	..	..	4,321	14,936	21,345
Sudan Anglo-Egyptian	4,060	..	..	28	5,446	15,214
Other British Countries	5,623	68,562	59,371	120,566	67,178	32,987
Egypt	24,284	149	37,545	85,841	42,869	53,759
Japan	722	1,578	4,499	1,887	124	18,649
Siam	3,175	..	..	..	3,249	12,068
Other Foreign Countries	283,415	29,216	73,718	61,725	97,959	60,411
Total	647,073	518,876	765,098	784,370	854,780	771,109

(a) Included with Malaya (British).

(b) Includes 57,620 tons, Palestine.

16. *Stocks of Wheat and Flour.*—Stocks of wheat and flour held by each State at 30th November in each year 1939 and 1946 to 1950, and the total in terms of wheat, are shown in the following table. The source of these data is the Australian Wheat Board, but, in order to maintain comparability with pre-war figures, adjustments have been made where possible to allow for stocks estimated to be held by merchants, bakers and farmers.

WHEAT AND FLOUR : STOCKS AT 30th NOVEMBER. (a)

30th November—	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Total.
WHEAT (BUSHELS).							
1939	5,059,320	3,435,783	304,199	5,139,508	2,114,766	162,251	16,215,827
1946	10,510,000	1,994,000	751,000	940,000	884,000	62,000	15,141,000
1947	1,571,000	3,735,000	372,000	1,715,000	766,000	217,000	8,376,000
1948	13,102,000	3,227,000	1,273,000	3,890,000	583,000	386,000	22,461,000
1949	6,656,000	4,034,000	838,000	1,490,000	1,642,000	110,000	14,770,000
1950	15,650,000	10,943,000	1,614,000	6,360,000	5,143,000	170,000	39,880,000
FLOUR (TONS OF 2,000 LB.).							
1939	34,875	27,350	5,292	21,479	8,592	1,695	99,283
1946	28,000	35,997	5,521	20,000	15,287	726	105,531
1947	30,244	47,242	4,001	9,400	15,132	1,089	107,108
1948	20,505	24,609	5,637	17,000	15,163	117	83,031
1949	26,082	10,407	3,978	16,700	24,107	443	90,717
1950	26,462	35,720	5,755	6,450	8,925	1,120	84,432
TOTAL IN TERMS OF WHEAT (BUSHELS).							
1939	6,674,033	4,702,088	549,219	6,133,986	2,512,576	240,728	20,812,630
1946	11,806,400	3,660,661	1,006,622	1,866,000	1,591,788	95,614	20,027,085
1947	2,971,297	5,922,305	557,246	2,150,220	1,466,611	267,421	13,335,100
1948	14,051,381	4,366,397	1,533,993	4,677,100	1,235,047	391,417	26,305,335
1949	7,863,597	4,932,544	1,022,181	2,263,210	2,758,154	130,511	18,970,197
1950	16,875,191	12,596,836	1,880,457	6,658,635	5,556,227	221,856	43,789,202

(a) One ton of flour is treated as equivalent to 46.3 bushels of wheat.

17. **Flour Milling.**—Particulars of the grain-milling industry are given in some detail in Chapter XXIV.—Manufacturing Industry. The following table summarizes the operations of flour mills in Australia for the years 1938-39 and 1945-46 to 1949-50.

OPERATIONS OF FLOUR MILLS : AUSTRALIA.

Particulars.	Unit.	1938-39.	1945-46.	1946-47	1947-48.	1948-49.	1949-50.
Number of mills ..	No.	172	170	172	167	164	161
No. of persons employed ..	"	3,783	4,099	4,442	4,623	4,768	4,541
Wheat milled ..	'000 bus.	66,999	63,416	73,780	76,927	83,387	73,066
Output of Flour(a) ..	" tons	1,373	1,219	1,490	1,555	1,635	1,504
" " Bran ..	" "	289	238	288	308	319	273
" " Pollard ..	" "	284	256	316	326	355	317

(a) Includes wheatmeal for baking.

18. **Bulk Handling of Wheat in Australia.**—(i) *Development of the Bulk Handling System.* Methods of handling wheat in bulk have been discussed in Australia since the first exportable surpluses were produced, but no positive action was taken to implement any scheme until serious losses from vermin and weevils occurred in wheat which had been stacked during the 1914-18 War, when the bumper harvest of 1915, combined with the restriction on export movements, created serious storage difficulties.

Recommendations by many of the earlier investigators that some system of bulk handling be introduced were received with apathy on the part of most growers and met with so much determined opposition from millers, grain merchants and railway authorities that it was not until 1917 that the gravity of the storage situation led to the appointment by the Commonwealth Government of the Wheat Storage Commission. After extensive

investigations, the Commission made certain recommendations which were incorporated in the Wheat Storage Act 1917, under which the Commonwealth Government made available the sum of almost £3,000,000 to finance State installation of bulk handling facilities. In New South Wales legislative action to inaugurate the system had been taken in 1916, but it was not until the 1920-21 season that the scheme became operative. Western Australia made studies of the system in operation in New South Wales, and evolved a system of horizontal storage as contrasted to vertical storage, and introduced this system in 1935. Victoria, having had the benefit of the New South Wales and Western Australian experience, introduced in the 1938-39 season a system combining the best features of both. South Australia, owing to the distribution of its wheatlands, and the relatively short hauls to the seaboard which can be economically effected by motor transport, decided that the establishment of bulk handling methods was unwarranted, while Queensland, because of similar conditions, and the small wheat producing State of Tasmania have not found bulk handling necessary.

(ii) *Advantages and Disadvantages of the Bulk Handling System.* Although the optimistic estimates of cost reductions envisaged by the early proponents of the scheme have not been realized, there is no doubt that considerable saving of time and money has occurred as a result of the installation of bulk handling systems. Briefly, the main advantages are :—

- (a) Reduction of handling costs at farms, sidings and terminals. These savings have been made in the costs of the bags and their sewing and labour costs in stacking. At the terminals, the mechanical loading of ships has resulted in considerable saving in time, thus speeding up the turn-around and reducing the usual costs of shipping.
- (b) Reduction in the deterioration of long standing stacks of bagged wheat.
- (c) Protection of grain from mice, weevils, climatic conditions and leakage.

There are, of course, disadvantages, but there appears no doubt that the advantages outweigh the disadvantages, and, in fact, the more serious of the disadvantages can be overcome by positive action on the part of the authorities controlling the system. The main disadvantages of the New South Wales and Victorian systems are :—

- (a) Heavy initial capital cost in erection of silos and terminals and construction of bulk waggons for transporting the bulk wheat.
- (b) The system tends to choke in flush seasons or through deferment of sales by growers. It cannot hope to provide all the storage space required in flush years.
- (c) In years of short crops, wheat receipts may fall short of silo capacity, which involves a loss on operating costs.

These disadvantages have been minimized in the Western Australian system because of its relatively low cost and flexibility.

(iii) *General Description of the Bulk Handling System.* Silos or elevators are erected at railway sidings in districts where the wheat harvest has been shown to be sufficiently heavy to warrant their installation. In New South Wales and Victoria, these silos are generally concrete and steel vertical storage bins, with mechanical loading devices which, in some cases, incorporate weighing machinery to check the wheat out as well as into the silo. In Western Australia, the silos are horizontal storage bins made of wood and corrugated iron, which are demountable, and the loading machinery is of a portable type.

At the terminals, the construction is generally of steel and concrete with loading booms which permit the wheat to be poured directly into the ships' holds, where it is subsequently "trimmed" either by a special wheat trimming machine or by hand.

Bulk wheat exports are effected by the following methods :—

- (a) Discharge from orthodox terminal elevators at Sydney and Newcastle (New South Wales), Geelong (Victoria) and Bunbury and Fremantle (Western Australia) and from provisional installations at Geraldton (Western Australia).
- (b) Transfer from bulk trucks to ships without going through terminal elevators, as at Geraldton.
- (c) De-sacking into ships' holds at South Australian ports.

In addition to full cargoes, exports of bagged wheat comprise parcels in liners and quantities used under shipping rules for topping-up bulk cargoes.

(iv) *Bulk Handling in the States.* A brief history of the inauguration of bulk handling and particulars of the operation and projected extensions of the system in the three States concerned are set out below :—

(a) *New South Wales.* The Grain Elevator Act was passed on 16th August, 1916, but owing to war-time conditions and financial obstacles, progress was delayed. However, finance was obtained from the Commonwealth under the terms of the Wheat Storage Act 1917, and the work commenced in that year. The initial plans provided for 70 country silos with capacities ranging from 50,000 to 500,000 bushels with a total of 15.4 million bushels, and a terminal elevator at Sydney with a capacity of 6,509,000 bushels. Construction of North and North-western silos and the Newcastle terminal was deferred, and the short crops of the early 'twenties did little to boost the system. Progress was slow until 1925 when the system experienced its first good season, and Government approval for the construction of more silos was given. In 1929, a further programme of expansion was commenced, but it was not until after the profitable operations arising from the heavy crop of 1932-33 that the expansion became more rapid. Between 1927 and 1936, 102 country plants were added to the system, the terminal at Sydney was enlarged and a terminal erected at Newcastle. At present, there are 180 elevators situated at the more important wheat receiving stations throughout the State, with a storage capacity of 24,478,000 bushels, as well as terminal elevators at Sydney and Newcastle, which have a receiving capacity per day of 6,000 tons and 2,000 tons respectively.

Work is proceeding on additions to country silos and the extension to the Newcastle terminal. In addition, four wheat storage sub-terminals at Junee, Temora, Parkes and Werris Creek are being erected to overcome the shortage of sacks and the immediate difficulties involved in constructing permanent silos at country centres. Work is also proceeding on the erection of about 60 temporary country bulkheads, storing about 100,000 bushels each.

The following table illustrates the development of the bulk handling system in New South Wales from its inception in 1920-21 :—

GRAIN ELEVATORS : WHEAT RECEIVED, NEW SOUTH WALES.

Season.	Elevators in Country Districts.		Storage capacity of Elevators available in Country Districts. (a)	Wheat Received.			Proportion of Total Crop Received in Elevators.
	Available.	Used.		In Country Elevators.	In Terminal Elevators from Non-Silo Stations.	Total.	
1920-21 ..	28	28	5,450,000	1,941,694	..	1,941,694	3.5
1925-26 ..	62	62	13,500,000	8,295,148	841,185	9,136,333	27.0
1930-31 ..	99	99	16,373,000	22,948,116	724,972	23,673,088	35.9
1935-36 ..	158	156	21,773,000	24,811,726	295,897	25,107,623	51.4
1940-41 ..	175	159	23,548,000	11,453,207	7,140	11,460,347	47.9
1945-46 ..	180	178	24,478,000	25,825,915	..	25,825,915	41.3
1946-47 ..	180	90	24,478,000	5,835,923	..	5,835,923	37.2
1947-48 ..	(c) 181	(c) 181	24,578,000	43,029,765	272,202	43,301,967	45.5
1948-49 ..	180	180	24,478,000	36,103,108	..	36,103,108	55.8
1949-50 ..	180	180	24,478,000	40,208,521	88,164	40,296,685	49.2

(a) At one filling. (b) New South Wales wheat only. In addition, 5,377,386 bushels of Victorian wheat were handled through the country system. (c) Includes one leased silo not part of the system

(b) *Victoria.* Although the recommendations of a Royal Commission were embodied in an enabling bill in 1916 it failed to pass, and despite great damage to war-stored grain from mice and weevils, no action was taken on the offer of Commonwealth aid in 1917. In 1922-23 a further attempt to establish the system failed. It appeared that a start would be made in 1925 when New South Wales had its first good crop since the inception of the bulk handling system, but subsequent experience in that State discouraged further action in Victoria. However, the severe depression of the early 'thirties, combined with the recurrent mouse plagues and the reduction in freight on bulk wheat gave rise to increasingly urgent demands from farmers for the installation of bulk handling facilities, and eventually other groups lent their weight in support. The Grain Elevators Board was constituted on 1st February, 1935, under the provision of the Grain Elevators Act 1934. The first group of elevators, comprising 48 country elevators and the Geelong terminal elevator commenced operations in 1938-39, when 10,782,190 bushels were handled. The construction of the balance of the elevators, as planned in the initial scheme, proceeded from year to year, until completed in the 1944-45 season.

In addition to the elevators erected by the Board, arrangements were made for the leasing of nine existing elevators owned by flour millers at country mills. These elevators are operated by the Board as part of the elevator system.

Amendments to the Grain Elevators Acts were passed in 1950 to permit the construction of elevators at a number of stations not yet provided with bulk handling facilities, and to erect additional bins at stations where the existing storage capacity is inadequate. The shortage of essential construction materials and labour has prevented a commencement of this new work.

Temporary means of extending bulk handling facilities have been adopted pending these extensions and owing to cornsack difficulties. Arrangements are in hand for the construction by the Australian Wheat Board of temporary bulkheads at approximately 50 stations for the 1951-52 season.

The following table sets out the development of the bulk handling system in Victoria for a series of years from 1939-40.

GRAIN ELEVATORS : WHEAT RECEIVED, VICTORIA.

Season.	Elevators.		Terminal.		Wheat Received.	Proportion of Total Crop Received in Elevators.
	Number.	Capacity at one filling.	Number.	Capacity at one filling.		
1939-40 ..	48	'000 Bush. 5,385	1	'000 Bush. 2,250	'000 Bush. 10,784	23.9
1945-46 ..	138	14,159	1	4,100	19,231	64.9
1946-47 ..	138	14,159	1	4,100	35,774	73.1
1947-48 ..	138	14,159	1	4,100	34,948	74.4
1948-49 ..	138	14,159	1	4,100	38,739	79.0
1949-50 ..	138	14,159	1	4,100	45,341	78.9

(c) *Western Australia.* In 1920, a company known as the Western Australian Grain Growers Co-operative Elevators Ltd. was formed for the purpose of operating bulk handling of wheat, but the company did only exploratory work and was wound up.

Having observed New South Wales experience with vertical storage in concrete silos, Westralian Farmers Co-operative Ltd., in 1929, evolved a new method of horizontal

storage, using simple structures of timber and galvanized iron. Simple structures for storage are quite adequate, owing to stable weather conditions and small liability to rain damage. Further, the method of construction allows easy dismantling, movement, and re-erection of bins in areas where they are more urgently required. In 1933, joint action by the Trustees of the Wheat Pool and Westralian Farmers' Co-operative Ltd. led to the registration of Co-operative Bulk Handling Ltd. on 5th April, 1933. The new company took over existing plants and leases and a Deed of Trust dated 24th October, 1933, was entered into between the company and a trustee appointed to represent all growers who put wheat through the system, whereby, after the company had completed its building programme of capital expenditure and the liabilities of the company were paid off, the management and control of the business of the company would be handed over to grower users. This was effected under the provisions of the State Bulk Handling Act, which was proclaimed on 1st February, 1936. In 1943, the building programme of the company having been completed so far as it was then considered necessary, the management and control of the company were handed over to the growers in accordance with the Deed of Trust. Subject to the provision of the Bulk Handling Act, the company is granted the sole right until 31st December, 1955, of receiving wheat in bulk at railway stations and sidings where the company has installations.

In addition to the 234 sidings equipped for bulk handling, the company operates at Geraldton a shipping gallery and conveyor belt, both of which are owned by the State Government, and a silo at Fremantle which had been erected by the Australian Wheat Board during the war for the fumigation of export wheat. Albany has not yet any terminal facilities, and wheat from that district is shipped through Bunbury, where the storage capacity is 8,000 tons.

Owing to the nature of the system in use in Western Australia, particulars of the capacity comparable with those published for New South Wales and Victoria do not exist. The table below sets out the number of sidings equipped for bulk handling, receipts of bulk wheat and the proportion of the marketable harvest represented by the receivals for the seasons indicated.

BULK WHEAT HANDLED : WESTERN AUSTRALIA.

Season.	Total Sidings Equipped.(a)				Total Bulk Receivals.	Receivals as a Proportion of Marketable Harvest.	
	No.	Bushels.					%
1931-32	5	1,265,000	3.4
1936-37	102	10,376,000	58.3
1941-42	232	33,304,000	(b) 97.8
1946-47	234	20,204,000	(b) 99.0
1947-48	234	30,903,113	99.0
1948-49	234	32,815,119	(c) 100.0
1949-50	234	34,565,140	(c) 100.0

(a) These figures do not include four bins in Lakes District erected in 1940, a fifth point at Ravenshorpe equipped for the 1947-48 season, and two installations in East and West Yorkrakin built in 1949. These points are removed from the railway and wheat received is transported by road to the rail or direct to the port. They do not include six points at which wheat is directly loaded into railway wagons.

(b) Quantities affected by war-time restrictions and difficulties. (c) In 1948, the Wheat Stabilization Act passed by the Western Australian Parliament as complementary legislation to the Federal Act provided for all bagged wheat to be treated. This is done by the company paying the grower the value of the bag when received and issuing him a bulk wheat receipt.

19. World Area and Production of Wheat.—The details in the following table of the world area and production of wheat by countries and continents have been compiled from official sources so far as they are available, but more particularly from the records published by the Food and Agriculture Organization of the United Nations, and the United States Office of Foreign Agricultural Relations. The harvests shown for countries in the Northern Hemisphere are those garnered 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.		
	Average—		1949.	Average—		1949.	Average—		1949.
	1930-34.	1935-39.		1930-34.	1935-39.		1930-1934.	1935-1939.	
	'000 acres.	'000 acres.	'000 acres.	'000 bushels.	'000 bushels.	'000 bushels.	bus.	bus.	bus.
North America—									
Canada ..	25,682	25,595	27,541	348,560	312,399	367,406	13.6	12.2	13.3
Mexico ..	1,237	1,244	1,310	14,364	14,282	17,269	11.6	11.5	13.2
United States	54,193	57,293	76,751	732,527	758,623	1,146,463	13.5	13.2	14.9
Total (b) ..	81,150	84,150	105,650	1,096,000	1,086,000	1,532,000	13.5	12.9	14.5
Europe—									
Austria ..	535	(c) 616	550	12,626	(e) 15,117	14,000	23.6	(c)24.5	25.5
Belgium ..	384	402	420	14,726	16,150	21,890	38.3	40.2	52.1
Bulgaria ..	3,078	3,080	(d)	52,864	64,228	(d)	17.2	20.9	(d)
Czechoslovakia	2,129	(c) 2,220	2,075	53,697	(c) 59,090	57,000	25.2	(c)26.6	27.5
Denmark ..	259	316	205	11,131	14,358	10,950	43.0	45.4	53.4
France ..	13,280	(c) 13,724	11,120	305,378	(c) 292,568	295,000	23.0	(c)23.0	26.5
Germany ..	5,310	(c) 5,074	3,437	170,212	(c) 176,654	124,853	32.1	(c)34.8	36.3
Greece ..	1,612	1,150	1,849	18,414	30,205	28,094	11.4	14.0	15.2
Hungary ..	3,943	4,091	3,506	76,506	(c) 91,210	(d)	19.4	(c)22.3	(d)
Ireland ..	43	225	375	1,698	7,689	14,560	39.5	34.7	38.8
Italy ..	12,089	12,635	12,100	252,604	279,519	265,000	20.9	22.1	21.9
Netherlands ..	267	338	256	11,802	15,200	15,627	44.2	45.0	61.0
Poland ..	4,280	4,303	3,571	74,267	77,245	65,439	17.4	18.0	18.3
Portugal ..	1,321	1,227	1,717	18,359	16,066	15,109	14.0	13.1	8.8
Rumania ..	7,703	9,053	(d)	103,447	140,816	(d)	13.4	15.6	(d)
Spain ..	11,236	10,220	9,800	158,081	(c) 113,905	110,000	14.1	(c)11.1	11.2
Sweden ..	697	740	761	23,214	26,352	26,050	33.3	35.6	34.2
United Kingdom	1,522	1,843	1,964	51,176	62,561	79,856	33.6	33.8	40.7
Yugoslavia ..	5,098	5,349	4,411	79,494	96,750	92,445	15.6	18.1	21.0
Total (b)	76,033	78,313	68,930	1,516,000	1,632,000	1,485,000	19.9	20.8	21.5
U.S.S.R. (b) ..	85,798	98,764	103,000	(e) 860,448	1,050,000	1,110,000	10.0	10.6	10.7
Africa—									
Algeria ..	3,893	4,184	3,700	32,571	35,201	39,000	8.4	8.4	10.5
Egypt ..	1,560	1,464	1,471	43,128	45,848	45,000	27.6	31.3	30.6
French Morocco	2,887	3,254	2,475	29,509	23,196	21,500	10.2	7.1	8.7
Tunisia ..	1,995	1,901	2,095	12,956	14,965	20,095	6.5	7.9	9.6
Union of South Africa (f) ..	1,516	1,926	2,694	12,301	16,259	14,340	8.1	8.4	5.3
Total (b)	12,630	13,720	14,550	135,000	142,000	155,000	10.7	10.3	10.7

See footnotes on next page.

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

Continent and Country.	Area (a)			Production.			Yield per acre.		
	Average—		1949.	Average—		1949.	Average—		1949.
	1930-34.	1935-39.		1930-34.	1935-39.		1930-1934.	1935-1939.	
	'000 acres.	'000 acres.	'000 acres.	'000 bushels.	'000 bushels.	'000 bushels.	bus.	bus.	bus.
Asia—									
China ..	(e) 49,106	(c) 48,120	52,717	(e) 820,624	(c) 715,536	825,000	(e) 16.7	(c) 14.9	15.6
Korea ..	809	832	(d)	9,048	10,240	(d)	11.2	12.3	(d)
India ..	33,340	34,492	31,989	355,593	370,660	355,302	10.7	10.7	11.1
Japan ..	1,356	1,738	1,680	36,806	50,133	39,279	27.1	28.8	23.4
Manchuria ..	3,301	2,903	1,384	40,770	35,200	(d)	12.4	12.1	(d)
Syria and Lebanon ..	1,245	1,363	2,473	14,638	19,485	21,470	11.8	14.3	8.7
Turkey ..	7,023	8,952	9,150	94,796	135,690	95,000	13.5	15.2	10.4
Total (b) ..	102,300	105,900	108,450	1,456,000	1,442,000	1,475,000	14.2	13.6	13.6
South America—									
Argentina ..	17,709	15,834	12,500	243,932	221,769	210,000	13.8	14.0	16.8
Chile ..	1,763	1,963	2,062	27,355	35,562	33,246	15.5	16.1	16.1
Uruguay ..	1,055	1,210	1,200	9,876	13,256	14,000	9.4	11.0	11.7
Total (b) ..	21,800	20,500	17,550	295,000	280,000	275,000	13.5	13.7	15.7
Oceania—									
Australia ..	15,223	12,980	12,240	185,773	154,325	218,221	12.2	11.9	17.8
New Zealand ..	266	221	130	8,037	7,129	4,700	30.2	32.3	36.2
Total (b) ..	15,489	13,201	12,370	193,810	161,454	222,921	12.5	12.2	18.0
World Total (b) ..	395,213	414,703	430,500	5,553,000	5,810,000	6,245,000	14.0	14.0	14.5
Totals—									
Northern Hemisphere (b) ..	356,507	378,866	397,886	5,051,164	5,351,186	5,732,739	14.2	14.1	14.4
Southern Hemisphere (b) ..	38,706	35,837	32,614	501,836	458,814	512,261	13.0	12.8	15.7
World Total (b) ..	395,213	414,703	430,500	5,553,000	5,810,000	6,245,000	14.0	14.0	14.5

(a) The figures of areas are, as far as possible, those of areas harvested. (b) Estimated total including the area and production of countries whose particulars are not shown separately. (c) Average of less than five years. (d) Not available. (e) Production estimates for the U.S.S.R. for the years 1933 and 1934 have been reduced 15 per cent. to take account of heavy harvesting losses. (f) Excludes native cultivation.

20. Exports—Principal Countries.—The following table shows the net quantities of wheat exported from the chief exporting countries for the period 1934-38 and the years 1948 and 1949 according to statistics recently published by the Food and Agriculture Organization of the United Nations, and the United States Office of Foreign Agricultural Relations.

While Australia's production of wheat ranges between 2 and 4 per cent. of the world's total, its exports account for a much higher proportion of the total quantities shipped. During the five years 1934-38 Australia's share of world wheat exports was almost 20 per cent., but in 1949 the proportion fell to 13 per cent., although the actual quantity shipped was somewhat greater.

WHEAT (a) : NET EXPORTS, PRINCIPAL COUNTRIES.(b)

Exporting Country.	Average, 1934-38.		1948.		1949.	
	Quantity.	Proportion of World Total.	Quantity.	Proportion of World Total.	Quantity.	Proportion of World Total.
	'000 bushels.	%	'000 bushels.	%	'000 bushels.	%
Canada	175,403	32.74	186,636	19.83	252,505	27.88
Argentina	122,739	22.91	80,434	8.54	67,970	7.50
Australia	102,406	19.11	128,084	13.61	116,986	12.91
U.S.S.R. (Russia)	24,363	4.55	42,989	4.57	51,440	5.68
United States of America	22,547	4.21	493,932	52.47	402,593	44.44
All Other	88,333	16.48	9,226	0.98	14,378	1.59
Total	535,791	100.00	941,281	100.00	905,872	100.00
World Production (mil. bush.)	6,058		6,410		6,245	
Proportion of Australia's Production to World Production	%		%		%	
	2.55		2.98		3.49	

(a) Includes flour expressed in terms of wheat. (b) In some instances the average for 1934-38 is not strictly comparable with the later years shown, owing to changes of frontiers.

21. Imports—Principal Countries.—The net quantities of wheat and flour (expressed in terms of wheat) imported into the principal countries for the periods indicated are shown in the following table:—

WHEAT (a) : NET IMPORTS, PRINCIPAL COUNTRIES.(b)

Importing Country.	Average 1934-38.		1948.		1949.	
	Quantity.	Proportion of World Total.	Quantity.	Proportion of World Total.	Quantity.	Proportion of World Total.
	'000 bushels.	%	'000 bushels.	%	'000 bushels.	%
United Kingdom	201,098	38.95	197,806	22.04	207,513	23.96
Belgium(c)	39,262	7.61	29,126	3.24	24,256	2.80
Brazil	36,373	7.05	31,206	3.48	36,045	4.16
China (d)	27,932	5.41	783	0.09	..	..
Netherlands	21,571	4.18	29,545	3.29	18,261	2.11
Germany	21,545	4.17	136,802	15.24	101,480	11.72
Italy	18,076	3.50	85,898	9.57	73,350	8.47
Switzerland	16,915	3.28	15,619	1.74	16,277	1.88
Greece(f)	16,422	3.18	20,370	2.27	15,355	1.77
Austria	8,921	1.73	12,221	1.36	18,721	2.16
France	5,424	1.05	39,422	4.39	10,277	1.19
Ceylon	924	0.18	8,396	0.94	7,834	0.91
Mexico	698	0.13	10,137	1.13	9,295	1.08
Spain	(g)	(g)	11,405	1.27	8,951	1.03
Japan and Korea	(g)	(g)	39,256	4.37	72,814	8.41
India and Pakistan	(g)	(g)	53,986	6.02	87,790	10.14
All Other	101,087	19.58	175,598	19.56	157,732	18.21
Total	516,248	100.00	897,576	100.00	865,951	100.00

(a) Includes flour expressed in terms of wheat. (b) In some instances the average 1934-38 is not strictly comparable with the later years shown, owing to changes of frontiers. (c) Includes Luxembourg. (d) Includes Manchurian ports. (e) Includes Trieste. (f) Includes Aegean Islands. (g) Net exports.

§ 5. Oats.

1. Area, Production and Average Yield.—Oats are usually next in importance to wheat amongst the grain crops cultivated in Australia, but while wheat grown for grain in 1949-50 accounted for 59.42 per cent., oats grown for grain represented only 8.48 per cent. of the area of crops. The area, production and average yield per acre of oats for the years 1945-46 to 1949-50 and the averages for the ten-year periods ended 1938-39 and 1949-50 are shown in the following table:—

OATS FOR GRAIN : AREA, PRODUCTION AND AVERAGE YIELD.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Australia.
AREA ('000 ACRES).								
Average, 1929-30 to 1938-39 ..	229	478	5	282	369	30	..	1,393
1945-46.. ..	617	511	40	370	396	14	I	1,940
1946-47.. ..	558	454	15	252	425	23	I	1,728
1947-48.. ..	609	650	25	309	495	17	..	2,105
1948-49.. ..	378	540	21	286	532	12	I	1,770
1949-50.. ..	375	483	21	261	585	23	..	1,748
Average, 1940-41 to 1949-50 ..	443	520	19	306	437	17	I	1,743
PRODUCTION ('000 BUSHELS).(a)								
Average, 1929-30 to 1938-39 ..	3,578	5,750	68	2,233	3,973	831	4	16,437
1945-46.. ..	9,997	7,402	830	3,178	4,081	281	5	25,774
1946-47.. ..	2,046	6,402	79	2,780	3,656	595	8	15,566
1947-48.. ..	13,674	15,381	474	5,394	5,411	360	3	40,697
1948-49.. ..	5,779	7,490	419	2,643	6,998	262	10	23,601
1949-50.. ..	7,016	8,718	338	3,464	7,268	577	10	27,391
Average, 1940-41 to 1949-50 ..	6,077	6,785	324	3,007	4,739	434	7	21,373
AVERAGE YIELD PER ACRE (BUSHELS).(a)								
Average, 1929-30 to 1938-39 ..	15.66	12.03	12.77	7.91	10.77	28.15	22.35	11.80
1945-46.. ..	16.20	14.47	20.75	8.60	10.30	20.15	9.21	13.22
1946-47.. ..	3.67	14.10	5.09	11.02	8.60	26.24	12.81	9.01
1947-48.. ..	22.45	23.66	18.97	14.47	10.94	21.09	6.86	19.33
1948-49.. ..	15.28	13.88	19.68	9.23	13.16	22.36	14.14	13.34
1949-50.. ..	18.72	18.04	16.50	13.25	12.43	25.31	28.83	15.67
Average, 1940-41 to 1949-50 ..	13.72	13.06	16.60	9.81	10.85	25.43	13.57	12.26

(a) 40 lb. per bushel.

The principal oat-growing States are New South Wales and Victoria, which produce, on the average, more than half the total quantity grown in Australia. Western Australia and South Australia also produce considerable quantities, but in Queensland and Tasmania the output is small.

Oats are mainly used in Australia as feed grain. During the ten years ended 1949-50 the average annual quantity consumed by stock was about 9.8 million bushels, leaving a balance of about 5.7 million bushels for seed purposes, about 3 million bushels for oat-meal and a small quantity for the production of spirits and for malting. Normally the exports of oats are small, but during the three years 1947-48 to 1949-50 heavy shipments, aggregating 28.3 million bushels, were made.

The smallest average yield per acre ever recorded for Australia was that experienced in the abnormally dry season 1944-45, namely, 4.41 bushels, while the largest in the last ten years was that of the season 1947-48, amounting to 19.33 bushels per acre, this being the highest yield since 1920-21.

2. Price of Oats.—The average wholesale prices in the Melbourne market for oats of good milling quality for the years 1945-46 to 1949-50 in comparison with 1938-39 are shown in the following table:—

OATS : MELBOURNE AVERAGE WHOLESALE PRICES.

(s. d.)

Particulars.	1938-39.	1945-46.	1946-47.	1947-48.	1948-49.	1949-50.
Average price per bushel ..	3 5½	3 11½	4 3¾	4 6½	4 9¼	6 5½

3. Value of Oat Crop.—The estimated values of the oat crop for the seasons 1948-49 and 1949-50 were as follows:—

OATS : VALUE OF CROP (a), 1948-49 AND 1949-50.

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Australia.
1948-49—								
Aggregate value £	1,203,990	1,767,858	94,213	563,199	1,753,712	73,020	2,108	5,458,190
Value per acre ..	£5/3/8	£3/7/6	£2/8/7	£1/19/4	£3/5/11	£6/4/10	£2/18/11	£3/1/8
1949-50—								
Aggregate value £	1,133,960	2,739,002	109,708	1,028,322	2,040,330	199,790	3,304	8,254,416
Value per acre ..	£5/13/11	£5/13/4	£5/7/3	£3/18/8	£3/9/10	£8/15/2	£9/11/0	£4/14/6

(a) Excludes the value of straw.

4. Imports and Exports.—The production of oats in Australia is sufficient to admit of a regular, though usually small, export trade. The quantities and values of oats imported into and exported from Australia during the years 1945-46 to 1949-50 compared with the average for the years 1934-35 to 1938-39 are shown hereunder:—

OATS : IMPORTS AND EXPORTS, AUSTRALIA.

Year.	Imports.		Exports.		Net Exports.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Bushels.	£	Bushels.	£	Bushels.	£
Average, 1934-35 to 1938-39 ..	7,723	1,639	286,360	36,458	278,637	34,819
1945-46 ..	1,231,085	251,878	429,163	112,931	- 801,922	- 138,947
1946-47 ..	85	25	106,645	27,934	106,560	27,909
1947-48 ..	177	61	6,803,427	3,945,807	6,803,250	3,945,746
1948-49 ..	278	140	14,853,777	6,160,586	14,853,499	6,160,446
1949-50 ..	797	462	5,625,560	2,393,566	6,024,763	2,393,104

NOTE.—Minus sign (-) denotes net imports.

The quantity of oats imported into Australia is usually not very large, although in 1945-46 imports exceeded exports by 801,922 bushels. Canada was the chief supplier. The previous year when imports exceeded exports was in 1927-28 (by 460,581 bushels) when New Zealand was the main supplier. In 1949-50 the principal countries of destination of the exports were Netherlands, Denmark, Belgium, Norway, Sweden and Italy.

5. *Oatmeal, etc.*—The production of oatmeal amounted in 1949-50 to 420,344 cwt., equivalent to about 2,400,000 bushels of oats, or about 10.2 per cent. of the total production. Prior to the 1939-45 War the exports of oatmeal were small, but in recent years a considerable export trade has developed and in 1949-50 the quantity shipped amounted to 167,307 cwt. or 33.7 per cent. of total production.

6. *World Production.*—The world's production of oats for the year 1950, excluding that produced in U.S.S.R., as compiled by the Food and Agriculture Organization of the United Nations, amounted to 3,242 million bushels. This quantity was harvested from 94 million acres, and represents an average yield of 34.49 bushels per acre. In comparison with this average return per acre, that of Australia for the same period (15.67 bushels) appears very small. Yields in excess of 40 bushels per acre are not uncommon and some European countries record averages in excess of 50 bushels per acre. The following table shows the world's production and average yield for the period 1935-39 and for each of the five years ended 1950.

OATS : WORLD PRODUCTION.

Year.	Area.		Production.	Average Yield per acre.
	Million Acres.	Million Bushels.	Bushels.	
Average, 1935-1939	139	4,336	31.26	
1946	129	3,920	30.39	
1947	128	3,672	28.69	
1948(a)	91	3,184	34.99	
1949(a)	93	3,074	33.05	
1950(a) (b)	94	3,242	34.49	

(a) Excludes U.S.S.R.

(b) Preliminary. Subject to revision.

§ 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 1949-50 season being 188,422 acres, or 97 per cent. of the total for Australia. Of the balance, Victoria contributed 5,136 acres and Western Australia 20 acres. The climate of Tasmania is generally unsuitable for the growing of maize for grain although 10 acres were sown in this State in 1949-50. In the States mentioned the crop is also grown to a greater or lesser extent for green fodder, particularly in connexion with the dairying industry.

2. *Area, Production and Average Yield.*—Although maize for grain is grown extensively in other countries, the area sown to maize for grain in Australia has averaged only about 258,222 acres during the past decennium. Compared with the previous year, the area in 1949-50 increased by 11,633 acres but was considerably less than the comparatively large areas of 414,914 and 400,544 acres sown in 1910-11 and 1927-28 respectively.

The area, production and average yield per acre of maize for grain in each State for the years 1945-46 to 1949-50 and the averages for the ten-year periods ended 1938-39 and 1949-50 are given in the following table,

MAIZE FOR GRAIN : AREA, PRODUCTION AND AVERAGE YIELD.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Australia.
AREA (ACRES).								
Average, 1929-30 to 1938-39 ..	114,881	18,413	161,380	12	15	..	7	294,708
1945-46.. ..	92,416	6,809	136,445	..	48	11	..	235,729
1946-47.. ..	110,038	8,107	141,487	..	98	6	2	259,738
1947-48.. ..	86,979	7,968	127,703	..	90	7	1	222,748
1948-49.. ..	77,820	6,460	97,598	3	72	5	..	181,958
1949-50.. ..	72,872	5,136	115,550	..	20	10	3	193,591
Average, 1940-41 to 1949-50 ..	100,047	7,773	150,325	4	65	7	1	258,222

PRODUCTION ('000 BUSHELS).(a)

Average, 1929-30 to 1938-39 ..	3,072	631	3,525	..	..	..	..	7,228
1945-46.. ..	2,561	308	2,860	..	..	..	..	5,729
1946-47.. ..	2,507	357	2,943	..	1	..	..	5,868
1947-48.. ..	2,356	324	3,487	..	1	..	..	6,168
1948-49.. ..	2,476	260	2,451	..	1	..	..	5,188
1949-50.. ..	2,408	194	3,393	..	1	..	..	5,996
Average, 1940-41 to 1949-50 ..	2,752	304	3,573	..	1	..	..	6,630

AVERAGE YIELD PER ACRE (BUSHELS).(a)

Average, 1929-30 to 1938-39 ..	26.74	34.28	21.84	29.84	10.02	..	8.48	24.53
1945-46.. ..	27.71	45.22	20.96	..	9.75	2.45	..	24.30
1946-47.. ..	22.78	44.02	20.80	..	7.99	10.17	15.00	22.36
1947-48.. ..	27.10	40.66	27.30	..	7.17	15.71	11.00	27.69
1948-49.. ..	31.82	40.23	25.12	6.67	6.25	19.20	..	28.51
1949-50.. ..	33.05	37.80	29.36	..	22.05	20.50	10.00	30.97
Average, 1940-41 to 1949-50 ..	27.49	39.09	23.77	30.63	10.78	11.22	8.50	25.67

(a) 56 lb. per bushel.

The average yield for Australia for the past ten years was 25.67 bushels per acre. Among principal producing countries, the United States of America during 1950 averaged 37.38 bushels, Yugoslavia, 16.87 bushels and Italy, 25.44 bushels.

3. Price of Maize.—The average wholesale price of maize in the Melbourne market is shown in the following table:—

MAIZE : AVERAGE PRICE, MELBOURNE.

(s. d.)

Particulars.	1938-39.	1945-46.	1946-47.	1947-48.	1948-49.	1949-50.
Average price per bushel	(a) 4 6½	8 5	8 6	8 6	9 7½	11 5

(a) Sydney.

4. Value of Crop.—The values of the crop for the seasons 1948-49 and 1949-50 were as follows:—

MAIZE FOR GRAIN : VALUE OF CROP, 1948-49 AND 1949-50.

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Aust.
1948-49—								
Aggregate value	£ 1,302,450	140,366	1,197,011	11	425	40	..	2,640,303
Value per acre	£16/14/9	£21/14/7	£12/5/4	£3/13/4	£5/18/1	£8/0/0	..	£14/10/3
1949-50—								
Aggregate value	£ 1,214,100	123,467	1,467,608	..	434	150	15	2,805,774
Value per acre	£16/13/3	£24/0/10	£12/14/0	..	£21/14/0	£15/0/0	£5/0/0	£14/9/10

5. Maize Products.—Imports of cornflour into Australia are negligible. Exports of cornflour, which prior to the war were very small, increased considerably during the war years, the principal country of destination being New Zealand. In 1949-50, 1,986,901 lb., valued at £64,214, were exported, compared with an annual average of 36,761 lb., valued at £364, during the five years ended 1938-39. It should be noted that these figures include some quantities of "cornflour" made from wheat.

6. Oversea Imports and Exports.—Details of the imports and exports of maize for the five years ended 1949-50 compared with the five-yearly average ended 1938-39 are shown below.

MAIZE : IMPORTS AND EXPORTS, AUSTRALIA.

Year.	Imports.		Exports.		Net Exports.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Bushels.	£	Bushels.	£	Bushels.	£
Average, 1934-35 to 1938-39	20,609	4,209	57,432	8,571	36,823	4,362
1945-46	14	140	411	899	397	759
1946-47	389	871	1,468	6,147	1,079	5,276
1947-48	313	1,036	547,536	627,565	547,223	626,529
1948-49	601	656	126,686	105,786	126,085	105,130
1949-50	59	78	1,201,032	613,604	1,200,973	613,526

7. World Production.—The following table furnishes particulars of the world's acreage, production and average yield per acre of maize, according to records published by the Food and Agriculture Organization of the United Nations:—

MAIZE : WORLD PRODUCTION.

Year.	Area.	Production.	Average Yield per Acre.
	Million Acres.	Million Bushels.	Bushels.
Average, 1935-1939	216	4,725	21.88
1946	214	5,209	24.34
1947	215	4,772	22.20
1948(a)	208	5,929	28.50
1949(a)	208	5,456	26.23
1950(a) (b)	208	5,228	25.13

(a) Excludes U.S.S.R.

(b) Preliminary. Subject to revision.

The United States of America is the most important maize-producing country in the world and during the three years ended 1950 the area sown to maize in that country averaged 85.3 million acres or 41.1 per cent. of the world total. During the same period production averaged 3,388 million bushels or about 61 per cent. of the world total. About 81 per cent. of the production is fed to live-stock on farms, 10 per cent. is used for human food, and approximately 4 per cent. is exported.

§ 7. Barley.

1. Area, Production and Average Yield.—(i) *Total Crop.* 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 reached the record level of 1,040,000 acres in 1949-50. Victoria was originally the principal barley-growing State, but since 1913-14 its place has been taken by South Australia which accounted for 65 per cent. of the Australian acreage in 1949-50. Victoria was next in importance with 25 per cent. leaving a balance of about 10 per cent. distributed among the other States. The totals here given relate to the areas harvested for grain; small areas are sown for hay, but more considerable quantities are cut for green forage. These, however, are not included in this section. The area, production and average yield per acre of barley for grain in the several States for the years 1945-46 to 1949-50 and the averages for the ten-year periods ended 1938-39 and 1949-50 are shown in the following table :—

BARLEY FOR GRAIN : AREA, PRODUCTION AND AVERAGE YIELD.

Season.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Australia.
AREA ('000 ACRES).								
Average, 1929-30 to 1938-39	11	107	8	331	31	7	..	495
1945-46	29	134	21	442	66	7	..	690
1946-47	27	138	9	502	66	6	..	748
1947-48	23	165	17	562	63	9	..	839
1948-49	19	106	28	698	64	7	..	1,012
1949-50	13	236	25	694	68	4	..	1,040
Average, 1940-41 to 1949-50	21	155	15	477	65	6	..	739
PRODUCTION ('000 BUSHELS). (a)								
Average, 1929-30 to 1938-39	173	1,976	132	5,714	371	186	1	8,553
1945-46	496	1,744	520	7,566	666	123	2	11,117
1946-47	107	2,322	68	8,424	519	156	..	11,596
1947-48	519	3,577	433	15,363	745	219	..	20,856
1948-49	322	3,548	622	12,104	981	208	..	17,785
1949-50	265	4,876	578	12,725	968	131	..	19,543
Average, 1940-41 to 1949-50	291	2,476	320	8,693	770	142	1	12,693
AVERAGE YIELD PER ACRE (BUSHELS).(a)								
Average, 1929-30 to 1938-39	16.62	18.44	16.67	17.29	11.89	25.21	18.88	17.29
1945-46	17.16	13.00	24.70	17.12	10.03	18.28	21.42	15.90
1946-47	4.01	16.82	7.52	16.78	7.88	24.88	..	15.50
1947-48	22.13	21.78	25.18	27.32	11.79	26.79	19.50	24.87
1948-49	16.91	18.12	22.49	17.35	15.29	28.39	..	17.58
1949-50	20.64	20.65	23.06	18.34	14.24	30.12	..	18.79
Average, 1940-41 to 1949-50	13.61	15.97	21.15	18.24	11.88	25.61	13.58	17.18

(a) 50 lb. per bushel.

(ii) *Malting (2-row) and Other (6-row) Barley. (a) Season 1949-50.* In the following table details of the area sown to barley of the 2-row or malting variety and 6-row or feed variety, and production therefrom for the season 1949-50 are given by States:—

BARLEY, MALTING (2-ROW) AND OTHER (6-ROW): AREA AND PRODUCTION, 1949-50.

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W.Aust.	Tas.	A.C.T.	Aust.
AREA ('000 ACRES.)								
Malting (2-row) ..	9	212	17	651	34	4	..	927
Other (6-row) ..	4	24	8	43	34	..	..	113
Total ..	13	236	25	694	68	4	..	1,040
PRODUCTION ('000 BUSHELS).								
Malting (2-row) ..	203	4,406	390	11,976	475	119	..	17,569
Other (6-row) ..	62	470	188	750	493	11	..	1,974
Total ..	265	4,876	578	12,726	968	130	..	19,543

Taking Australia as a whole, about 89 per cent. of the area of barley for grain in 1949-50 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 disposal of barley during the season 1949-50 was as follows: malt works, 5,293,979 bushels; flour and other grain mills, 264,395 bushels; distilleries, 194,812 bushels; exports, 5,351,397 bushels; leaving a balance of 8,438,232 bushels for feed, seed and other purposes.

(b) *Area, Production and Average Yield.* The following table sets out the acreage and production of malting and other barley in Australia during the seasons 1945-46 to 1949-50 and the averages for the ten-year periods ended 1938-39 and 1949-50.

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

Season.	Area. ('000 Acres.)			Production. ('000 Bushels.)			Average Yield per Acre. (Bush.)		
	Malting (2-row).	Other (6-row).	Total.	Malting (2-row).	Other (6-row).	Total.	Malting (2-row).	Other (6-row).	Total.
Average, 1929-30 to 1938-39 ..	428	67	495	7,480	1,073	8,553	17.49	16.03	17.29
1945-46 ..	593	106	699	9,581	1,536	11,117	16.15	14.52	15.90
1946-47 ..	663	85	748	10,558	1,038	11,596	15.92	12.27	15.50
1947-48 ..	745	94	839	18,936	1,920	20,856	25.43	20.46	24.87
1948-49 ..	899	113	1,012	15,930	1,855	17,785	17.72	16.46	17.58
1949-50 ..	927	113	1,040	17,569	1,974	19,543	18.95	17.51	18.79
Average, 1940-41 to 1949-50 ..	634	105	739	11,184	1,509	12,693	17.64	14.37	17.18

During the past ten seasons the average area of barley of the malting, or 2-row class, was six times the corresponding figures for barley of the 6-row, or feed class. The average yield per acre for the last ten-yearly period for malting barley was 23 per cent. higher than that for 6-row barley.

2. **Australian Barley Board.**—Following the outbreak of war in 1939, the Australian Barley Board, representative of the 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 and to act as agents for all local and oversea sales.

Following the decision of the Commonwealth Government not to acquire barley in smaller producing States after 1941-42, the Governments of Western Australia and Queensland established State Barley Boards to control marketing in these States.

Particulars of the barley acquired and sold, and of advances made to growers by the Australian Barley Board in respect of the 1945-46 to 1947-48 crops are given in the following table. The Commonwealth Government did not acquire barley 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 of these acquisitions are also shown in the table below.

**AUSTRALIAN BARLEY BOARD : BARLEY ACQUIRED, SOLD, ETC.,
TO 30th SEPTEMBER, 1951.**

Pool.	Quantity Acquired.	Quantity Sold.(a)	Total Advances made per Bushel on 2-row No. 1 Grade excluding freight.		Total Payments to Growers.
			s. d.	£	
	'000. bushels.	'000. bushels.	s. d.	£	
No. 7 (1945-46 Crop)	6,716	6,782	6 0.17	1,962,049	
" 8 (1946-47 ")	8,543	8,572	8 4.625	3,497,956	
" 9 (1947-48 ")	17,228	17,302 (b)	15 1.7	12,737,512	
" 10 (1948-49 ")	13,986	14,087 (b)	7 11.9	5,377,137	
" 11 (1949-50 ")	16,250	16,336 (b)	10 2.2	7,905,902	
" 12 (1950-51 ") (c)	19,973	18,065 (b)	8 6	8,056,306	

(a) Includes surplus in out-turn. (b) Paid to growers in the northern part of South Australia. Growers in the south-east of South Australia and Victoria received an additional 2d. per bushel. (c) Subject to revision. (d) To 30th September, 1951.

3. Prices.—The average prices in the Melbourne market during each of the years 1938-39 and 1945-46 to 1949-50 are given in the following table :—

**BARLEY : AVERAGE MELBOURNE PRICES PER BUSHEL.
(s. d.)**

Particulars.	1938-39.	1945-46.	1946-47.	1947-48.	1948-49.	1949-50.
Malting barley ..	3 5½	6 1	6 1	6 5½	6 11½	7 3½
Cape barley ..	2 11½	5 4	5 4	5 8½	6 3½	6 6½

4. Value of Barley Crop.—The estimated values of the barley crop for the seasons 1948-49 and 1949-50 and the value per acre are shown in the following table :—

BARLEY FOR GRAIN : VALUE OF CROP(a), 1948-49 AND 1949-50.

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Australia.
1948-49—								
Aggregate value £	119,630	1,366,216	302,496	5,120,862	419,531	65,620	..	7,394,355
Value per acre	£6/5/9	£6/19/7	£10/18/7	£7/6/9	£6/10/8	£8/19/1	..	£7/6/2
1949-50—								
Aggregate value £	102,720	2,526,496	303,020	7,262,050	466,733	48,020	..	10,709,039
Value per acre	£8/0/4	£10/14/0	£12/1/8	£10/9/4	£6/17/4	£11/1/0	..	£10/5/11

(a) Excludes the value of straw.

5. Imports and Exports.—Australian exports of barley during the five years ended 1949-50 averaged 6,517,000 bushels, South Australia being the principal exporting State. Particulars of the Australian oversea imports and exports for the years 1945-46 to 1949-50 together with the average for the five years ended 1938-39 are shown in the following table :—

BARLEY : IMPORTS AND EXPORTS, AUSTRALIA.

Year.	Imports.		Exports.		Net Exports.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Average, 1934-35 to 1938-39	'000 Bushels. 1,483	£ 261,730	'000 Bushels. 3,279	£ 483,246	'000 Bushels. 1,796	£ 221,516
1945-46	953	219,071	702	359,741	-251	140,670
1946-47 .. ..	..	..	2,256	1,636,020	2,256	1,636,020
1947-48 .. ..	..	1	8,050	8,134,000	8,050	8,133,999
1948-49 .. ..	..	30	10,876	6,864,173	10,876	6,864,143
1949-50 .. ..	..	4	10,703	6,433,051	10,703	6,433,047

NOTE.—Minus sign (—) denotes net imports.

In addition to barley grain, there is also an export of Australian pearl and scotch barley, the total for 1949-50 amounting to 1,882,772 lb., valued at £37,223, and consigned mainly to Ceylon, Singapore and Malaya.

6. Malt.—(i) *Production.* The production of malt in Australia is sufficient to meet local requirements and to provide a margin for export as indicated below. Details of the quantity of grain used and the production of barley and other malt are given in the following table.

MALT : GRAIN USED AND MALT PRODUCED, AUSTRALIA.

Year.	Barley Malt.		Wheaten and Oaten Malt.	
	Grain used.	Malt produced.	Grain used.	Malt produced.
	Bushels.	Bushels.(a)	Bushels. (b)	Bushels.(a)
1938-39	3,729,730	..	111,728
1945-46	3,734,780	241,992	229,811
1946-47	4,669,729	173,772	158,387
1947-48	4,976,615	186,772	170,877
1948-49	5,048,387	170,615	160,766
1949-50	5,293,979	186,092	174,872

(a) 40 lb. per bushel. (b) Not available.

(ii) *Imports and Exports.* The surplus production of malt in Australia, after meeting local requirements, is shipped chiefly to the Far East and New Zealand. Details of imports and exports for the years 1945-46 to 1949-50, together with the average for the five years ended 1938-39, are given in the next table :—

MALT : IMPORTS AND EXPORTS, AUSTRALIA.

Year.	Imports.		Exports.		Net Exports.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Average, 1934-35 to 1938-39	Bushels. 248	£ 133	Bushels. 108,798	£ 37,780	Bushels. 108,550	£ 37,647
1945-46 .. ..	..	..	15,040	6,590	15,040	6,590
1946-47 .. ..	..	..	20,673	8,023	20,673	8,023
1947-48 .. ..	..	..	12,920	14,159	12,920	14,159
1948-49	14,002	16,508	..	..	-14,002	-16,508
1949-50	98,132	110,295	2,672	2,654	-95,460	-107,641

NOTE.—Minus sign (—) denotes net imports.

7. **World Production.**—In comparison with the barley production of other countries, that of Australia is extremely small. World production in 1950 is placed at 2,113 million bushels, the main producers being China and the United States of America. Australian production in that year was less than one per cent. of the world total.

The following table shows the latest available details of the world's acreage of barley, together with the production and average yield per acre, according to the results compiled by the Food and Agriculture Organization of the United Nations :—

BARLEY : WORLD PRODUCTION.

Period.	Area.	Production.	Average Yield per Acre.
		Million Bushels.	Bushels.
Average, 1935-1939	114.2	2,338	20.47
1946	103.0	2,016	19.57
1947	110.7	2,122	19.17
1948(a)	92.4	2,044	22.12
1949(a)	93.2	1,957	21.00
1950(a) (b)	96.4	2,113	21.92

(a) Excludes U.S.S.R.

(b) Preliminary. Subject to revision.

§ 8. Rice.

Rice growing is almost entirely concentrated in Asia and the extent to which this crop is grown in other countries is relatively small. In Australia experimental rice cultivation was carried on at the Yanco Experimental Farm in New South Wales for a number of years before 1924-25, but it was not until that year that an attempt was made to grow the crop on a commercial basis, 16,240 bushels being produced from 153 acres, or an average of 106 bushels per acre. Favoured by tariff protection and high average yields, the development of rice culture in the Murrumbidgee Irrigation Area made rapid progress, and production soon equalled Australian requirements and later provided a margin for export.

The area which growers may plant is subject to control. Each year representatives of the Rice Marketing Board, rice growers, the Department of Agriculture and the Water Conservation and Irrigation Commission of New South Wales meet to decide the maximum area which growers may plant in the following season, the extent of any expansion being determined by the limits imposed by the quantity of water available.

For the five years ended 1938-39 the area sown to rice in the Murrumbidgee Irrigation Area averaged 22,800 acres. No marked expansion occurred until after Japan's entry into the war in 1941. The area was increased to 34,300 acres in 1942-43 and to 36,500 acres in 1943-44. This expansion was not sufficient to meet the war-time demand and new areas in the Wakool and Benerembah Irrigation Districts of New South Wales were developed, bringing the total area for the State and for Australia to 40,690 acres in 1943-44. Owing to water shortage the area sown in 1944-45 fell to 24,596 acres, but rose to 28,372 acres in 1945-46 and to 31,995 acres in 1946-47. A decline to 26,208 acres was recorded in 1947-48, but the area expanded rapidly in 1948-49 to 32,689 acres, and to 37,540 acres in 1949-50.

The production of paddy rice reached its highest level in 1943-44 with more than 4 million bushels or an average yield of just under 100 bushels per acre. In 1944-45 it

dropped to nearly 1.7 million bushels or 68.8 bushels per acre, owing to water shortage arising from severe drought conditions. In 1949-50 production amounted to 3.8 million bushels or an average of 100.78 bushels per acre.

Prior to 1938-39 the greater part of Australia's export of rice was consigned to the United Kingdom, but, because of shortages in Pacific areas arising from war damage in south-east Asia, exports from Australia have been diverted mainly to the islands in this region.

Details relating to area, production, and trade for the years 1945-46 to 1949-50 compared with the averages for the years 1934-35 to 1938-39 are shown in the following table:—

RICE : AREA, PRODUCTION AND TRADE, AUSTRALIA.(a)

Year.	No. of Growers.	Area.	Production (Paddy Rice).		Average Yield (Paddy) per acre.	Imports.		Exports.	
			Quantity.	Gross Value. (b)		Un-cleaned.	Cleaned.	Un-cleaned.	Cleaned.
		Acres.	'000 Bushels. c	£'000.	Bushels. c	Centals.	Centals.	Centals.	Centals.
Average, 1934-35 to 1938-39 ..	(d) 313	22,823	2,274	450	99.66	2,124	38,272	9,357	271,851
1945-46 ..	329	28,372	2,735	672	96.40	..	420	344,874	222,485
1946-47 ..	350	31,995	2,978	892	93.08	13	6	28,419	530,985
1947-48 ..	349	26,208	2,676	950	102.12	..	5	4,763	622,208
1948-49 ..	404	32,689	2,739	1,032	83.79	..	549	8,658	610,497
1949-50 ..	444	37,540	3,783	1,653	100.78	..	6,685	225	597,759

(a) Rice growing in Australia has been confined to New South Wales. (b) Excludes the value of straw. (c) 42 lb. per bushel. (d) 1938-39 figure, previous years not collected.

§ 9. Sorghum for Grain.

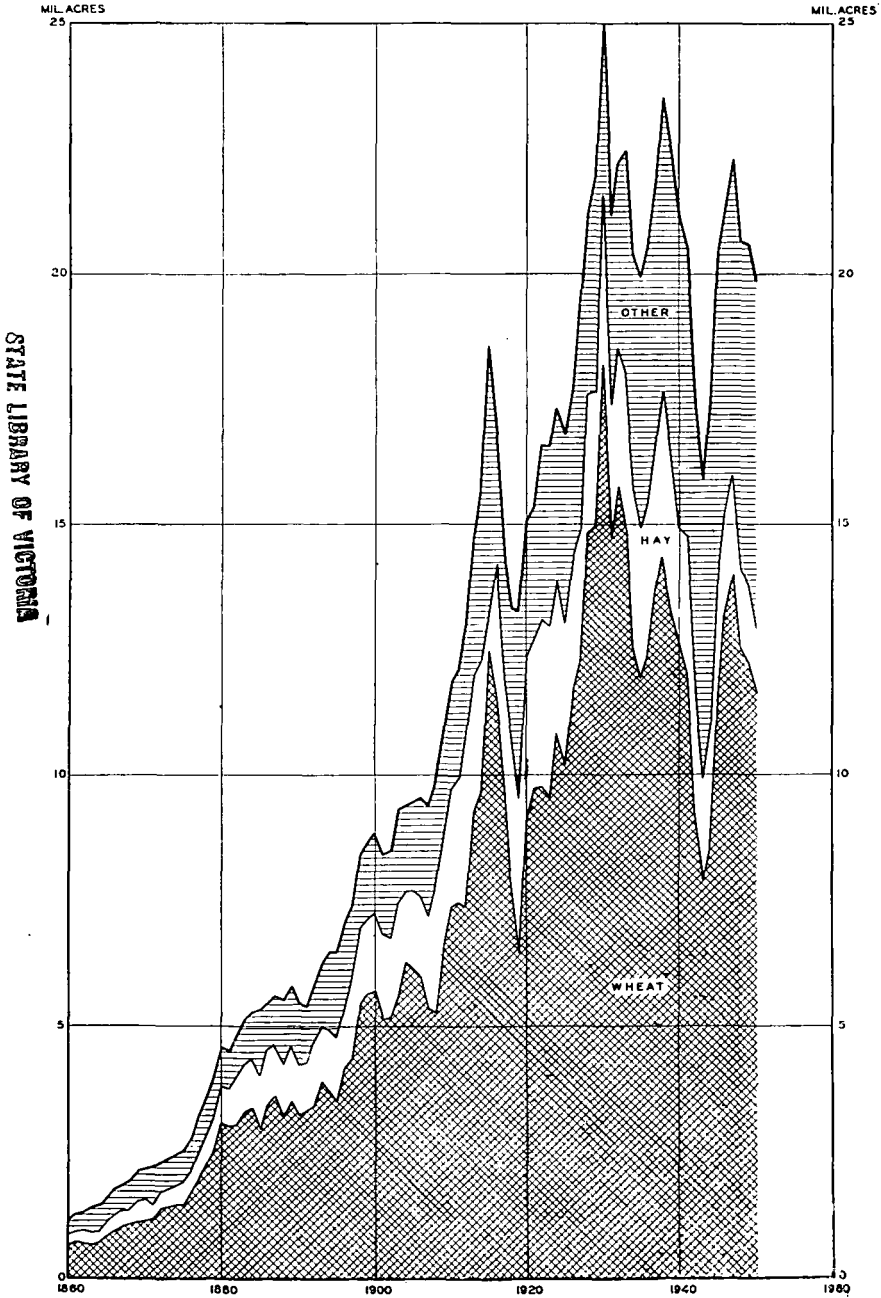
1. Area, Production and Average Yield.—The growing of sorghum for grain on an extensive scale is a recent development in Australia. No details of the area and production of this cereal are available prior to 1939-40, but the output was of little importance. The climatic conditions of Queensland and northern New South Wales are particularly suited for the growing of sorghum and the development so far has been restricted to these areas, but more particularly to Queensland which accounts for the greater portion of the area sown. The grain produced is fed to live-stock and is becoming an important source of supply for supplementing other coarse grains for the feeding of live-stock. Other sorghums are grown in Australia mainly as green fodder, hay and for the production of brush for broom manufacture. Details of these are included in § 14 and § 19 hereinafter. Particulars of the area and production of sorghum grown for grain are given in the following table.

GRAIN SORGHUM : AREA, PRODUCTION AND AVERAGE YIELD, AUSTRALIA.

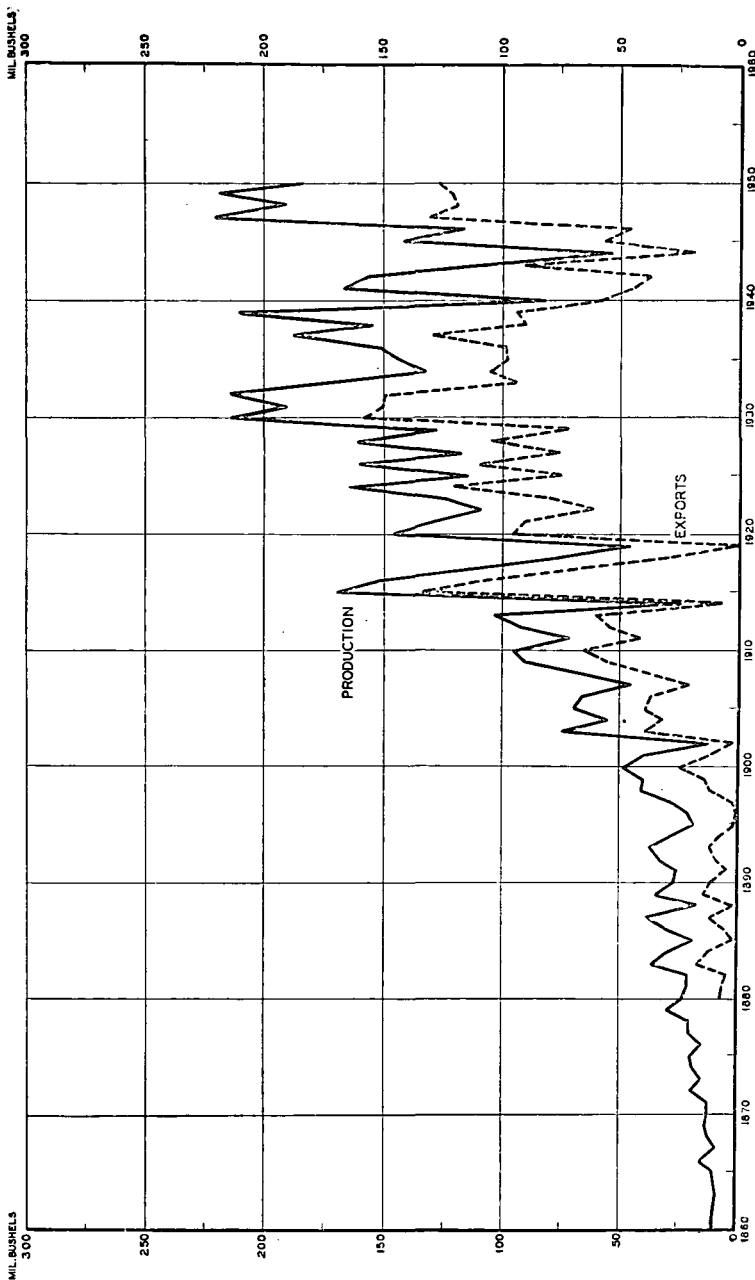
Year.	Area.			Production.(a)			Average Yield per Acre.(a)		
	N.S.W.	Q'land.	Total. (b)	N.S.W.	Q'land.	Total. (b)	N.S.W.	Q'land.	Total. (b)
	Acres.	Acres.	Acres.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1939-40 ..	(c)	4,397	(d)4,397	(c)	57,936	(d) 57,936	(c)	13.17	d 13.17
1945-46 ..	6,248	49,451	55,699	100,182	918,780	1,018,962	16.03	18.58	18.29
1946-47 ..	51,868	68,775	120,644	629,097	1,295,442	1,924,539	12.13	18.84	15.95
1947-48 ..	24,680	116,079	140,769	467,412	3,335,322	3,802,784	18.94	28.73	27.01
1948-49 ..	4,732	48,011	52,745	83,244	899,136	982,389	17.59	18.73	18.63
1949-50 ..	3,575	99,362	102,937	67,809	2,157,717	2,225,526	18.97	21.72	21.62

(a) 60 lb. per bushel. (b) Includes small areas sown and quantities produced in other States. (c) Not available. (d) Queensland only.

AREA OF CROPS: AUSTRALIA, 1860-61 to 1950-51

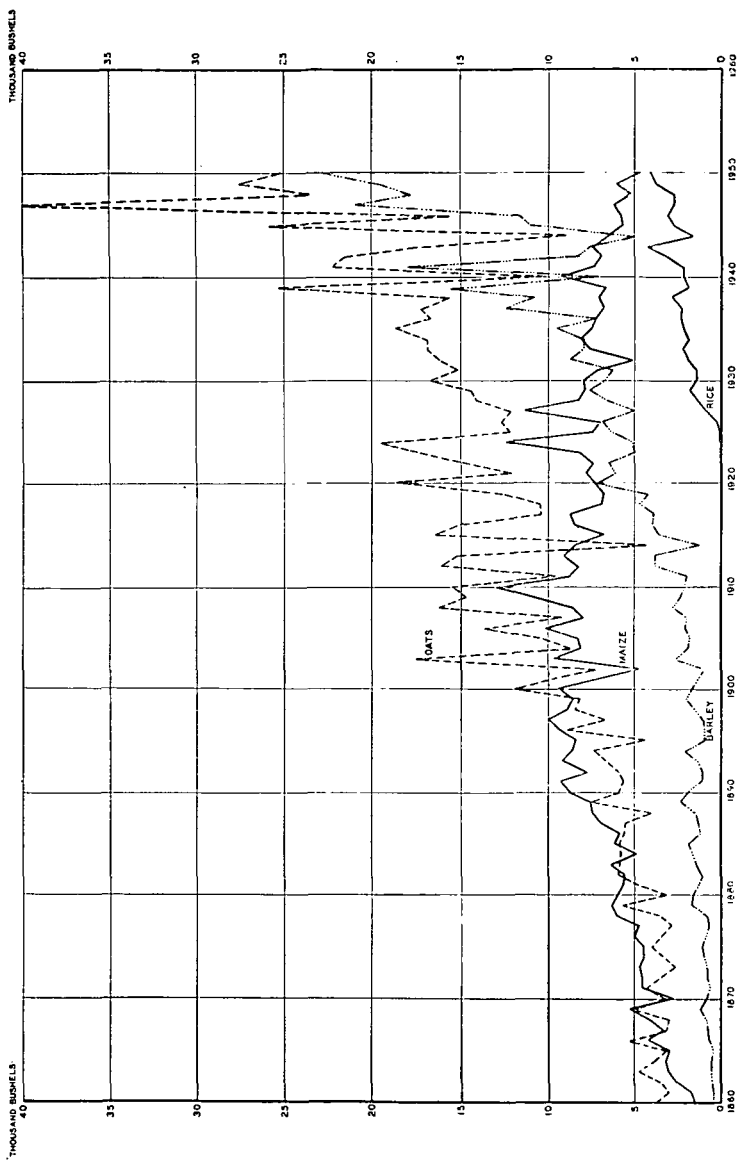


WHEAT PRODUCTION AND EXPORTS: AUSTRALIA, 1860-61 to 1950-51



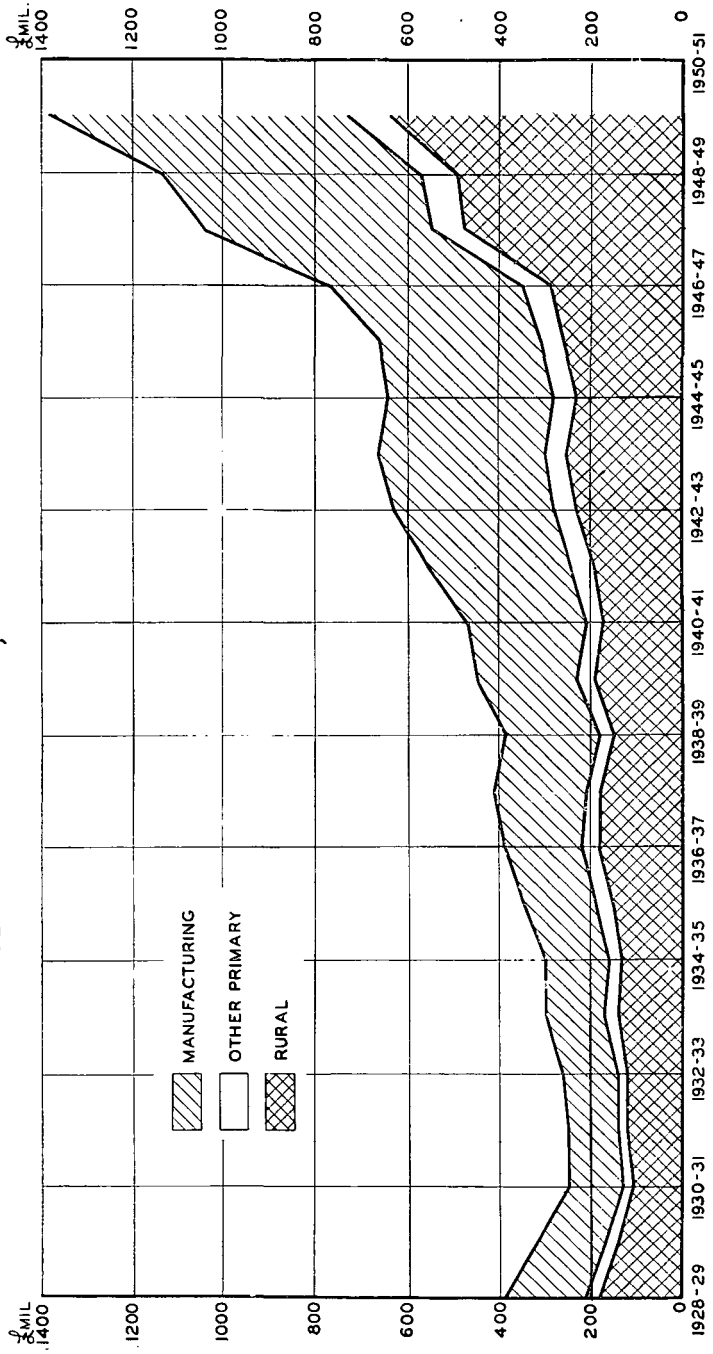
NOTE.—The export figures for the years 1915-16 to 1920-21 do not represent the surplus available for export in each of these years because of the dislocation of shipping due to the 1914-1918 War. For these years the quantity consumed in Australia has been averaged and the balance taken as exports.

PRODUCTION OF OATS, BARLEY, MAIZE AND RICE : AUSTRALIA 1860-61 to 1950-51



NET VALUE OF PRODUCTION : AUSTRALIA

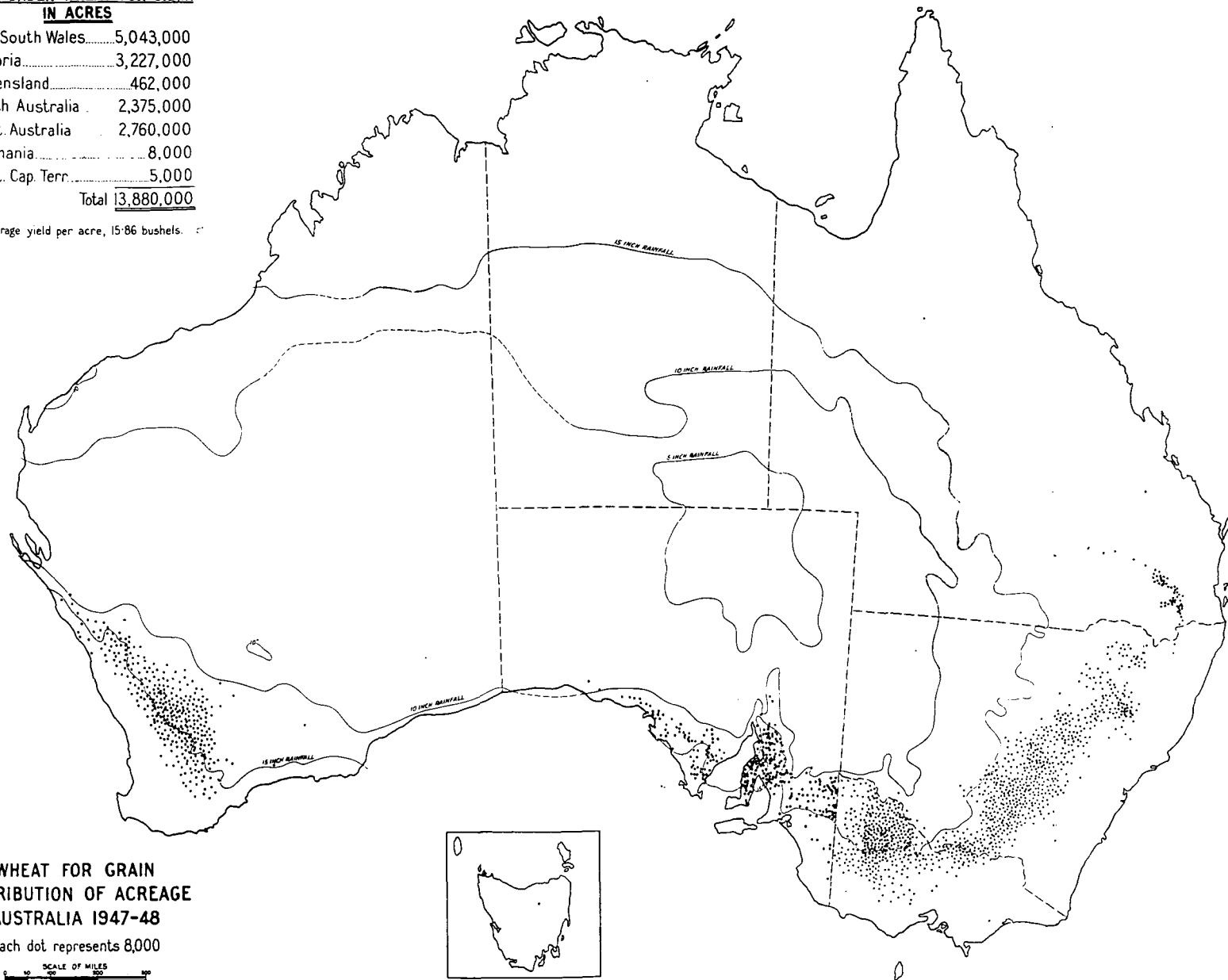
ALL RECORDED INDUSTRIES, 1928-29 TO 1949-50



**AREA UNDER WHEAT FOR GRAIN
IN ACRES**

New South Wales.....	5,043,000
Victoria.....	3,227,000
Queensland.....	462,000
South Australia .	2,375,000
West. Australia	2,760,000
Tasmania.....	8,000
Aust. Cap. Terr.....	5,000
Total	13,880,000

Average yield per acre, 15.86 bushels.



**WHEAT FOR GRAIN
DISTRIBUTION OF ACREAGE
AUSTRALIA 1947-48**

Each dot represents 8,000

SCALE OF MILES
0 100 200

2. **Queensland-British Food Corporation Project.**—Early in 1948 an agreement was entered into between the Queensland Government and the Overseas Food Corporation of the United Kingdom Government to develop selected areas of Central Western Queensland for the growing of grain sorghum for pig-raising in Queensland and/or for export to the United Kingdom, and for sunflower and possibly other oilseed production. The Queensland-British Food Corporation was established in April, 1948 with head-quarters in Brisbane, some 300,000 acres of land being initially acquired for the project. The land acquired comprises the pastoral property known as "Peak Downs" and other similar properties in the Central Western District of the State and is estimated to embrace about 180,000 acres of arable land. The first year's operations of the Corporation consisted of developmental work, the seeding of 29,286 acres of grain sorghum, and the sowing of small areas with sunflower and other experimental crops on the "Peak Downs" property for 1949 cropping. During the 1950, 1951 and 1952 seasons the Corporation continued operations on sorghum and sunflower seed production, while two piggeries were established during the second half of 1950. In addition, beef cattle were run on certain areas suitable only for grazing. However, because of losses incurred, the United Kingdom and Queensland Governments decided, early in 1953, to abandon the project. Although the scheme has resulted in financial loss, the activities of the Corporation have done much to indicate ways by which grain sorghum production and beef cattle husbandry can be used as a basis for closer settlement of the great tracts of brigalow country in Queensland.

§ 10. Other Grain and Pulse Crops.

In addition to the grain crops already specified, the principal other grain and pulse crops grown in Australia are navy beans, blue peas and rye.

The recorded areas of crops of blue peas and navy beans for the season 1949-50 were 7,813 acres and 2,177 acres respectively, giving yields of 4,029 tons and 779 tons or averages of 0.52 tons and 0.36 tons respectively per acre. Details of these crops are incomplete as New South Wales did not collect particulars of area or yield of navy beans or blue peas.

The total area of rye in Australia during the season 1949-50 was 63,160 acres, yielding 410,536 bushels, or an average of 6.50 bushels per acre, as compared with the average of 5.74 bushels for the last ten seasons. Of the total area sown to rye in 1949-50, about 62.6 per cent. was in South Australia, 26.4 per cent. in Victoria, and 8.3 per cent. in Western Australia.

§ 11. Potatoes.

1. **Area, Production and Average Yield.**—Victoria possesses peculiar advantages for the growing of potatoes, as the rainfall is generally satisfactory and the climate is unfavorable 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. Tasmania comes next in order of acreage sown, although the production exceeded that of Victoria in some of the war years. New South Wales occupies third place in acreage and production. The area for these three States accounted for 81 per cent. of the total for Australia in 1949-50.

The area sown, production and average yield per acre of potatoes in each State during the years 1945-46 to 1949-50 and the averages for the ten-year periods ended 1938-39 and 1949-50 are shown hereunder:—

POTATOES : AREA, PRODUCTION AND AVERAGE YIELD.

Season.	N.S.W.	Vic.	Q'land.	S. Aust.	W.Aust.	Tas.	A.C.T.	Aust.
AREA (ACRES).								
Average, 1929-30 to								
1938-39	19,199	54,658	11,039	5,042	4,953	34,684	30	129,605
1945-46	22,865	63,000	15,216	8,854	9,781	56,245	118	176,079
1946-47	21,309	56,400	10,536	6,191	6,961	43,227	105	144,729
1947-48	21,911	59,400	10,664	6,202	6,955	40,382	115	145,629
1948-49	18,101	45,785	11,184	5,860	6,344	32,319	89	119,682
1949-50	23,369	50,651	11,624	7,245	6,895	34,110	108	134,002
Average, 1940-41 to								
1949-50	23,243	55,825	12,263	7,273	7,320	45,626	102	151,652

PRODUCTION (TONS).								
Average, 1929-30 to								
1938-39	44,122	150,238	18,100	20,202	23,410	94,500	63	350,635
1945-46	61,768	230,749	33,605	35,097	47,672	236,140	575	645,606
1946-47	61,303	223,782	22,599	29,212	36,042	170,621	518	544,077
1947-48	65,535	184,882	29,209	34,181	40,608	142,746	716	497,967
1948-49	61,265	166,105	27,511	33,054	39,516	131,800	561	459,812
1949-50	69,395	167,881	30,681	40,984	39,459	122,000	637	471,037
Average, 1940-41 to								
1949-50	61,926	202,616	26,846	35,526	37,410	172,616	548	537,488

AVERAGE YIELD PER ACRE (TONS).								
Average, 1929-30 to								
1938-39	2.30	2.75	1.64	2.50	4.73	2.72	2.09	2.71
1945-46	2.70	3.66	2.21	3.96	4.87	4.20	4.87	3.67
1946-47	2.88	3.97	2.14	4.72	5.18	3.95	4.93	3.76
1947-48	2.99	3.11	2.75	5.51	5.84	3.53	6.23	3.42
1948-49	3.38	3.63	2.46	5.64	6.23	4.08	6.30	3.84
1949-50	2.97	3.31	2.64	5.66	5.72	3.58	5.90	3.52
Average, 1940-41 to								
1949-50	2.66	3.63	2.19	4.88	5.11	3.78	5.36	3.54

The area sown to potatoes averaged 129,605 acres during the ten years ended 1938-39 and rose to 151,652 acres for the decennium ended 1949-50. After the outbreak of war in the Pacific in December, 1941, the area sown to potatoes rose rapidly and reached a peak of 241,803 acres in 1944-45. This was followed by a sharp fall to 176,079 acres in 1945-46 and to 144,729 acres in 1946-47. The acreage recorded in 1947-48 was slightly higher at 145,629 acres but this was followed by a further sharp decline to 119,682 acres in 1948-49. In 1949-50 the acreage increased to 134,002 acres.

Compared with the average yield per acre obtained in other countries, that returned for Australia is low; the production in New Zealand, for example, in 1948-49 averaged 6.08 tons per acre from an area of about 20,000 acres, as compared with 3.84 tons per acre in Australia from 119,682 acres.

2. **Gross Value of Potato Crop.**—The estimated gross value of the potato crop of each State for the seasons 1948-49 and 1949-50 is shown in the following table :—

POTATOES : VALUE OF CROP, 1948-49 AND 1949-50.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Australia.
1948-49—								
Aggregate value £	1,281,970	2,960,268	502,076	561,918	580,062	2,227,420	11,725	8,125,439
Value per acre ..	£70/16/6	£64/13/2	£44/17/10	£95/17/10	£91/8/8	£68/18/5	£131/14/10	£67/17/10
1949-50—								
Aggregate value £	1,766,390	3,259,460	690,322	774,598	755,895	1,878,800	16,238	9,141,703
Value per acre ..	£75/11/9	£64/7/0	£59/7/9	£106/18/4	£109/12/7	£55/1/7	£150/7/0	£68/4/5

3. **Consumption.**—The annual consumption of potatoes in Australia during each of the three years 1947-48 to 1949-50 amounted to 450,251 tons, 376,898 tons and 391,800 tons respectively, or 132.0 lb., 108.3 lb. and 109.0 lb. per head of population respectively. These figures exclude the quantities used for seed, which averaged about 60,000 tons annually over this period. Consumption during the three years ended 1938-39 averaged 318,500 tons (103.8 lb. per head of population) excluding 37,000 tons for seed. 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. **Australian Potato Committee.**—Full details of the war-time potato marketing scheme operated under the National Security (Potatoes) Regulations by the Australian Potato Committee were shown on p. 929 of Official Year Book No. 37. The Committee ceased to function as from the close of the 1947-48 season.

5. **Post-war 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.

The 1948-49 crops have been marketed by Boards established in the respective States under State legislation. Although the State Boards operate separately they have a working arrangement for the interstate marketing of potato crops.

6. **Imports and Exports.**—Prior to the 1939-45 War, small quantities of potatoes were exported, principally to the Pacific Islands and Papua. Since the war, an expanded export trade has been developed, principally with Eastern countries, including Singapore, Ceylon, Hong Kong and Indo-China. Details showing the trade for the years 1945-46 to 1949-50 and the period 1934-35 to 1938-39 are given in the following table :—

POTATOES : IMPORTS AND EXPORTS, AUSTRALIA.

Year.	Imports.		Exports.		Net Exports.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Average, 1934-35 to 1938-39	Tons.	£	Tons.	£	Tons.	£
1945-46	5	79	18,838	16,639	18,833	16,560
1946-47 .. ..	..	21	44,645	861,023	44,645	861,002
1947-48 .. ..	..	3	25,852	504,658	25,852	504,655
1948-49 .. ..	..	1	30,008	622,379	30,008	622,378
1949-50 .. ..	..	..	15,074	243,540	15,074	243,540
1949-50 .. ..	..	19	15,183	340,747	15,183	340,728

§ 12. Onions.

1. Area, Production and Average Yield.—Australia's supply of onions comes chiefly from Victoria, which accounted for 54.4 per cent. of the total area and 53.3 per cent. of the quantity produced in 1949-50. Queensland came next with nearly 31.5 per cent. of the area and 27.5 per cent. of the production, leaving a balance of about 14.1 per cent. of area and 19.2 per cent. of production distributed among the remaining four States. 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 average yield per acre are given in the following table for the years 1945-46 to 1949-50 together with averages for the ten-year periods ended 1938-39 and 1949-50.

ONIONS: AREA, PRODUCTION AND AVERAGE YIELD.

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W.Aust.	Tas.	A.C.T.	Aust.
AREA (ACRES).								
Average, 1929-30 to 1938-39 ..	124	6,159	840	450	109	5	3	7,690
1945-46	747	8,170	2,537	511	383	52	8	12,408
1946-47	408	6,460	1,497	521	431	27	3	9,347
1947-48	568	6,722	2,378	583	475	19	6	10,751
1948-49	322	5,554	2,828	498	499	31	4	9,736
1949-50	225	4,093	2,371	435	371	28	3	7,526
Average, 1940-41 to 1949-50 ..	604	6,030	1,961	551	383	49	5	9,583
PRODUCTION (TONS).								
Average, 1929-30 to 1938-39 ..	354	35,431	2,548	3,414	814	20	11	42,592
1945-46	2,939	46,338	9,939	4,779	2,720	54	24	66,793
1946-47	1,710	28,244	6,089	4,774	3,562	203	15	44,597
1947-48	2,158	61,540	12,843	5,350	4,000	75	31	85,997
1948-49	1,242	33,684	12,535	4,971	3,930	180	27	56,569
1949-50	770	25,436	13,137	4,607	3,611	130	22	47,713
Average, 1940-41 to 1949-50 ..	1,931	35,545	8,254	4,819	2,938	157	24	53,668
AVERAGE YIELD PER ACRE (TONS).								
Average, 1929-30 to 1938-39 ..	2.85	5.75	3.03	7.59	7.47	4.00	3.67	5.54
1945-46	3.93	5.67	3.92	9.35	7.10	1.04	3.00	5.38
1946-47	4.19	4.37	4.07	9.16	8.26	7.52	5.00	4.77
1947-48	3.80	9.16	5.40	9.18	8.42	3.95	5.17	8.00
1948-49	3.86	6.06	4.43	9.98	7.88	5.81	6.75	5.81
1949-50	3.42	6.21	5.54	10.59	9.73	4.64	7.33	6.34
Average, 1940-41 to 1949-50 ..	3.20	5.89	4.21	8.75	7.67	3.20	4.86	5.60

Details of the area and production of fresh vegetables other than potatoes and onions are given in § 18.

2. **Gross Value of Onion Crop.**—The gross value of the onion crop is shown in the following table for the years 1948-49 and 1949-50.

ONIONS : VALUE OF CROP, 1948-49 AND 1949-50.

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Aust.
1948-49—								
Aggregate value £	23,370	533,439	145,965	82,850	72,438	4,270	508	862,840
Value per acre ..	£72/11/7	£96/1/0	£44/6/6	£166/7/4	£145/3/4	£137/14/11	£127/0/0	£88/12/6
1949-50—								
Aggregate value £	19,270	558,886	282,834	119,782	73,509	3,250	550	1,058,081
Value per acre ..	£85/12/11	£136/10/11	£119/5/9	£275/7/3	£198/2/9	£116/1/5	£183/6/8	£140/11/10

3. **Consumption.**—The annual consumption of onions in Australia averaged 50,400 tons or 14.5 lb. per head of population during the three years ended 1949-50 compared with 40,600 tons or 13.2 lb. per head during the three years ended 1938-39. These figures exclude an estimated wastage which averaged 7,900 tons and 4,500 tons respectively.

4. **Imports and Exports.**—Onions are the only root crop, other than potatoes, in which any considerable overseas trade is carried on by Australia. The last year in which onions imported was 1946-47 when approximately 100 tons were obtained, principally from New Zealand. During 1949-50 exports, which amounted to 5,901 tons, valued at £161,204, were shipped mainly to Singapore and the Pacific Islands.

§ 13. Hay.

1. **General.**—(i) *Area and Production.* As already stated, the chief crop in Australia is wheat grown for grain. In most years hay has been next in importance but in each of the three years ended 1949-50 it was third to oats (for grain).

In 1949-50 the hay area represented 7.8 per cent. of the total area cropped. A graph showing the area sown to hay since 1860 appears on page 973. In most European countries the hay consists almost entirely of meadow and other grasses, but in Australia a very large proportion consists of oats, wheat and lucerne. The area, production and average yield per acre of hay of all kinds in the several States during the years 1945-46 to 1949-50 and the averages for the ten-year periods ended 1938-39 and 1949-50 are shown below:—

HAY : AREA, PRODUCTION AND AVERAGE YIELD.

Season.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Aust.
AREA (ACRES).								
Average, 1929-30								
to 1938-39 ..	757,010	1,110,616	67,850	541,265	432,217	83,118	2,338	2,994,414
1945-46 ..	758,400	1,060,496	60,084	484,060	281,410	99,758	4,028	2,757,236
1946-47 ..	546,431	677,787	67,757	329,307	277,489	104,014	2,973	2,005,758
1947-48 ..	627,654	657,146	71,834	296,261	229,172	84,354	3,766	1,979,187
1948-49 ..	374,392	591,341	59,642	234,292	226,779	90,579	2,486	1,579,511
1949-50 ..	339,091	606,525	55,108	294,590	216,320	91,335	2,271	1,605,240
Average, 1940-41								
to 1949-50 ..	593,219	770,567	65,200	376,569	283,941	91,612	3,032	2,184,140

HAY : AREA, PRODUCTION AND AVERAGE YIELD—*continued.*

Season.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Aust.
PRODUCTION (TONS).								
Average, 1929-30 to 1938-39 ..	958,549	1,263,127	104,297	577,100	463,981	119,826	2,830	3,489,710
1945-46 ..	990,747	1,444,250	126,258	521,957	287,476	117,079	5,208	3,492,975
1946-47 ..	380,567	985,224	106,103	432,955	280,252	169,384	2,701	2,357,186
1947-48 ..	978,236	1,042,438	132,694	443,659	267,901	137,648	5,182	3,007,758
1948-49 ..	496,873	933,983	117,339	311,997	277,329	150,699	4,064	2,292,284
1949-50 ..	496,081	1,000,855	116,412	384,604	272,052	155,653	4,332	2,429,989
Average, 1940-41 to 1949-50 ..	676,731	1,014,795	118,531	453,017	310,549	138,297	3,979	2,715,889
AVERAGE YIELD PER ACRE (TONS).								
Average, 1929-30 to 1938-39 ..	1.27	1.14	1.54	1.07	1.07	1.44	1.21	1.17
1945-46 ..	1.31	1.36	1.83	1.08	1.02	1.17	1.29	1.27
1946-47 ..	0.70	1.45	1.57	1.31	1.01	1.63	0.91	1.18
1947-48 ..	1.56	1.59	1.85	1.50	1.17	1.63	1.38	1.53
1948-49 ..	1.33	1.58	1.97	1.33	1.22	1.66	1.63	1.45
1949-50 ..	1.46	1.65	2.11	1.31	1.26	1.70	1.91	1.51
Average, 1940-41 to 1949-50 ..	1.14	1.32	1.82	1.20	1.09	1.51	1.31	1.24

Owing to various causes, the principal being the variation 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 liable to fluctuate considerably. The area under hay in Australia during the season 1915-16, 3,597,771 acres, was the largest on record, whilst the average for the decennium ended 1949-50 was 2,184,140 acres.

(ii) *Varieties Grown.* Information regarding areas cut for hay is available for all States, and details for 1949-50 are given in the following table. Similar information for each year from 1943-44 to 1947-48 compared with 1938-39 may be found in Official Year Book No. 38, page 983, while details for 1948-49 appear in *Production Bulletin* No. 43, Part II.—*Primary Industries.*

HAY : AREA UNDER VARIOUS KINDS GROWN, 1949-50.
(Acres.)

State.	Wheaten.	Oaten.	Lucerne.	Other.	Total.
New South Wales ..	122,295	113,314	92,190	11,292	339,091
Victoria ..	39,117	272,100	(a) 46,976	248,332	606,525
Queensland ..	3,835	3,800	41,455	6,018	55,108
South Australia ..	99,373	145,389	9,390	40,438	294,590
Western Australia ..	68,192	107,553	93	40,482	216,320
Tasmania ..	2,682	40,244	802	47,607	91,335
Australian Capital Territory ..	179	1,185	879	28	2,271
Total ..	335,673	683,585	191,785	394,197	1,605,240

(a) Includes barley and rye hay.

For all States and the Australian Capital Territory combined the proportions of the areas sown to the principal kinds of hay in 1949-50 were 43 per cent. for oaten, 21 per cent. for wheaten, 12 per cent. for lucerne, and 24 per cent. for other hay. In that year, oaten hay predominated in the States of Victoria, South Australia and Western Australia, wheaten hay in New South Wales, and lucerne in Queensland.

2. Value of Hay Crop.—The following table shows the value, and the value per acre, of the hay crop of the several States for the seasons 1948-49 and 1949-50:—

HAY: VALUE OF CROP, 1948-49 AND 1949-50.

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Australia.
1948-49—								
Aggregate value £	3,778,570	5,618,033	900,524	2,101,700	1,061,295	1,069,960	31,001	14,561,083
Value per acre ..	£10/1/10	£9/10/0	£15/2/0	£8/11/8	£4/13/7	£11/16/3	£12/9/5	£9/4/4
1949-50—								
Aggregate value £	4,721,490	6,708,440	1,112,958	2,967,434	1,230,970	972,830	56,103	17,770,225
Value per acre ..	£13/18/7	£11/1/2	£20/3/11	£10/1/6	£5/13/10	£10/13/0	£24/14/1	£11/1/5

3. Farm Stocks of Hay.—Details of stocks of hay held on farms are now collected at the annual census of farm production. Particulars of stocks so held at 31st March in each year 1946 to 1950 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.
1946 ..	504,521	1,026,581	86,722	307,494	156,841	78,414	2,123	2,162,696
1947 ..	226,926	1,019,728	58,507	388,993	156,908	113,740	950	1,965,752
1948 ..	825,821	1,059,842	96,158	478,142	164,425	95,147	3,676	2,723,211
1949 ..	691,608	969,242	84,170	404,813	167,433	88,098	3,345	2,408,709
1950 ..	680,498	1,014,747	101,222	341,888	179,783	116,549	2,530	2,437,217

4. Imports and 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 amongst the imports and exports of Australia. During 1949-50, 5 tons were imported, while the exports amounted to 4,578 tons, valued at £45,665.

§ 14. Green Fodder.

1. Nature and Extent.—Considerable areas are devoted to the growing of green fodder, mainly in connexion with the dairying industry. The areas recorded in respect of green fodder include areas of crops cut for feeding to live stock as green fodder, 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, due to adverse seasonal 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 so used. In 1949-50 the area under green fodder (2,177,896 acres) consisted of oats (1,216,246 acres), lucerne (236,681 acres), wheat (138,496 acres), sorghum (65,614 acres), maize (48,053 acres), barley (70,327 acres), rye (30,469 acres), sugar-cane (5,855 acres) and other crops (366,155 acres). Particulars concerning the area of green fodder in the several States during each of the years 1945-46 to 1949-50 are given in the following table together with the average for the periods of ten years ended 1938-39 and 1949-50:—

GREEN FODDER: AREA.
(Acres.)

Season.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Aust.
Average, 1929-30 to								
1938-39 ..	482,989	120,355	347,804	106,820	189,332	24,255	656	1,272,211
1945-46 ..	541,810	63,311	581,905	189,882	288,206	138,540	2,094	1,805,748
1946-47 ..	462,894	49,659	543,930	121,800	319,181	103,607	2,091	1,602,262
1947-48 ..	488,028	46,100	511,115	141,452	400,100	116,482	2,044	1,705,321
1948-49 ..	548,106	50,847	544,669	291,688	447,411	125,961	2,150	2,010,832
1949-50 ..	584,541	44,928	581,811	277,265	550,690	136,412	2,249	2,177,896
Average, 1940-41 to								
1949-50 ..	594,091	77,238	574,072	223,498	396,712	84,625	1,683	1,951,919

2. Value of Green Fodder Crops.—The value of these crops is variously estimated in the several States, and the Australian total for the season 1949-50, excluding Western Australia, may be taken approximately as £3,894,000.

§ 15. Sugar-cane and Sugar-beet.

1. Sugar-cane.—(i) *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 1945-46 to 1949-50 and the averages for the ten-year periods ended 1938-39 and 1949-50 are shown in the following table. In 1949-50 the total area of sugar-cane (excluding areas cut for green fodder) was a record at 398,224 acres, an increase of 3.8 per cent. over the 1948-49 area of 383,501 acres.

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

Season.	New South Wales.			Queensland.			Australia.			Total.
	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.	
Average, 1929-30 to 1938-39 ..	9,106	9,023	140	229,327	75,409	9,368	238,433	84,432	9,508	332,373
1945-46 ..	5,943	8,860	263	229,736	80,007	12,151	235,679	88,867	12,414	336,960
1946-47 ..	7,563	8,283	341	219,394	75,507	13,305	226,957	83,790	13,646	324,393
1947-48 ..	7,113	8,955	360	215,378	98,403	14,705	222,491	107,358	15,065	344,914
1948-49 ..	8,386	8,761	312	257,944	97,434	10,664	266,330	106,195	10,976	383,501
1949-50 ..	8,517	8,081	297	272,812	97,878	10,639	281,329	105,959	10,936	398,224
Average, 1940-41 to 1949-50 ..	8,095	8,597	287	237,648	83,511	12,186	245,743	92,108	12,473	350,324

(a) Excludes areas cut for green fodder.

(ii) *Productive and Unproductive Cane.* The areas shown in the preceding table do not include the small acreage cut for green fodder, which in 1949-50 amounted to 5,855 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 productive cane cut for crushing.

(iii) *Production of Cane and Sugar.* For Queensland, statistics of the production of sugar-cane are not available prior to the season 1897-98. In that season the total for Australia was 1,073,883 tons, as against the maximum production of 6,848,780 tons in 1949-50.

The average production of cane during the ten seasons ended 1949-50 was 5,037,442 tons, and of raw sugar 709,930 tons. Particulars of the total production of cane and sugar for the years 1945-46 to 1949-50 and the averages for the ten-year periods ended 1938-39 and 1949-50 are as follows.

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

Season.	New South Wales.		Queensland.		Australia.	
	Cane.	Sugar.(a)	Cane.	Sugar.(a)	Cane.	Sugar.(a)
Average, 1929-30 to 1938-39	241,402	30,317	4,461,988	626,789	4,703,390	657,106
1945-46	166,069	21,220	4,551,971	644,661	4,718,040	665,881
1946-47	309,605	39,768	3,717,330	512,086	4,026,935	551,854
1947-48	267,261	33,560	4,150,986	571,694	4,418,247	605,254
1948-49	273,974	33,003	6,433,556	910,049	6,707,530	943,052
1949-50	330,738	40,706	6,518,042	896,413	6,848,780	937,119
Average, 1940-41 to 1949-50	287,806	37,179	4,749,636	672,751	5,037,442	709,930

(a) Sugar at 94 net titre.

The production of raw sugar in Australia in 1949-50 amounted to 937,119 tons manufactured from 6,848,780 tons of cane, compared with the record production of 943,052 tons in 1948-49.

Official annual data are not available regarding the total number engaged in the sugar industry in Queensland, other than the number of separate holdings growing cane (6,309 in 1949-50) and of employees in sugar mills (5,898 in 1949-50).

According to data obtained from the population census of 30th June, 1947, the number of persons engaged in the sugar-cane industry in New South Wales and Queensland comprised 15,789 males and 287 females, a total of 16,076 persons, of whom 2,521 were employers and 4,549 were self-employed.

(iv) *Average Production of Cane Sugar.* Owing to climatic variation, comparison between the average yields of cane per productive acre in Queensland and New South Wales cannot be accurately made 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. Allowing for the disparity in maturing periods the average annual yields of cane per productive acre during the ten years ended 1949-50 were 19.39 tons for New South Wales, and 18.45 tons for Queensland. Similarly, the yields of sugar per acre crushed for the same period were estimated at 2.50 tons and 2.61 tons respectively. Apart from the consideration mentioned above, the yields of cane and sugar per acre crushed for Australia for the ten years ended 1949-50 were 20.50 tons and 2.89 tons respectively, as compared with 19.73 tons and 2.76 tons for the decennium ended 1938-39.

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, 1929-30 to 1938-39	26.51	3.33	7.96	19.46	2.73	7.13	19.73	2.76	7.15
1945-46	27.94	3.57	7.83	19.81	2.81	7.06	20.02	2.83	7.09
1946-47	40.94	5.26	7.79	16.94	2.33	7.26	17.74	2.43	7.30
1947-48	37.57	4.72	7.96	19.27	2.65	7.26	19.86	2.72	7.30
1948-49	32.67	3.94	8.30	24.94	3.53	7.07	25.19	3.54	7.11
1949-50	38.83	4.78	8.13	23.89	3.29	7.27	24.34	3.33	7.31
Average, 1940-41 to 1949-50	35.55	4.59	7.74	19.99	2.83	7.06	20.50	2.89	7.10

(v) *Quality of Cane.* The quantity of cane required to produce a ton of sugar varies with the variety planted, the district and the season. For the ten years ended 1949-50 it required on the average 7.10 tons of cane to produce 1 ton of sugar, or 14.08 per cent. of its total weight, as compared with 7.15 tons for the ten years ended 1938-39. As the result of the systematic study of cane culture in Queensland and improvements in field and mill methods the sugar content of the cane has been considerably increased, and in 1937-38 only 6.78 tons of cane were required to produce one ton of sugar. It is believed that this is the highest sugar content obtained anywhere in the world.

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

(vi) *Production and Utilization.* Details of the production and utilization of raw sugar for the three years ended 1938-39 and each year 1946-47 to 1950-51 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; they include beet sugar. Consumption is shown in terms of refined sugar, including that consumed in manufactured products.

RAW SUGAR : PRODUCTION AND UTILIZATION, AUSTRALIA.

Year.	Changes in Stock.	Production —Raw.	Exports. (a)	Miscel- laneous Uses. (b)	Consumption in Australia.(a)	
					Total.(c)	Per Head. (c)
	'000 tons.	'000 tons.	'000 tons.	'000 tons.	'000 tons.	lb.
Average 1936-37 to 1938-39	+ 6.2	779.3	453.3	11.2	326.6	106.5
1946-47	-42.9	521.0	153.6	21.3	389.0	115.9
1947-48	+42.9	633.2	140.3	22.1	427.9	125.4
1948-49	+ 7.3	897.3	461.0	19.5	499.5	117.6
1949-50	-10.4	902.5	483.4	19.5	410.0	116.2
1950-51(d)	+ 5.0	906.9	433.3	18.7	449.9	121.2

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

(vii) *Consumption in Factories.* The quantity of sugar used in factories during 1938-39 and each of the years 1945-46 to 1949-50 is shown in the following table, the figures including, where necessary, estimates of consumption based on the sugar content of the finished product. Particulars of sugar used in establishments not classified as factories are not available, and consequently the quantities shown below are deficient to that extent.

SUGAR : CONSUMPTION IN FACTORIES, AUSTRALIA.

(Tons.)

Factories.	1938-39.	1945-46.	1946-47.	1947-48.	1948-49.	1949-50.
Aerated Waters and Cordials	11,810	26,509	28,394	27,508	31,157	36,984
Bacon	267	310	342	344	345	377
Biscuits and Bakeries, includ- ing Cakes and Pastry	18,801	25,538	28,486	28,684	30,334	31,938
Breweries	16,733	21,081	23,966	23,339	26,851	28,819
Cereal Foods	1,287	1,112	1,154	1,140	1,495	1,602
Condensed and Concentrated Milk	6,889	15,970	17,664	19,620	19,767	20,360
Confectionery, Ice Cream, etc.	26,926	41,538	49,816	47,411	47,327	50,840
Jams, Jellies and Preserved Fruit(a)	40,537	70,026	74,546	88,686	75,775	80,171
Other(b)	633	4,186	937	2,525	3,990	2,958
Total(c)	123,883	206,270	225,305	239,257	237,041	254,049

(a) Includes Condiments, Pickles, etc. (b) Includes sugar consumed in the industrial and heavy chemicals and dehydrated fruit and vegetables industries. (c) Excludes raw sugar used in wineries and distilleries, details of which are not available for publication.

(viii) *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. On 1st September, 1946, a Sugar Agreement Act came into operation, fixing the wholesale price at £33 4s. per ton (4d. per lb. retail). Subsequently this Act was twice amended, in December, 1947, when the price was raised to £37 6s. 8d. per ton (4½d. per lb. retail) and in October, 1949, when a further increase to £41 9s. 4d. per ton (5d. per lb. retail) was granted. This Act was due to expire on 31st August, 1951, but on 27th June, 1951, a new agreement was signed. This new agreement, which came into operation on 7th July, 1951, repealed the 1946, 1947 and 1949 agreements and increased the wholesale price to £53 6s. 8d. per ton (6½d. per lb. retail). The new agreement is intended to cover the period up to 31st August, 1956.

The net proceeds of all sugar sold in Australia and sugar sold abroad are pooled and a uniform price per ton is paid to the mills. This pooling is made possible by the acquisition by the Queensland Government of all sugar produced in the State, under legislation which has been in force since 1915. The small New South Wales production (about 5 per cent. of the whole) is also acquired by the Queensland Government by private agreement.

Sugar production, which in 1923 had scarcely been sufficient to cover Australian requirements, grew very rapidly in subsequent years. In 1925 the Queensland Government took steps to prevent, as a general rule, new land from being opened up for cane production. During that year 56 per cent. of the sugar production was consumed in Australia and 44 per cent. exported. After 1925, production remained stable for some years. In 1929 the operations of the pool, which had hitherto received at a uniform price all sugar offered it by the mills, were re-organized. After 1929, mills received the full pool price for sugar up to the amount of their previous maximum production only. Any further supplies were acquired at export price only.

Between 1929 and 1939 the export price was generally less than half the pool price. In spite of this, production increased by 72 per cent. during that period. In 1939, in view of the fact that the International Sugar Agreement imposed certain restrictions on the volume of Australian exports, the Queensland Parliament passed further legislation limiting the pool (mill peaks) to 737,000 tons in respect of production in Queensland. Any production in excess of this was to be acquired at a penalty price. This tonnage was divided up in quotas between the mills, on the understanding that the mills would allocate quotas of production to individual farmers. Proclamations issued by the Queensland Government, however, permitted the harvesting of the whole of the crops for the seasons 1939 to 1948.

In 1948 the mill peak was raised to 874,000 tons. As a result of the Commonwealth Countries Sugar Marketing Agreement, negotiated in London in December, 1949, the Queensland Government initiated a controlled expansion of the industry, and for the 1950 season mill peaks were increased to 942,300 tons. Further increases in mill peaks to 1,045,000 tons were subsequently announced, to operate from 1953.

2. *Sugar-beet.*—The production of sugar-beet, which in recent years has been confined to Victoria, fell from an average of 4,642 tons in the ten years ended 1938–39 to 584 tons in 1947–48. There was no production during 1948–49 and 1949–50.

3. *Sugar Agreement in Australia—Embargo on imports, etc.*—Reference was made in Official Year Book No. 37 (pp. 940, 941) 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. A new agreement operating from 7th July, 1951 covers the period up to 31st August, 1956.

4. *International Sugar Agreement.*—Delegates of 21 Nations, representing 90 per cent. of producers, met in London and entered into an agreement on 6th May, 1937, providing for the regulation of the production and marketing of sugar in the world during a period of five years from 1st September, 1937. The object of the agreement was to ensure an adequate supply of sugar at a price not exceeding the cost of production, including a reasonable profit to efficient producers. For this purpose, each exporting country was given a basic annual export quota which would be increased in proportion to any expansion in sugar consumption. By this means and by limitations on stocks and measures to encourage more consumption it was hoped that the International Sugar

Council, which was established to administer the agreement, would be able to hold in proper balance the supplies and requirements of sugar. The export quota originally allotted to Australia was 400,000 long tons. This figure could be increased, however, where the delivery from any British Colony fell short of its quota. In such circumstances, the deficiency could be allocated among other producing countries of the Empire, including Australia.

This agreement, which normally would have expired on 31st August, 1942, has proved of great benefit to Australia. In 1943, fourteen of the original 21 Nations signed a protocol continuing the agreement for another two years ending 31st August, 1944. Eight further protocols have since been signed, each extending the agreement for a period of one year, the last protocol extending the agreement to 31st August, 1952. The first protocol, signed in 1943, continued the agreement unchanged, while the latter protocols contained two new provisions. The first of these provisions was that during the period of the extension, the quotas fixed in the agreement should be inoperative. The second provision was that the signatories of the protocols recognized that revision of the agreement was necessary and should be undertaken when the time appeared opportune. The protocols prescribed that, in any negotiations for a new agreement, the existing agreement shall be taken as the starting point.

5. **Net Return for Sugar Crop.**—Calculations by the Sugar Board regarding the disposal of the crop, net value of exports and the average price realized during each of the years 1938-39 and 1945-46 to 1949-50 will be found in the following table :—

SUGAR : NET RETURNS, AUSTRALIA.

Year.	Proportion Exported.	Net Value of Exports per Ton.	Average Price per ton for Whole Crop.	Estimated Value of Crop.
	(a)	(a)	(a)	
	Per cent.	£ s. d.	£ s. d.	£
1938-39	55.78	8 4 3	15 3 11	12,806,376
1945-46	31.53	16 17 9	20 6 5	13,674,661
1946-47	16.02	21 10 0	21 16 9	12,326,952
1947-48	17.61	29 12 6	24 19 9	14,879,144
1948-49	47.00	28 2 0	25 8 6	23,904,606
1949-50	46.92	29 7 6	26 13 8	25,362,288

(a) As supplied by the Queensland Sugar Board.

The estimated value of the raw sugar produced has been 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 not deducting concessions to the fruit industry and other rebates which in 1949-50 amounted to £216,000. The value thus obtained represents the net market value of all raw sugar sold, which, since 1933, has been divided between the growers and millers in the approximate proportions of 70 per cent. and 30 per cent. respectively. Prior to that year the distribution was about two-thirds to the grower and one-third to the miller.

6. **Imports and Exports of Sugar.**—Particulars showing the imports and exports of cane sugar (raw and refined) for the five years ended 1938-39 and each year 1945-46 to 1949-50 are as follows :—

SUGAR : IMPORTS AND EXPORTS, AUSTRALIA.

Year.	Imports.		Exports.		Net Exports.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Tons.	£	Tons.	£	Tons.	£
Average, 1934-35 to 1938-39 ..	23	505	377,930	3,480,632	377,907	3,480,127
1945-46	3	150,972	3,059,599	150,972	3,059,596
1946-47	23	117,379	2,717,252	117,379	2,717,229
1947-48	21	100,351	3,062,450	100,351	3,062,429
1948-49	48	415,194	13,199,309	415,194	13,199,261
1949-50	80	432,711	14,147,150	432,711	14,147,070

7. **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 XXIV.—Manufacturing Industry.

Boards are now being made from the residue of crushed fibre after the removal of the sugar content from sugar-cane. These boards are used in the building industry for walls and ceilings and possess high insulating and sound-absorbing properties.

8. **Sugar Prices.**—The prices of sugar in Australia from 1939 to 1941 and 1947 to 1950 in the case of raw sugar, and from 1925 to 1936 and 1947 to 1956 in the case of refined sugar, 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 per ton.	Retail Price per lb.
	Home Consumption.	Exports. (a)	Whole Crop. (a)			
	£ s. d.	£ s. d.	£ s. d.		£ s. d.	d.
1939 ..	23 12 6	10 7 6	15 17 7	1.9.25 to 31.8.31..	37 6 8	4½
1940 ..	23 1 0	11 5 6	17 2 11	1.9.31 to 4.1.33 ..	37 6 8	4½
1941 ..	22 13 0	10 18 9	17 18 11	5.1.33 to 31.8.36..	33 4 0	4
1947 ..	24 0 0	29 12 6	24 19 9	4.12.47 to 28.10.49	37 6 8	4½
1948 ..	23 1 0	28 2 0	25 8 6	29.10.49 to 6.7.51	41 9 4	5
1949 ..	24 6 0	29 7 6	26 13 8	7.7.51 to 31.8.56..	53 6 8	6½
1950 ..	23 16 6	32 16 6	27 17 2			

(a) Including "Excess" Sugar.

9. **War and Post-war Arrangements.**—After the outbreak of war in September, 1939, the British Ministry of Food concluded arrangements with the Queensland Government for the purchase of Australia's surplus production of raw sugar for the season 1939. The price was fixed at £Stg.7 10s. per ton at United Kingdom ports plus the preference on dominion sugar of £Stg.3 15s. per ton under the existing tariff.

Similar agreements were negotiated for the disposal of the surplus raw sugar in subsequent seasons, the price in sterling currency per ton c.i.f. United Kingdom ports, basic 96° polarization being as follows:—1940 and 1941, £12 12s. 6d.; 1942, £13 15s.; 1943, £14 5s.; 1944, £15 5s.; and 1945, £17 5s.—inclusive of the existing preference of £3 15s. From the 1st January, 1946 the price was further increased by £Stg.2 5s. per ton and the United Kingdom agreed to absorb an additional 12s. 6d. per ton on the freight cost. The price was further increased to £Stg. 24 5s. per ton from 1st January, 1947 and to £Stg.27 5s. per ton from 1st January, 1948. Further price increases to £Stg.30 10s. as from 1st January, 1950 and to £Stg.32 17s. 6d. per ton as from 1st January, 1951 have since become operative.

In December, 1949, a Commonwealth Countries Sugar Marketing Agreement was formulated in London, the terms of which include an undertaking by the United Kingdom Government to find a market for the Australian exportable surplus sugar to the end of 1952.

For the six years 1953–1958, Australia is to plan for aggregate exports not exceeding 600,000 tons annually. Of this amount, the United Kingdom Government agreed to take 314,000 tons at guaranteed prices to be negotiated annually. The balance of 286,000 tons is expected to find a market in the United Kingdom or Canada at the world price plus United Kingdom or Canadian preference. Provision is made for extension of the term of the agreement, and for upward revision of the quotas, if necessary.

§ 16. Vineyards.

1. Progress of Cultivation.—(i) *Area of Vineyards.* The date of introduction of the vine into Australia has been variously set down by different investigators, the years 1815 and 1828 being principally favoured. It would seem, however, that plants were brought out with the first fleet in 1788; consequently the Australian vine is as old as Australian settlement. A report by Governor Hunter gives the area of vines in 1797 as 8 acres. From New South Wales the cultivation spread to Victoria and South Australia, and these States have now far outstripped New South Wales in the area of this crop. In Western Australia an expansion of area under vineyards has occurred in recent years, but in Queensland, where vine-growing has been carried on for many years, little progress has been made. 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 1945-46 to 1949-50 and the averages for the ten-year periods ended 1938-39 and 1949-50 are shown in the following table:—

VINEYARDS : AREA.
(Acres.)

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	A.C.T.	Australia.
Average, 1929-30 to 1938-39 ..	15,777	40,563	2,142	54,156	5,666	..	118,304
1945-46	15,983	42,843	3,003	57,440	9,583	3	128,855
1946-47	16,338	42,948	2,945	58,221	9,857	3	130,312
1947-48	16,541	43,784	3,087	58,885	10,025	9	132,331
1948-49	16,568	45,609	3,265	59,806	10,014	10	135,272
1949-50	16,931	45,386	3,135	60,253	9,676	10	135,391
Average, 1940-41 to 1949-50 ..	16,348	43,462	3,110	58,345	9,749	4	131,018

(ii) *Report on the Wine Industry.* An investigation into conditions in the wine industry was undertaken by the Commonwealth Director of Development and the Senior Inspector of Excise, Department of Trade and Customs, and a comprehensive report was presented to Parliament on the 17th July, 1931.

During 1944 the Minister for Trade and Customs referred a number of matters to the Tariff Board for inquiry and report. Subsequently four reports were issued during 1944-45 which dealt with the following subjects, viz. :—Use of cane sugar in sauterne, spirit for fortification of wine, prices for grapes and fortifying spirit and control of liquor order.

(iii) *Wine Production, Bounties, etc.* The production of wine has not increased as rapidly as the suitability of soil and climate would appear to warrant. Production for the ten years ended 1949-50 averaged 24.8 million gallons compared with 16.3 million gallons produced during the ten years ended 1938-39. This seems to arise from two causes. In the first place, Australians are not a wine-drinking people; it is estimated that prior to the 1939-45 War they consumed approximately 4.1 million gallons only, or 0.6 gallons per head per annum, and while this had risen to 12.1 million gallons (1.5 gallons per head of population) in 1949-50, the local market is nevertheless restricted. Secondly, the comparatively new and unknown wines of Australia must compete in the markets of the old world with the well-known and long-established brands from other countries. Continued efforts are being made to bring the Australian wines under notice both here and abroad, and with the assistance of a Commonwealth bounty on the export of fortified wine of specified strength the industry has been greatly stimulated. Further development, however, was interrupted by the war. The loss of the United Kingdom

market due to the lack of shipping space placed the wine industry of Australia in a most difficult position, but this was partly offset by the increase in local consumption due to the availability of supplies, the restriction on the production of beer and the presence of large numbers of defence personnel.

The Wine Export Bounty Act 1930 which provided for payment at the rate of 1s. 9d. per gallon was replaced in 1934 by a new Act which fixed the rate at 1s. 3d. per gallon for the two years ended 28th February, 1937, and thereafter at a reduction of 1d. per gallon for each succeeding year until 1940. The payment of a bounty at the rate of 1s. per gallon for a period of five years to 28th February, 1945, subsequently extended to 28th February, 1947, was provided for under the Wine Export Bounty Act of 1939-1944. This Act was repealed by the Wine Export Bounty Act 1947 which made provision for payment of bounty, subject to certain conditions, on wine sold overseas prior to 30th October, 1946 and exported after 28th February, 1947.

The quantity of wine produced in the several States during the 1945-46 to 1949-50 seasons, together with the averages for the ten-year periods ended 1938-39 and 1949-50, is shown in the following table :—

WINE : PRODUCTION.

('000 Gallons.)

Season.	N.S.W.	Victoria.	Queensland.	S. Aust.	W. Aust.	Australia.
Average, 1929-30 to 1938-39	2,099	1,449	36	12,349	397	16,330
1945-46 ..	2,968	1,916	35	20,213	726	25,858
1946-47 ..	3,905	3,082	30	25,422	751	33,190
1947-48 ..	4,500	2,958	28	26,000	673	34,159
1948-49 ..	4,127	3,081	36	26,295	644	34,183
1949-50 ..	5,185	3,230	45	24,978	528	33,966
Average, 1940-41 to 1949-50	3,586	2,012	32	18,552	573	24,755

2. Imports and Exports of Wine.—(i) *Imports.* The principal countries of origin of wine imported into Australia were, before the 1939-45 War, France, Spain, Portugal and Italy, the bulk of the sparkling wines coming from France. The bulk of the post-war wine imports have been obtained from France. The imports for the five years ended 1949-50 compared with average imports for the years 1934-35 to 1938-39 are shown hereunder :—

WINE : IMPORTS INTO AUSTRALIA.

Year.	Quantity (Gallons).			Value (£).		
	Sparkling.	Other.	Total.	Sparkling.	Other.	Total.
Average, 1934-35 to 1938-39	8,119	28,566	36,685	20,245	19,332	39,577
1945-46 ..	40	479	519	213	1,433	1,646
1946-47 ..	1,719	1,585	3,304	7,909	3,041	10,950
1947-48 ..	14,768	4,158	18,926	54,098	8,282	62,380
1948-49 ..	24,679	19,098	43,777	67,450	27,020	94,470
1949-50 ..	6,599	19,814	26,413	25,245	28,812	54,057

(ii) *Exports.* Before the 1939-45 War practically all wine exported was sent to the United Kingdom, only 200,000 gallons (approximately) being sent elsewhere. Exports in 1949-50 totalled 1,103,318 gallons, of which the United Kingdom received 613,698 gallons, New Zealand, 205,233 gallons, Canada, 193,659 gallons, and other countries 90,728 gallons.

Exports for the five years ended 1949-50 are shown in the following table in comparison with average exports during the five years ended 1938-39 :—

WINE : EXPORTS FROM AUSTRALIA.

Year.	Quantity (Gallons).			Value (£)		
	Sparkling.	Other.	Total.	Sparkling.	Other.	Total.
Average, 1934-35 to 1938-39	3,772	3,559,094	3,562,866	5,400	938,195	943,595
1945-46 ..	7,984	1,776,452	1,784,436	10,619	729,969	740,588
1946-47 ..	3,244	2,717,355	2,720,599	4,975	1,176,626	1,181,601
1947-48 ..	5,935	2,682,431	2,688,366	8,071	1,421,861	1,429,932
1948-49 ..	5,180	1,873,083	1,878,263	11,558	982,401	993,959
1949-50 ..	6,093	1,097,225	1,103,318	6,323	509,516	515,839

3. *Overseas Marketing of Wine.*—(i) *The Wine Overseas Marketing Act 1929-1945.* This Act was introduced at the request of the viticultural interests in Australia with the object of placing the oversea marketing of Australia's surplus wine on an orderly basis. The Wine Overseas Marketing Board was appointed to supervise the exports, and the sale and distribution after export, of Australian wine.

The name of the Board was changed to the Australian Wine Board in 1936. An amendment to the Act in 1945 made provision for eleven members on the Board, comprising five representatives of proprietary and privately-owned wineries and distilleries, two representatives of co-operative wineries and distilleries, three representatives of grape-growers supplying to wineries and distilleries, and one representative of the Commonwealth Government. No wine may be exported except by means of a licence which is issued under conditions recommended to the Minister by the Board; these include the withholding of shipments as directed by the Board. The Board has a London agency which advises on marketing conditions. The methods of marketing adopted by the Board have resulted in the widening of the distribution of Australian wines overseas.

(ii) *The Wine Grapes Charges Act 1929-1941.* This Act provides for the imposition of a levy on all grapes used in Australia for the manufacture of wines 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 the States except Tasmania, but the area cultivated to this variety is only about 7 per cent. of the productive area of grapes. The greatest development in the industry has taken place in the drying of raisins and currants, particularly in Victoria and South Australia. The quantities of table grapes grown during the seasons 1945-46 to 1949-50 and the averages for the ten-year periods ended 1938-39 and 1949-50 are as follows.

TABLE GRAPES : PRODUCTION.
(Tons.)

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Australia.
Average, 1929-30 to 1938-39	4,354	3,884	2,060	738	2,874	13,910
1945-46	4,817	4,133	3,120	1,036	2,342	15,448
1946-47	4,682	3,537	2,669	1,314	2,436	14,638
1947-48	4,835	4,328	2,851	660	2,320	14,994
1948-49	4,372	3,775	1,640	1,413	1,956	13,156
1949-50	4,023	3,690	2,191	934	1,683	12,521
Average, 1940-41 to 1949-50	4,705	4,082	2,576	1,137	2,491	14,991

(ii) *Raisins and Currants.* The quantities of raisins (sultanas and lexias) and currants dried during each of the seasons 1945-46 to 1949-50 and the averages for the ten-year periods ended 1938-39 and 1949-50 are shown in the following table. The production of 103,410 tons for the 1943-44 season represents the greatest output recorded in any year. Due to adverse seasonal conditions, heavy crop losses occurred during the three succeeding years. Production in 1946-47 amounted to 65,197 tons, in 1947-48 it rose to 84,828 tons, but fell again to 64,904 tons in 1948-49 and rose slightly to 67,856 tons in 1949-50.

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, 1929-30 to 1938-39	4,234	796	35,235	7,995	11,494	8,007	697	1,789	51,660	18,587
1945-46	6,859	922	42,995	6,435	8,819	4,467	815	2,528	59,488	14,352
1946-47	5,523	814	37,215	6,088	8,246	2,797	719	3,795	51,703	13,494
1947-48	6,944	1,079	47,160	8,086	11,358	6,682	544	2,975	66,006	18,822
1948-49	3,819	1,090	35,705	7,967	6,829	6,250	478	2,766	46,831	18,073
1949-50	5,721	898	42,194	6,930	5,895	4,244	289	1,685	54,099	13,757
Average, 1940-41 to 1949-50	6,396	1,120	42,250	7,634	12,090	6,660	598	2,719	61,334	18,133

(a) 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 overseas. Details of the quantities disposed of in Australia and overseas, as recorded by the Commonwealth Dried Fruits Control Board, are given in the table below. Australian consumption includes amounts delivered to biscuit manufacturers, bakeries, etc., as well as retail sales for household consumption.

DRIED VINE FRUIT : QUANTITIES DISPOSED OF, AUSTRALIA.
(Tons.)

Season ended December—	Australian Consumption.	Overseas.					Grand Total.
		United Kingdom.	Canada.	New Zealand.	Other Countries.	Total.	
1944	35,071	44,570	16,000	6,756	1,820	69,146	104,217
1945	24,415	21,500	15,000	5,548	1,569	43,617	68,032
1946	20,549	32,000	14,000	5,000	844	51,844	72,393
1947	19,015	21,300	10,988	4,443	612	37,343	56,358
1948	25,999	28,542	18,274	6,167	1,649	54,632	80,631
1949	24,844	11,978	14,073	4,650	885	31,586	56,430
1950(a)	22,584	9,948	18,774	5,254	940	34,916	57,500

(a) Estimated.

6. Exports of Raisins and Currants.—The following table shows the overseas exports of raisins and currants during each of the years 1945-46 to 1949-50 compared with the average for the five years ended 1938-39. As the quantities of imports were practically negligible they have been omitted.

RAISINS AND CURRANTS : EXPORTS, AUSTRALIA.

Year.	Raisins.		Currants.		Total Raisins and Currants.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Tons.	£	Tons.	£	Tons.	£
Average, 1934-35 to 1938-39	43,191	1,686,447	15,054	548,838	58,245	2,235,285
1945-46 ..	30,022	1,547,688	9,307	403,645	39,329	1,951,333
1946-47 ..	35,248	1,913,574	5,606	243,508	40,854	2,157,082
1947-48 ..	31,364	1,795,358	10,066	468,684	41,430	2,264,042
1948-49 ..	37,077	2,369,216	13,696	740,762	50,773	3,109,978
1949-50 ..	28,558	1,818,662	7,063	408,962	35,621	2,227,624

Since 1912 Australia has not only produced sufficient raisins and currants for home consumption but has been able to maintain a large export trade. The chief countries importing Australian raisins and currants are the United Kingdom, New Zealand and Canada, the quantities exported thereto in 1949-50 being 9,822 tons, 4,034 tons and 20,556 tons respectively. Exports to Canada increased from 4,600 tons in 1928-29 to 16,944 tons in 1939-40 and to 25,955 tons in 1944-45, but decreased to 20,556 tons in 1949-50.

7. War-time Contract.—At the outbreak of war in 1939 the Government of the United Kingdom purchased all available surpluses after provision had been made for Canadian and New Zealand requirements. During the 1944 and 1945 seasons prices fixed under these contracts represented a substantial increase over pre-war prices.

8. Post-war Contract.—A long term agreement was negotiated between the Governments of the United Kingdom and Australia for the purchase of the exportable surplus of the dried vine fruit crop for the 1946, 1947 and 1948 seasons. A further agreement has been reached between the Governments of the United Kingdom and Australia under which Australian dried vine fruits will be purchased by the United Kingdom during the years 1949 to 1953. The contract provides that the quantity of fruit to be purchased each year shall not exceed a value of £2,500,000 sterling currency on an f.o.b. basis. Export prices have been fixed for the first two years, but during the remaining three years they are to be the subject of annual agreement by the two Governments. The contract prices for currants, sultanas and lexias sold to the United Kingdom during the war years 1943, 1944 and 1945, as well as the prices fixed under the post-war contracts covering the years 1946 to 1951, are shown in the following table.

DRIED VINE FRUITS : CONTRACT PRICES PER TON TO UNITED KINGDOM.
(£A. s. d., f.o.b. Australian Ports.)

Fruit.	Grade.	1943.	1944.	1945.	1946 to 1948.	1949 and 1950.	1951.
Currants ..	1 Crown and upwards	37 16 3	41 11 3	43 2 6	50 0 0	60 0 0	93 15 0
Sultanas ..	1 Crown and upwards	51 5 0	55 0 0	56 11 3	65 0 0	70 0 0	125 0 0
Lexias ..	4 and 5 Crown ..	50 12 6	54 7 6	55 18 9	64 7 6	64 7 6	125 0 0

9. Oversea Marketing of Dried Fruits.—(i) *The Dried Fruits Export Control Act 1924-1938.* This Act was passed by the Commonwealth Parliament at the request of the dried fruits industry to organize the overseas marketing of Australian dried vine fruits. The Dried Fruits Control Board, consisting of eight members—including five growers'

representatives, two members with commercial experience and one Government nominee—was appointed to control the export, and the sale and distribution after export, of Australian sultanas, currants and lexias. In conjunction with its London agency, the Board has improved the marketing of Australian dried fruits overseas, and has increased the demand for the product. Its system of appraisalment has resulted in more satisfactory realizations. Its methods of ensuring continuity of supply and regulating shipments and its participation in the advertising campaign of the Australian Overseas Trade Publicity Committee have benefited the industry considerably. No dried fruits may be exported except by means of a licence, which is issued subject to conditions recommended by the Board.

(ii) *Dried Fruits Export Charges Act 1924-1929.* This Act provides for the imposition of a levy on all sultanas, currants and lexias exported from Australia for the purpose of defraying the administrative expenses of the Board and the cost of advertising, etc. The rate of the levy is fixed by regulation. Under an amendment made in 1927 provision was made for the exemption of sultanas, currants and lexias from the levy upon recommendations by the Board.

(iii) *The Dried Fruits Act 1928-1935.* In previous issues of the Official Year Book reference has been made to the Dried Fruits Act and its provisions have been outlined (see p. 894 of Official Year Book, No. 28).

§ 17. Orchards and Fruit-Gardens.

1. *Area.*—The largest area of orchards and fruit-gardens prior to the 1939-45 War was attained in 1933-34 when 281,899 acres were planted. From that year until 1942-43, when 260,384 acres were under fruit, there was a gradual decline. In each subsequent year there was a continuous upward movement to 1947-48 when the area reached a new peak of 290,320 acres. The area has since declined to 286,751 acres in 1948-49 and to 279,928 acres in 1949-50. The total area of orchards and fruit-gardens in the several States during the years 1945-46 to 1949-50 compared with the averages for the ten seasons 1929-30 to 1938-39 and the ten seasons 1940-41 to 1949-50, is shown in the following table:—

ORCHARDS AND FRUIT-GARDENS: AREA.

(Acres.)

Season.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Aust.
Average, 1929-30 to 1938-39	84,025	76,643	32,437	29,365	20,703	32,627	69	275,869
1945-46	84,062	69,479	34,946	27,223	21,730	32,284	99	269,823
1946-47	90,599	71,312	35,928	28,126	21,968	31,619	108	279,660
1947-48	98,901	71,513	38,665	28,338	22,063	30,739	101	290,320
1948-49	95,421	71,746	37,735	29,732	22,585	29,448	84	286,751
1949-50	94,725	71,046	35,986	26,858	22,744	28,471	98	279,928
Average, 1940-41 to 1949-50	87,543	70,231	34,025	28,068	21,806	31,048	111	272,832

2. *Varieties of Crops.*—The varieties grown differ in various parts of the States, ranging from such fruits as the pineapple, papaw, mango and guava of the tropics, to the strawberry, the raspberry and the currant of 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 extensively grown. The principal varieties grown in Victoria are the apple, peach, pear, orange, plum and apricot. In Queensland, the banana, pineapple, apple, orange, mandarin, peach and plum are the varieties most largely cultivated. In South Australia, in addition to the apple, orange, apricot, plum, peach and pear, the almond and the olive are extensively grown. In

Western Australia, the apple, orange, lemon, pear, plum, peach, apricot and fig are the chief varieties. In Tasmania, the apple occupies over two-thirds of the fruit-growing area, but small fruits, such as the currant, raspberry and gooseberry, are extensively grown, while the balance of the area is mainly taken up with the pear, apricot and plum. The following table shows the acreage—bearing and non-bearing—of the principal kinds of fruit, and the quantity and value of fruit produced.

ORCHARDS AND FRUIT-GARDENS, 1949-50.

Fruit.	N.S.W.	Vic.	Q'land.	S. Aust.	W.Aust.	Tas.	A.C.T.	Aust.
AREA, BEARING AND NON-BEARING (ACRES).								
Apples	14,645	20,738	6,369	6,960	13,127	19,837	68	81,744
Apricots	2,059	5,491	333	3,735	488	1,367	4	13,277
Bananas	21,571	..	7,504	..	594	..	..	29,669
Cherries	2,674	1,907	7	1,051	45	79	2	5,765
Citrus—								
Oranges	25,790	5,050	4,032	5,166	3,723	..	..	43,761
Mandarins	2,475	94	1,828	114	214	..	..	4,725
Lemons	3,620	1,976	507	384	597	..	..	7,084
Other	915	348	173	188	173	..	..	1,797
Nuts	374	1,006	286	3,167	349	..	7	5,680
Peaches	8,454	14,753	1,517	1,675	808	107	4	27,318
Pears	3,544	13,120	312	1,655	1,019	1,923	6	21,579
Pineapples	294	..	9,319	..	1	..	..	9,614
Plums and Prunes	4,737	3,451	1,174	1,650	917	292	5	12,226
Other Small Fruits	27	760	205	178	20	4,811	..	6,001
Other Fruits	3,046	2,552	2,420	935	669	55	2	9,679
Total	94,725	71,046	35,986	26,858	22,744	28,471	98	279,928

PRODUCTION.

Apples .. bus.	1,296,430	810,836	536,742	663,450	1,116,886	4,794,000	6,731	9,225,075
Apricots	306,306	608,515	13,327	428,808	42,140	64,050	97	1,463,243
Bananas	2,743,600	..	533,960	..	103,379	..	..	3,380,939
Cherries	154,425	44,059	222	59,484	1,515	5,755	8	265,468
Citrus—								
Oranges	2,639,376	638,816	277,595	1,077,709	371,552	..	..	5,005,048
Mandarins	214,548	13,852	141,315	25,475	18,751	..	..	413,941
Lemons	366,485	142,887	58,824	56,974	96,015	..	..	721,185
Other	135,494	52,953	16,906	26,872	21,536	..	..	253,761
Nuts lb.	178,930	223,218	69,522	2,066,176	48,536	..	56	2,886,438
Peaches .. bus.	790,669	1,236,733	81,194	137,074	49,689	7,916	80	2,303,355
Pears	408,607	1,884,012	26,304	206,151	66,661	268,950	178	2,860,863
Pineapples	38,931	..	2,374,748	..	40	..	..	2,413,719
Plums and Prunes	342,144	169,090	67,168	110,744	67,401	48,876	136	805,559
Other Small Fruits cwt.	121	11,260	7,756	2,774	598	132,897	..	155,406

GROSS VALUE OF PRODUCTION.
(£.)

Apples	1,673,850	891,920	636,720	574,644	998,626	2,924,990	8,750	7,709,500
Apricots	437,480	410,748	17,898	374,625	58,294	28,600	140	1,327,785
Bananas	3,076,460	..	519,165	..	284,291	..	..	3,879,916
Cherries	509,560	99,133	1,110	130,865	10,315	5,470	27	756,480
Citrus—								
Oranges	2,242,960	551,389	260,827	988,314	327,924	..	..	4,371,414
Mandarins	195,590	14,198	105,986	30,144	21,043	..	..	366,961
Lemons	231,300	95,018	46,557	36,084	47,342	..	..	456,301
Other	82,200	32,985	11,098	18,314	10,993	..	..	155,590
Nuts	10,910	21,201	3,424	131,231	4,013	..	3	170,782
Peaches	656,840	711,122	81,781	150,865	83,367	3,090	70	1,687,135
Pears	392,240	1,271,708	19,890	154,577	68,080	200,890	168	2,107,553
Pineapples	29,600	..	1,293,425	..	24	..	..	1,323,049
Plums and Prunes	432,300	76,091	88,638	93,805	78,634	16,580	164	786,212
Other Small Fruits	1,520	71,238	66,718	20,284	11,618	412,850	..	584,258
Other Fruits	222,240	60,082	205,888	47,393	53,367	730	101	589,801
Total	10,195,050	4,306,833	3,359,125	2,751,145	2,057,931	3,593,230	9,423	26,272,737

3. **Principal Fruit Crops.**—The area, production and gross value of the principal fruit crops during the periods 1945-46 to 1949-50, compared with the average for the ten seasons 1929-30 to 1938-39, and the average of ten seasons 1940-41 to 1949-50, are shown hereunder :—

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

Year.	Apples.	Apricots.	Bananas.	Citrus Fruits.	Peaches.	Pears.	Plums and Prunes.
AREA, BEARING AND NON-BEARING (ACRES).							
Average, 1929-30 to 1938-39	100,258	11,632	23,353	50,706	23,390	20,725	15,912
1945-46	84,377	12,445	26,587	51,217	26,588	22,616	12,413
1946-47	83,617	13,184	30,222	52,269	28,196	23,030	12,670
1947-48	84,199	13,179	36,591	54,619	28,474	22,785	12,579
1948-49	83,802	13,564	32,263	56,126	28,353	22,634	12,540
1949-50	81,744	13,277	29,669	57,367	27,318	21,579	12,226
Average, 1940-41 to 1949-50	85,819	12,705	26,440	51,676	27,010	22,595	12,662
PRODUCTION ('000 BUSHELS).							
Average, 1929-30 to 1938-39	10,013	1,014	2,270	5,011	1,984	2,130	948
1945-46	15,267	1,107	2,621	5,249	2,095	2,644	949
1946-47	10,293	1,239	2,791	5,547	2,432	3,607	743
1947-48	14,292	1,551	2,965	6,770	2,962	3,240	1,129
1948-49	8,313	1,347	3,093	7,056	2,204	3,125	820
1949-50	9,225	1,463	3,381	6,394	2,303	2,861	806
Average, 1940-41 to 1949-50	11,609	1,273	2,685	5,685	2,327	2,905	910
GROSS VALUE OF PRODUCTION.							
(£.)							
Average, 1929-30 to 1938-39	2,676,915	326,539	1,072,459	1,807,894	679,158	558,872	286,018
1945-46	4,836,299	894,454	3,256,522	4,084,870	1,293,878	1,167,671	701,581
1946-47	4,080,940	885,215	3,039,808	4,335,412	1,338,809	1,501,942	609,601
1947-48	6,716,911	1,190,253	3,355,820	4,314,866	1,557,541	1,443,751	714,632
1948-49	5,381,065	982,987	3,403,546	4,019,784	1,342,490	1,585,031	612,013
1949-50	7,709,500	1,327,785	3,879,916	5,350,266	1,687,135	2,107,553	786,212
Average, 1940-41 to 1949-50	4,545,533	849,744	2,482,511	3,900,096	1,245,639	1,278,427	607,277

4. **Production of Jams and Jellies and Preserved Fruit.**—Considerable quantities of fruit are used in the production of jams and jellies and preserved fruit in Australia, details of the output of these products being shown below for the years 1938-39 and 1946-47 to 1950-51.

PRODUCTION OF JAMS AND JELLIES AND PRESERVED FRUIT: AUSTRALIA.
(*000 lb.)

Particulars.	1938-39.	1946-47.	1947-48.	1948-49.	1949-50.	1950-51. (a)
Jams and Jellies ..	84,916	160,064	198,454	132,951	134,577	118,440
Fruit Preserved in Liquid—						
Apricots ..	12,447	12,530	21,149	22,210	30,957	23,300
Peaches ..	86,176	70,568	77,332	56,641	61,417	65,498
Pears ..	27,344	40,615	42,082	50,298	48,665	51,996
Pineapples ..	14,356	6,267	21,237	20,834	31,442	29,747
Small Fruit ..	1,299	1,475	1,615	2,248	3,024	4,320
Other (b) ..	9,110	6,267	12,858	13,687	16,516	23,342
Total (b) ..	150,732	137,722	176,273	165,918	192,021	198,203
Apples, Preserved ..	(c)	20,773	12,778	21,227	19,240	23,855

(a) Subject to revision.

(b) Excludes preserved apples.

(c) Not available.

The recorded consumption of fruit in factories for all purposes, including that used for juice and cordial manufacture and for drying, was 181,772 tons during the year 1949-50.

5. Consumption of Fruit and Fruit Products.—Details of the estimated consumption of fruit and fruit products per head of population are shown below for each year 1947-48 to 1950-51 compared with the average for the years 1936-37 to 1938-39.

ESTIMATED CONSUMPTION OF FRUIT AND FRUIT PRODUCTS PER HEAD OF POPULATION : AUSTRALIA.

(lb.)

Commodity.	Average, 1936-36 to 1938-39.	1947-48.	1948-49.	1949-50.	1950-51.(a)
Fresh Fruit—Citrus ..	31.9	38.9	39.3	33.9	37.4
Other (a) ..	94.0	92.8	83.4	77.7	79.0
Jam	11.4	14.2	11.0	11.7	11.3
Dried Fruit—Vine ..	5.2	5.8	7.5	6.5	8.5
Tree	2.9	2.6	2.7	1.9	2.0
Canned Fruit	10.7	11.0	13.3	12.2	11.0
Total Fresh Fruit Equivalent ..	173.7	183.9	183.5	164.2	173.4

(a) Subject to revision.

(b) Includes table grapes.

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

A considerable export trade in both fresh and dried fruits is carried on by Australia with oversea countries. The values of the shipments in 1949-50 amounted to £3,933,663 and £2,888,259 respectively. Apples formerly constituted the bulk of the fresh fruit exported, although the exports of citrus fruits and pears were fairly considerable. Shipments of raisins and currants have increased greatly since 1914-15 and are mainly responsible for the growth in the dried fruits exports, although dried tree fruits also figure amongst the exports. Owing to shipping difficulties and other factors the exports of fresh fruit were seriously curtailed during the 1939-45 War.

(ii) *Fresh Fruits.* Particulars of the Australian oversea trade in fresh fruits are shown in the following table :—

FRESH FRUITS : IMPORTS AND EXPORTS, AUSTRALIA.

Year.	Imports.		Exports.		Net Exports.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Centals.	£	Centals.	£	Centals.	£
Average, 1934- 35 to 1938-39	45,554	20,289	2,520,842	1,981,483	2,475,288	1,961,194
1945-46 ..	1,088	3,110	813,179	1,264,681	812,091	1,261,571
1946-47 ..	5,459	3,703	673,485	1,549,890	668,026	1,546,187
1947-48 ..	500	995	1,899,863	3,886,059	1,899,363	3,885,064
1948-49 ..	754	1,502	1,509,330	3,116,571	1,508,576	3,115,069
1949-50 ..	354	669	1,901,988	3,933,663	1,901,634	3,932,994

(iii) *Exports of fresh Apples, Pears and Citrus Fruits.* The quantity and value of fresh apples, pears and citrus fruits exported during each of the five years ended 1949-50, compared with the average for the five years 1934-35 to 1938-39, are shown in the following table:—

FRESH APPLES, PEARS AND CITRUS FRUITS : EXPORTS FROM AUSTRALIA.

Year.	Apples.		Pears.		Citrus Fruits.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Centals.	£	Centals.	£	Centals.	£
Average, 1934-35 to 1938-39	1,928,282	1,396,083	284,203	268,347	255,538	233,552
1945-46 ..	698,185	1,010,243	20,938	54,412	68,468	135,027
1946-47 ..	387,458	766,007	80,736	176,490	167,910	438,627
1947-48 ..	1,407,789	2,694,789	179,782	365,842	273,257	603,628
1948-49 ..	888,833	1,771,372	279,373	603,524	292,796	552,023
1949-50 ..	1,264,313	2,437,843	328,545	638,726	269,672	649,694

(iv) *Dried Fruits.* The quantity and value of oversea imports and exports of dried fruits, other than raisins and currants, for the five years ended 1949-50, compared with the average for the five years 1934-35 to 1938-39, are shown below. Normally, the bulk of the imports consists of dates obtained almost entirely from Iraq. This trade was prohibited during the war years but has since been resumed.

DRIED FRUITS(a) : IMPORTS AND EXPORTS, AUSTRALIA.

Year.	Imports.		Exports.		Net Exports.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	'000 lb.	£	'000 lb.	£	'000 lb.	£
Average, 1934-35 to 1938-39	12,225	80,121	4,315	117,222	-7,910	37,101
1945-46 ..	7,556	150,100	3,078	198,087	-4,478	47,987
1946-47 ..	7,070	150,745	4,214	273,502	-2,856	122,757
1947-48 ..	11,835	253,971	4,508	294,932	-7,327	40,961
1948-49 ..	11,316	239,857	4,796	343,067	-6,520	103,210
1949-50 ..	10,125	212,216	10,218	660,635	93	448,419

(a) Excludes raisins and currants referred to separately under Vineyards, § 16, par. 6.

NOTE.—Minus sign (-) denotes net imports.

(v) *Jams and Jellies.* The exports of jams and jellies have reached large proportions since the 1939-45 War. In 1949-50 shipments totalled 65,229,000 lb. valued at £2,473,095 compared with average exports of 7,118,000 lb. valued at £137,707 during the five years ended 1938-39. Small quantities of jam were imported before the war but the quantities involved now are negligible. Particulars of imports and exports during each of the five years ended 1949-50, compared with the average for the five years 1934-35 to 1938-39, are as follows,

JAMS AND JELLIES : IMPORTS AND EXPORTS, AUSTRALIA.

Year.	Imports.		Exports.		Net Exports.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	'000 lb.	£	'000 lb.	£	'000 lb.	£
Average, 1934-35 to 1938-39	69	2,407	7,118	137,707	7,049	135,300
1945-46 .. ..	..	..	42,183	1,310,412	42,183	1,310,412
1946-47 .. ..	..	3	65,434	2,206,696	65,434	2,206,693
1947-48	1	136	59,642	2,232,168	59,641	2,232,032
1948-49	85	6,666	53,603	2,049,224	53,518	2,042,558
1949-50	30	2,178	65,229	2,473,095	65,199	2,470,917

(vi) *Preserved Fruit.* The total quantity of fruit preserved in liquid, or partly preserved in liquid or pulped, imported into Australia during 1949-50 was 2,987,923 lb. valued at £186,355. Large quantities of fruit preserved in liquid are normally exported from Australia, the value of shipments in 1938-39 amounting to £1,271,525. Exports were considerably reduced during the recent war owing to the prior claims on Australia's output by the Australian and Allied Services based on Australia, but in 1949-50 the value of exports had increased to £4,017,962. In addition, the exports of pulped fruits during 1949-50 amounted to 15,060,631 lb. valued at £566,216. Particulars of the quantities and values of fruit preserved in liquid exported from Australia for each of the five years ended 1949-50 compared with the average for the five years 1934-35 to 1938-39 are shown in the following table:—

FRUIT PRESERVED IN LIQUID : EXPORTS FROM AUSTRALIA.

Year.	Apricots.	Peaches.	Pears.	Other.	Total.
QUANTITIES ('000 lb.).					
Average, 1934-35 to 1938-39	8,084	34,588	21,220	5,004	68,896
1945-46	2,999	18,208	7,404	8,171	36,782
1946-47	5,645	43,331	19,259	3,454	71,689
1947-48	5,451	44,553	23,480	11,327	84,811
1948-49	10,656	55,027	30,205	18,353	114,241
1949-50	9,171	31,589	33,243	27,166	101,169
VALUES (£).					
Average, 1934-35 to 1938-39	133,889	501,138	335,170	104,830	1,075,027
1945-46	72,323	393,467	154,393	272,677	892,860
1946-47	167,400	1,190,687	636,130	120,031	2,114,248
1947-48	172,630	1,325,209	765,297	502,655	2,765,791
1948-49	390,290	1,742,461	1,122,518	876,295	4,131,564
1949-50	339,610	1,160,623	1,082,749	1,434,980	4,017,962

7. *Marketing of Apples and Pears.*—(i) *Apple and Pear Organization Act 1938-1948.* 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 for the purpose of organizing and controlling the export trade in fresh apples and pears.

The Board originally comprised sixteen members but by an amendment of the Act in 1947 the members were reduced to twelve, representative of the following interests:—one member to represent the Commonwealth Government; seven members to represent growers of apples and pears on the basis of two for Tasmania and one each for the other

States; three members to represent exporters of apples and pears on the basis of one each for Tasmania and Western Australia and one for the other States; and one member to represent the employees engaged in the apple and pear industry.

The Board has power to regulate the shipment of apples and pears from Australia by licensing exporters and issuing permits to export. Power is also given to determine export quotas and to allocate the consignments from each State. The Board may appoint persons to represent it overseas.

The Apple and Pear Publicity and Research Act 1938 and the related Apple and Pear Tax Acts, referred to in earlier issues of the Official Year Book, have now been repealed by the 1947 amendment to the Apple and Pear Organization Act. The latter Act was subject to a further minor amendment in 1948.

(ii) *Apple and Pear Export Charges Act 1938-1947.* This Act provides for the imposition of a levy on all apples and pears exported from Australia for the purpose of providing the funds necessary to meet the administrative and other expenses of the Board.

(iii) *Apple and Pear Acquisition.* Exports of apples and pears were seriously curtailed as a result of the war, and during the 1940 to 1948 seasons crops were acquired and marketed under the National Security (Apple and Pear Acquisition) Regulations and Regulations issued under the Defence (Transitional Provisions) Act 1946. During the 1949 season in Tasmania and the 1949 and 1950 seasons in Western Australia the crops were marketed under State schemes, but crops in all States have since been marketed on a normal commercial basis. Details of the acquisition scheme which operated during the 1940 to 1948 seasons will be found on pages 1003 and 1004 of Official Year Book No. 38 and in earlier issues of the Year Book.

8. *Oversea Marketing of Canned Fruit.*—(i) *The Canned Fruits Export Control Act 1926-1938.* This legislation was introduced at the request of canners and representative organizations of fruit-growers with the object of organizing the oversea marketing of canned fruit. The original Act referred to canned apricots, peaches and pears only, but canned pineapples and canned fruit salads consisting of not less than 75 per cent. of specified fruits were subsequently brought within the scope of the Board's operations. The personnel of the Australian Canned Fruits Board consists of one representative each from proprietary and privately owned canneries, co-operative canneries, State-controlled canneries, pineapple interests and the Commonwealth Government. No canned fruits to which the Act applies are permitted to be exported except under a licence issued in accordance with conditions recommended by the Board. The system of marketing adopted by the Board, including the fixation of minimum selling prices overseas, the appointment of a London agency and the engaging in oversea trade publicity, has resulted in the satisfactory disposal of the annual exportable surplus of canned fruits. The distribution of canned fruits has been widened and the exporting side of the industry placed on a sounder basis through the Board's operations.

(ii) *The Canned Fruits Export Charges Act 1926-1938.* This Act provides for the imposition of a levy on the export of canned fruits to meet the administrative and other commitments of the Board. The rate of the levy is fixed by regulation from time to time. An amendment in 1929 provided for certain exemptions from payment of the levy when recommended by the Board.

(iii) *War-time Contracts.* During 1940 and 1941 purchases of canned fruit were made by the British Ministry of Food at prices fixed on an f.o.b. basis, Australian ports. From 1942 to 1945 the requirements of the Defence Services and other Governmental orders necessitated official control of disposals, and commercial shipments of canned fruits virtually ceased, while quantities available for civilian consumption were considerably below normal requirements. In 1946 commercial shipments were resumed and approximately one million cases of canned fruits were exported to the United Kingdom under an official arrangement which was virtually on a merchant-to-Government basis. A similar arrangement has operated in respect of exports to the United Kingdom during each of the years 1947 to 1951 inclusive.

§ 18. Vegetables for Human Consumption.

1. **Area and Production of Fresh Vegetables.**—The pre-war production of vegetables in Australia, which had been sufficient to meet the needs of the population, was, generally speaking, supplied by growers whose holdings were adjacent to centres of consumption. These areas were classified for statistical purposes as market gardens and were tabulated as such. Details of the areas planted and production respecting individual kinds of vegetables were not collected.

Consequent upon the outbreak of war in the Pacific, extensive development of vegetable growing in Australia was undertaken, resulting in an expansion from the peace-time need of about 100,000 acres to more than 200,000 acres, exclusive of potatoes, onions, navy beans and blue peas, details of whose production are referred to in §§ 10, 11 and 12 of this Chapter.

Since the close of the war there has been a considerable reduction in vegetable growing and the area of the crops dealt with in this section declined from the war-time peak of 240,282 acres in 1944-45 to 141,082 acres in 1949-50.

Details of the area and production of vegetables for the seasons 1947-48 to 1949-50 are given in the following table. Similar details for the years 1942-43 to 1943-44 were given in earlier issues of the Year Book (No. 36, p. 839 and No. 37, p. 956). Owing to the difference in collection already referred to, comparable figures prior to 1942-43 are not available.

FRESH VEGETABLES(a) FOR HUMAN CONSUMPTION : AUSTRALIA.

Vegetable.	1947-48.		1948-49.		1949-50.	
	Area Sown.	Production.	Area Sown.	Production.	Area Sown.	Production.
	Acres.	Tons.	Acres.	Tons.	Acres.	Tons.
Beans, French	16,527	18,466	16,644	18,289	15,848	15,745
Beetroot	2,151	12,454	2,258	13,468	1,627	10,652
Cabbages and Brussels Sprouts	7,244	76,285	7,377	80,456	7,358	81,531
Carrots	4,794	30,880	4,906	37,653	4,740	30,962
Cauliflowers	6,942	79,103	7,059	85,974	7,118	84,531
Lettuces	3,958	14,101	3,834	14,942	3,293	12,045
Parsnips	1,885	13,926	1,748	13,298	1,487	11,242
Peas, Green	51,058	34,850	49,036	30,670	40,134	31,105
Pumpkins	23,120	60,024	24,596	67,213	25,216	67,278
Tomatoes	19,235	92,516	18,408	98,609	18,943	101,436
Turnips, Swede and White	5,828	25,039	8,031	36,863	6,449	28,412
All Other	13,689	..	12,367	..	8,869	..
Total	156,431	..	156,264	..	141,082	..

(a) Excludes potatoes, onions, blue peas and navy beans.

2. **Production of Canned Vegetables.**—As a corollary to the development mentioned above, a considerable expansion occurred in the processing of vegetables. New canning factories were established in many parts of the Commonwealth, and a new industry for the processing of vegetables by the dehydration method was commenced. After the close of hostilities there was a sharp decline in the output of canned vegetables but some recovery has been evident since 1947-48. Quantities canned in each post-war year have been considerably higher than in 1938-39.

The development in the vegetable-canning industry is indicated in the table below :—

PRODUCTION OF CANNED VEGETABLES : AUSTRALIA.
(⁰⁰⁰ lb.)

Vegetable.	1938-39.	1945-46.	1946-47.	1947-48.	1948-49.	1949-50.	1950-51. (a)
Asparagus ..	2,150	2,178	2,568	2,327	3,985	4,506	3,127
Beans ..	2,491	10,058	12,224	11,306	17,738	27,874	26,812
Beetroot ..	(b)	10,903	2,593	764	1,492	2,084	3,485
Cabbages ..	(b)	1,919	1,022	112	(b)	(b)	(b)
Carrots ..	(b)	18,312	3,612	982	2,367	2,510	4,155
Cauliflower ..	198	(b)	(b)	(b)	(b)	(b)	(b)
Peas (Green) ..	1,861	23,033	21,787	22,650	15,222	21,841	19,045
Silver Beet ..	(b)	2,453	9	(b)	(b)	(b)	(b)
Tomatoes ..	1,578	4,097	5,385	3,029	3,932	6,934	5,810
Other (c) ..	(d) 1,977	(d) 34,009	(d) 9,086	(d) 5,161	(d) 6,543	(d) 7,785	(d) 14,055
Total ..	10,255	106,962	58,286	46,331	51,279	73,534	76,489

(a) Subject to revision. (b) Included in "Other Vegetables". (c) Includes Parsnips, Potatoes, Turnips, Sweet Corn, etc. (d) Includes particulars of vegetables marked (b).

3. Production of Dehydrated Vegetables.—The dehydration of vegetables was not undertaken in Australia until after the outbreak of war in the Pacific towards the close of 1941. With the termination of Commonwealth contracts for dehydrated vegetables in October, 1946, a number of plants ceased to operate and output for commercial purposes in the remaining plants was drastically curtailed. Details of the quantities of fresh vegetables used for dehydration and the output of dehydrated vegetables during the years 1942-43 to 1946-47 were shown on page 957 of Official Year Book No. 37.

4. Imports and Exports of Vegetables.—Oversea exports of pulse and fresh vegetables during 1949-50 consisted of :—Pulse, 6,081 tons, £288,109 ; onions, 5,901 tons, £161,204 ; potatoes, 15,183 tons, £340,747 ; other vegetables, 2,643 tons, £144,573. Imports totalled 9,792 tons, valued at £532,977, of which pulse comprised 9,778 tons, valued at £528,364.

In 1949-50 exports of vegetables preserved in liquid consisted of :—Peas, 3,356,539 lb., £142,243 ; tomatoes, 867,254 lb., £42,545 ; other vegetables, 25,170,187 lb., £1,070,126.

5. Consumption of Vegetables.—Details of the estimated consumption of vegetables for a series of years ending with 1950-51 are shown in Chapter XXIX.—Miscellaneous of this Year Book.

§ 19. Minor Crops.

1. General.—There are many other crops which do not occupy so prominent a position as those already enumerated. Some of the more important of these are included under the headings—Tobacco, Hops, Flax, Peanuts, Cotton and Sorghum.

2. Grass Seed.—Particulars of the area of grass crops grown for seed cannot be accurately determined as seed is obtained from certain crops such as clover, lucerne, etc., at a second cutting. The production of seed recorded in 1949-50 was :—clover, 25,187 cwt. ; lucerne 13,139 cwt. ; other grass seed, 32,492 cwt. ; a total of 70,818 cwt.

3. Other Grains from Sorghums.—In addition to the grass seed referred to in paragraph 2 above and grain sorghum in § 9, a considerable area has been sown to Japanese Millet, Panicum and Setaria. Particulars of the area and production for the years 1944-45 to 1949-50 are given in the table following.

SORGHUMS : AREA AND PRODUCTION OF GRAIN, AUSTRALIA.

Year.	Japanese Millet.(a)		Panicum, Millet and Setaria.(b)	
	Area.	Production.	Area.	Production.
	Acres.	Tons.	Acres.	Bus.
1944-45	2,948	964	16,570	178,612
1945-46	2,628	1,526	22,172	325,194
1946-47	1,393	678	39,372	407,482
1947-48	748	225	16,086	236,430
1948-49	823	254	14,103	250,614
1949-50	909	310	14,832	265,734

(a) Victoria only.

(b) Queensland only.

4. Tobacco.—(i) *General.* Tobacco-growing years ago promised to occupy an important place amongst the agricultural industries of Australia. 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. This promise was, however, not fulfilled, and after numerous fluctuations, in the course of which the Victorian area rose in 1895 to over 2,000 acres, and that in Queensland to over 1,000 acres, the total area declined considerably.

(ii) *States, Area and Production.* The expansion of the tobacco-growing industry was hoped for as a war-time measure but, although the acreage planted increased slightly during the first three war years, it has since decreased considerably, being in 1949-50 only 41 per cent. of the annual average for the ten years ended 1938-39. Owing to improvement in average yields, however, the production of dried leaf in 1949-50 was 81 per cent. of the pre-war average. The area of 4,584 acres and production of 4,138,000 lb. represented a decrease on 1941-42 of 4,236 acres and of 3,903,000 lb.

In the following table particulars of the area and production of tobacco are given by States for each of the years 1945-46 to 1949-50, together with averages for the ten-year periods ended 1938-39 and 1949-50 :—

TOBACCO : AREA AND PRODUCTION.

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Total.
AREA (ACRES).							
Average, 1929-30 to 1938-39	1,274	6,237	2,865	292	502	89	11,259
1945-46	370	1,408	1,897	..	296	..	3,971
1946-47	402	1,186	2,255	..	649	..	4,492
1947-48	414	958	1,912	..	559	..	3,843
1948-49	428	994	1,678	..	620	..	3,720
1949-50	327	919	2,677	..	661	..	4,584
Average, 1940-41 to 1949-50	577	1,497	2,642	..	935	2	5,653
PRODUCTION OF DRIED LEAF ('000 lb.).							
Average, 1929-30 to 1938-39	860	2,354	1,400	83	361	56	5,113
1945-46	365	431	1,411	..	298	..	2,505
1946-47	399	1,087	1,969	..	539	..	3,994
1947-48	338	130	1,581	..	435	..	2,484
1948-49	402	793	1,626	..	595	..	3,416
1949-50	299	668	2,540	..	631	..	4,138
Average, 1940-41 to 1949-50	524	967	1,927	..	731	1	4,150

(iii) *Australian Tobacco Board.* The Australian Tobacco Board was constituted in May, 1941 under the National Security (Australian Tobacco Leaf) Regulations for the purpose of controlling the marketing of Australian-grown tobacco leaf, which was required to be submitted to the Board for appraisalment. The Board ceased to function towards the end of 1948 and subsequent crops have been marketed at open auction in the respective States.

(iv) *Tariff Board Inquiries.* The tobacco industry has been the subject of a number of investigations. The Tariff Board inquired into the industry in 1926, 1931 and 1940 and reports were issued.

(v) *Tobacco Inquiry Committee.* The Tobacco Inquiry Committee, which was appointed by the Commonwealth Government to investigate certain aspects of the industry in North Queensland, presented its report in 1933. Recommendations included that for payment of a sum of £20,000 annually for a period of five years to assist the States to continue economic and scientific investigations. This recommendation was adopted and the distribution was spread between the years 1934-1938 as follows:—£5,000 to the Council for Scientific and Industrial Research (now the Scientific and Industrial Research Organization), £3,750 to each of the States of New South Wales, Victoria and Queensland, and £1,250 each to South Australia, Western Australia and Tasmania.

A further grant of £62,500, which was increased by £11,250 in 1941, was allotted by the Commonwealth Government to be paid periodically between the years 1939 to 1943. The amount of £73,750 was allocated as follows:—Council for Scientific and Industrial Research, £25,000, and £10,000 annually among the States for the years 1939 and 1941 to 1943, and £8,750 for 1940. In August, 1946 the Commonwealth Cabinet approved a grant of £10,000 per annum for five years on a £ for £ basis to be allocated among producing States for experimental and demonstration work in connexion with tobacco leaf production; particularly in regard to control and elimination of diseases and pests. The annual grant of £10,000 has been allocated to States on the following basis:—Queensland, £3,750; New South Wales, £1,500; Victoria, £2,250; Western Australia, £2,500.

The Scientific and Industrial Research Organization is investigating diseases affecting the tobacco plant, including work on disease-resisting varieties, and is making tests of smoking quality. In spite of delays due to the war, the Organization has been successful in discovering effective means of preventing blue mould, which has seriously retarded the development of the industry. The States are carrying out field investigations on disease resistance, selection, yield and quality improvement, and are conducting instructional, demonstrational and field experimental work.

(vi) *Tobacco Factories.* In 1949-50 the quantity of stemmed leaf used in tobacco factories in Australia amounted to 27.4 million lb. of which 3.3 million was of local origin the balance being imported, chiefly from the United States of America.

(vii) *Oversea Trade.* Imports of tobacco and manufactures thereof into Australia during 1949-50 were valued at £12,394,839, including 24,124,967 lb. of unmanufactured tobacco valued at £6,887,766. Exports of tobacco during 1949-50 were valued at £308,823.

5. *Hops.*—Hop-growing in Australia is practically confined to Tasmania and some of the cooler districts of Victoria, the total area for 1949-50 being 1,593 acres, of which 1,315 acres were in Tasmania, and 278 acres in Victoria. A small area was also grown 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 60 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, imports and exports of hops and the quantity of hops used in breweries are shown for each of the years 1945-46 to 1949-50 in comparison with the average for the five years ended 1938-39.

HOPS : PRODUCTION AND DISPOSAL, AUSTRALIA.

Year.	Production.		Imports.	Exports.	Net Available Supplies. (a)	Quantity used in Breweries.
	Quantity.	Gross Value.				
	Cwt.	£	Cwt.	Cwt.	Cwt.	Cwt.
Average, 1934-35 to 1938-39	20,576	173,253	1,020	78	21,518	18,992
1945-46	19,835	225,946	2,402	55	22,182	22,436
1946-47	22,278	278,144	4,832	6	27,104	25,813
1947-48	24,449	317,531	9,823	15	34,257	25,050
1948-49	17,073	283,608	6,159	..	23,232	29,543
1949-50	22,993	465,158	12,047	..	35,040	31,997

(a) Disregards movements in stocks.

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

6. Flax.—For many years flax was grown intermittently in parts of Victoria and unsuccessful attempts were made to introduce its cultivation in some of the other States.

During the 1914-18 War there was an acute shortage of flax fibre and expansion of production was encouraged by the Commonwealth Government. The area sown reached its maximum in 1919-20 at 1,600 acres, but had declined to less than 200 acres in 1928-29. A further attempt to establish the industry was made in 1935 and as a result the area in Victoria had increased to 1,358 acres by 1938-39. Following the outbreak of the 1939-45 War the area sown increased rapidly, reaching over 54,000 acres in 1941-42 and over 61,000 acres in 1944-45. In 1945-46, however, the area sown fell by 32 per cent. to 41,413 acres. Victoria is the chief producing State, but South Australia, Western Australia and Tasmania also contributed to the war-time expansion which was necessary to ensure Australia's supplies of flax and, in accordance with an agreement negotiated between the two Governments, to provide an export to assist in meeting the urgent needs of the United Kingdom. The arrangement concluded on 31st October, 1946, and the area under flax for fibre declined to 18,354 acres in 1946-47 and to 9,455 acres in 1949-50.

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

FLAX FOR FIBRE : AREA AND PRODUCTION.

Year.	Victoria.	S. Australia.	W. Aust.	Tasmania.	Total.
AREA (ACRES).					
Average, 1934-35 to 1938-39	1,021	..	..	..	(a) 1,030
1945-46	26,419	6,292	5,356	3,346	41,413
1946-47	12,041	2,599	2,940	774	18,354
1947-48	12,183	3,544	2,063	..	17,790
1948-49	6,971	3,099	1,816	..	11,886
1949-50	5,261	1,753	2,441	..	9,455
PRODUCTION (TONS OF STRAW).					
Average, 1934-35 to 1938-39	61	..	..	..	61
1945-46	18,798	6,969	4,229	1,360	31,356
1946-47	13,858	4,009	2,108	627	20,602
1947-48	19,427	6,068	1,694	..	27,189
1948-49	11,062	3,631	2,213	..	16,906
1949-50	6,925	1,511	2,629	..	11,065

(a) Includes nine acres of unproductive flax in Queensland.

Although the growing of flax on a large scale was established as a war-time measure, it is proposed to continue the industry at a level sufficient to meet local requirements,

providing that it can be efficiently maintained in competition with other countries. To stimulate the production of flax fibre, on 16th July, 1950, the Flax Canvas Bounty Act was passed, authorizing the payment of £60 per ton of scutched flax fibre used. Also, for the season 1951, the price of flax straw was increased from £9 to £13 10s. per ton of standard straw.

The industry is under the control of the Flax Production Committee appointed under the Supply and Development (Flax Production) Regulations. The Committee has, amongst other things, organized the growing and harvesting of the crop and the processing of the flax, as well as disposing of the resultant products to spinners and others in Australia and overseas. In 1943-44 in the four producing States there were 31 mills under the control of the Committee. The number of flax mills operating in 1949-50 was sixteen.

Prior to 1948-49, the growing of flax for oil had not been developed extensively in Australia, and in 1947-48 the area devoted to this purpose was only 1,844 acres, from which 273 tons of linseed were obtained. Action is being taken to develop this industry, however, and in 1949-50 the area had risen to 28,855 acres. Up to the present, crops are mainly being held for seed purposes with a view to further expansion of the industry, the ultimate objective being the production of sufficient linseed to meet Australia's total oil requirements.

The flax industry was the subject of two investigations, one in 1933 and the other in 1936 (see Official Year Book No. 32, p. 658).

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

PEANUTS : AREA AND PRODUCTION, AUSTRALIA.

Year.	Area (Acres).				Production (Tons).			
	N.S.W.	Q'land.	W. Aust.	Total (a)	N.S.W.	Q'land.	W. Aust.	Total (a)
Average, 1929-30 to 1938-39 ..	29	8,320	100	8,449	(b) 11	3,715	24	3,750
1945-46 ..	17	25,203	13	25,233	7	13,298	4	13,309
1946-47 ..	17	38,800	4	38,821	23	22,750	2	22,775
1947-48 ..	97	34,645	28	34,770	41	15,804	3	15,848
1948-49 ..	129	24,290	32	24,451	67	9,928	14	10,009
1949-50 ..	133	17,697	27	17,857	52	7,907	9	7,968
Average, 1940-41 to 1949-50 ..	42	20,693	22	20,757	20	10,204	7	10,231

(a) Excludes Northern Territory.

(b) Average for five years.

The gross value of the 1949-50 crop was £414,043.

In addition to the production shown above, considerable quantities of peanut kernels were formerly imported annually, chiefly from India, for oil expression purposes. This was suspended from 1946 to 1949, but has since been resumed on a smaller scale. Details of Australia's available supplies in terms of kernels are given for the years 1938-39 and 1946-47 to 1950-51.

**PEANUTS (IN TERMS OF KERNELS) : AVAILABLE SUPPLIES, AUSTRALIA.
(Tons.)**

Particulars.	1938-39.	1946-47.	1947-48.	1948-49.	1949-50.	1950-51.
Production(a) ..	3,500	8,878	15,183	10,565	6,673	5,312
Imports ..	2,270	..	5	3	281	1,488
Total ..	5,770	8,878	15,188	10,568	6,954	6,800

(a) Crop harvested in April-May of the preceding year and available for consumption during year shown.

8. **Broom Millet.**—The total area devoted to broom millet in 1949-50 was 3,100 acres, of which 2,815 acres were in New South Wales, 94 in Victoria and 191 in Queensland. The total production from these areas was 16,210 bushels of grain and 19,168 cwt. of fibre.

9. **Nurseries.**—In all the States fairly large areas are occupied as nurseries. The acreages under flowers, fruit-trees, etc., in 1949-50 in the various States were as follows :—New South Wales, 1,216 acres; Victoria, 3,266 acres; Queensland, 193 acres; South Australia, 136 acres; Western Australia, 252 acres; Tasmania, 77 acres; and Australian Capital Territory, 5 acres; a total for Australia of 5,145 acres.

10. **Cotton.**—(i) *General.* The production of cotton in Australia is restricted to Queensland, where cultivation began in 1860, and ten years later the area cropped had increased from 14 acres to over 14,000 acres. The reappearance of American cotton in the European market on the conclusion of the Civil War gave a severe setback to the new industry, and the area declined continuously until 1888, when only 37 acres were planted. Later on the industry was revived, and manufacturing on a small scale was undertaken on two separate occasions at Ipswich, but low prices over a period of years checked development.

(ii) *Bounties, etc.* In 1913 the Queensland Government made an advance of 1½d. per lb. on seed cotton and ginned it on owner's account, the final return being equal to about 1¾d. per lb. The rise in price enabled the Government to offer a guarantee of 5½d. per lb. for seeded cotton of good quality for the three years ended 31st July, 1923, and the areas picked increased from 166 acres in 1920 to 50,186 acres in 1924. Guarantees were continued until 1926, when the Commonwealth Government granted a bounty varying from ¾d. to 1½d. per lb. according to grade. In addition, the cotton-manufacturing industry received a graduated bounty on all cotton yarn manufactured in Australia which contained 50 per cent. of home-grown cotton. This bounty, however, ceased to operate after 30th June, 1932. The cotton-growing industry was further assisted by the Bounty Act of 1934, which extended the period to 1940 at varying rates of bounty.

The Raw Cotton Bounty Act 1940 provided an extension of assistance until 31st December, 1946. 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 has been superseded by the Cotton Bounty Act 1951, which guarantees a net average return of 9½d. per lb. of seed cotton for five years from 1st January, 1951.

The Tariff Board carried out an investigation into the cotton-growing industry in 1945.

(iii) *Expansion of the Cotton-growing Industry.* Australia produces only portion of its requirements of raw cotton, the balance being obtained chiefly from the United States of America, India, Pakistan and Brazil. Efforts have been directed towards increasing production by an extension of area and the introduction of irrigation methods, but the results so far have not met with much success. Production was increased during the war years but has since fallen away. The expansion of the industries connected with the spinning and weaving of cotton is referred to in Chapter XXIV.—Manufacturing Industry.

The area under cultivation and the production in Queensland for the years 1946 to 1949 are shown hereunder together with the averages for the periods of ten years ended 1939 and 1949 :—

COTTON : AREA AND PRODUCTION IN QUEENSLAND.

Season ended September—	Area Sown.	Production of Cotton.				Average Yield per Acre Sown.	
		Unginned.		Ginned.	Ginned- Equiva- lent in Bales. (a)	Unginned.	Ginned.
		Quantity.	Gross Value.				
	Acres.	'000 lb.	£	'000 lb.	Bales.	lb.	lb.
Average, 1930 to 1939 ..	58,436	16,617	291,106	5,564	11,181	284	95
1946	7,902	3,022	65,552	1,139	2,372	382	144
1947	8,460	2,064	46,213	762	1,531	244	90
1948	6,222	1,821	47,918	713	1,439	293	115
1949	2,688	719	26,322	255	522	267	95
Average, 1940 to 1949 ..	25,102	6,953	145,550	2,081	4,199	277	83

(a) Bales of approximately 500 lb.

(iv) *Consumption of Raw Cotton.* The following table shows the expansion which has taken place in the consumption of raw cotton in Australia since 1938-39.

**RAW COTTON : PRODUCTION, IMPORTS AND CONSUMPTION, AUSTRALIA.
('000 lb.)**

Year.	Production.	Imports.	Total.	Consumption in Cotton Mills.
Average, 1936-37 to 1938-39 ..	5,180	9,882	15,062	12,523
1945-46	651	26,494	27,145	25,329
1946-47	1,139	34,341	35,480	30,132
1947-48	762	34,114	34,876	31,401
1948-49	713	37,234	37,947	31,077
1949-50	255	28,357	28,612	33,823

11. *Other Crops.*—Miscellaneous small crops grown in Australia include chicory, coffee, cut flowers, herbs, ginger, liquorice and vegetable seeds.

§ 20. Bounties, etc.

NOTE.—See also Chapter XVII.—Public Finance, pages 786-7, in this connexion.

1. *Bounties.*—The bounties paid by the Commonwealth Government during the year ended 30th June, 1951, amounted to £110,407, comprising £89,898 under the Tractor Bounty Acts 1939-1947, and £20,509 under the Flax Canvas Bounty Act 1950. This amount refers only to bounties paid under the Bounty Acts and does not include financial assistance given to wheat-growers and other primary producers under other Acts. Particulars of the assistance so rendered by the Commonwealth Government are furnished hereafter. Details of the amounts paid as bounty for the years 1946-47 to 1950-51 are set out in *Primary Industries Bulletin*, 1949-50, No. 44.

2. *Other Financial Assistance to Primary Producers.*—(i) *General.* In addition to the payment of bounties mentioned in the preceding paragraph, financial assistance has been granted by the Commonwealth Government for the relief of wheat-growers, fruit-growers, and other primary producers. The amounts shown exclude such items

as the expenditure on cattle tick control, banana industry, tobacco investigation and apple and pear research, which indirectly benefits the industries concerned, and exclude payments made to the States from loan fund to alleviate hardship suffered by primary producers in consequence of drought. The distribution as bounty, relief or subsidy for 1938-39 and 1946-47 to 1949-50 is as shown in the following table. Details of payments made prior to 1938-39 are given on page 847 of Official Year Book No. 36, while particulars for the years 1939-40 to 1945-46 will be found on page 965 of Official Year Book No. 37.

AMOUNTS PAID BY THE COMMONWEALTH GOVERNMENT AS ASSISTANCE FOR RELIEF OF PRIMARY PRODUCERS.

(£.)

Amounts paid to—	Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Total.
Wheat-growers as—									
Assistance ..	1938-39	558,480	307,564	70,824	308,550	421,296	(a)51,961	..	1,808,693
Assistance ..	1946-47	334,966	350,244	47,108	417,590	(b)340,968	(d)50,020	..	1,750,932
Relief (Drought) Assistance ..	1947-48	315,092	150,000	..	66,817	..	..	..	531,939
Relief (Drought) Assistance (Special Payment) ..	1947-48	305,414	261,260	38,842	180,474	(b)155,385	379	..	941,754
Relief (Drought) Assistance (Special Payment) ..	1948-49	494,955	50,000	..	—35	..	..	..	544,920
Relief (Drought) Subsidy ..	1948-49	..	..	..	..	..	7,875	..	7,875
Relief (Drought) Subsidy ..	1949-50	43	..	..	..	..	..	..	43
Subsidy ..	1949-50	232,654	176,474	91,608	53,944	46,987	20,763	..	622,430
Total 1931-32 to 1949-50	..	12,856,353	8,692,290	1,391,198	8,572,153	8,970,343	715,562	2,954	41,200,853
Fruit-growers—									
Total 1933-34 and 1934-35(c)	..	20,703	58,620	2,581	18,374	25,631	134,931	..	260,000
Primary Producers (other than wheat-growers)—									
Artificial Fertilizer subsidy ..	1938-39	18,290	76,500	10,020	36,400	43,260	12,460	90	206,020
.. ..	1946-47	431,702	952,257	168,271	640,546	880,191	155,000	..	d3,174,047
.. ..	1947-48	461,505	1,217,784	104,089	637,464	1,048,650	151,273	..	e3,620,765
.. ..	1948-49	435,078	1,201,640	152,068	634,263	1,013,737	100,132	..	f3,536,918
.. ..	1949-50	331,530	1,537,958	612,530	625,878	1,168,170	161,498	..	g4,437,564
Total 1932-33 to 1949-50	..	2,925,101	8,088,542	1,312,021	4,555,702	6,775,106	1,097,363	370	24,754,205
Dairying Industry									
Relief (Drought) ..	1946-47	1,069,987	2,353,084	1,111,112	322,149	238,453	128,684	..	h5,223,469
.. ..	1947-48	143,800	23,803	24,009	4,322	33	..	..	197,257
Dairying Industry Relief (Drought) ..	1947-48	2,531,646	3,204,270	1,533,734	787,879	481,569	247,903	..	i8,867,001
.. ..	1948-49	11,116	..	..	..	..	..	..	11,116
Dairying Industry Relief (Drought) ..	1948-49	1,829,902	1,338,411	835,280	384,938	275,283	149,137	..	j4,802,951
.. ..	1949-50	2,435,965	2,755,379	1,487,158	631,550	457,558	240,890	..	k8,008,500
.. ..	1949-50	..	..	10,432	..	..	..	..	10,432
Total 1942-43 to 1949-50	..	13,150,688	17,899,839	1111775	3,155,743	2,314,789	1,180,594	..	48,828,428
Grand Total									
1931-32 to 1949-50	..	28,952,905	34,739,291	1,382,375	16,019,722	18,085,869	3,136,550	3,324	115,043,846

(a) Includes special grant to Tasmania. (b) Includes Wheat Acreage Restriction Grant. (c) Growers of apples, pears and mandarins. (d) Includes subsidy payments of £186,649 on nitrogenous fertilizers. (e) Includes subsidy payments of £129,683 on nitrogenous fertilizers. (f) Includes subsidy payments of £163,813 on nitrogenous fertilizers. (g) Includes subsidy payments of £780,794 on nitrogenous fertilizers. (h) Includes £3,484,729 recovered from the United Kingdom Government. (i) Includes £1,849,115 recovered from the United Kingdom Government. (j) Includes £150,000 recovered from the United Kingdom Government.

Minus sign (—) denotes an adjustment due to overpayment in previous years.

(ii) *Wheat-growers.* Details of payments made prior to 1938-39 will be found in Official Year Book No. 36. In 1938-39 a sum of £1,808,693, collected through the medium of a flour tax, was allocated, for distribution as relief to wheat-growers.

Allocations to the States for the same purpose during the years 1944-45 to 1948-49 were £1,995,775 in 1944-45, £1,779,238 in 1945-46, £1,747,383 in 1946-47, £985,327 in 1947-48 and £1,319 in 1948-49. The rate of flour tax has been nil since December, 1947.

In addition to the foregoing amounts paid from flour tax, compensation was paid to wheat-growers in Western Australia, where acreage restrictions applied in respect of the 1942-43 to 1945-46 harvests. The amounts so paid during each year 1942-43 to 1947-48 were £535,000, £599,348, £586,964, £243,828, £2,619 and £97 respectively.

(iii) *Artificial Fertilizers Subsidy.* Prior to the 1939-45 War, assistance was given to primary producers, other than wheat-growers, in the form of a subsidy on artificial fertilizers generally: subject to certain provisions, the rate was 15s. for each ton of artificial manure used in the production of primary produce, but in 1936-37 this was reduced to 10s. per ton. The payment of this subsidy ceased on 30th June, 1939.

Because of the substantial increases in the price of superphosphate and their effect on the efficiency of the farming industry, the Commonwealth Government introduced a bounty on superphosphate produced and sold in Australia after 1st July, 1941. The rate of bounty was fixed at 25s. per ton, payable to manufacturers, who were required to adjust their prices so that consumers received the full benefit of the subsidy. From July, 1942 to September, 1948 a revised basis of subsidy payments operated under which payment was made to manufacturers under a system designed to stabilize the price of superphosphate in the face of rising costs and to return to producers a reasonable margin of profit. In September, 1948 a flat rate system was re-introduced, the rates of subsidy being £2 15s. per ton in Western Australia, £2 10s. per ton in Eyre Peninsula and £2 5s. 6d. per ton elsewhere. Subsidy has also been paid on nitrogenous fertilizers from 1943-44. From that year proceeds from sales under the equalization scheme, under which these fertilizers are handled, have been less than expenditure incurred by the equalization pool, and the deficiency in each year has been met by Commonwealth subsidy.

Details of the amounts paid in respect of subsidy on both superphosphate and nitrogenous fertilizers are shown in the table above.

(iv) *Dairying Industry.* The war-time demand for butter, cheese and processed milk products was such as to necessitate production being increased to the limit of existing resources. With this object in view the Commonwealth subsidized production and so encouraged dairy farmers to maintain output at the highest level possible. The amounts paid since the introduction of the subsidy are shown above. These do not include the subsidies paid on the production of whole milk which is consumed directly, and which amounted to £319,000 in 1943-44, £1,786,000 in 1944-45, £2,520,000 in 1945-46, £2,249,000 in 1946-47, £2,157,000 in 1947-48 and £564,000 in 1948-49. This subsidy was discontinued from 30th September, 1948.

(v) *Farmers' Debt Adjustment.* In addition to the assistance outlined above, the Loan (Farmers' Debt Adjustment) Act 1935 made provision for grants, totalling £12 million, to be made available to the States for the adjustment of farmers' debts. Of this amount, £10 million was allocated as follows:—New South Wales, £3,450,000; Victoria, £2,500,000; Queensland, £1,150,000; South Australia, £1,300,000; Western Australia, £1,300,000; and Tasmania, £300,000. The remaining £2 million was allocated in the same proportion, and was subject to review at a later date.

§ 21. 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, 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.

2. **Fertilizers Acts.**—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 is given in Official Year Book No. 12, p. 378.

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

The chief sources of Australia's pre-war supplies of rock phosphate were Nauru and the Gilbert Islands Group. The war in the Pacific interrupted supplies from these sources and the bulk of the imports until 1946-47 came from Algeria, Egypt, Morocco and the Makatea Islands. Since 1948-49, however, supplies have been obtained mainly from Nauru, Gilbert Islands Group and Christmas Island. Sodium nitrate is obtained chiefly from Chile.

The imports of manures during the five years ended 1949-50, compared with average imports for the period 1934-35 to 1938-39, are shown in the following table:—

FERTILIZERS : IMPORTS INTO AUSTRALIA.

Fertilizer.	Average, 1934-35 to 1938-39.	1945-46.	1946-47.	1947-48.	1948-49.	1949-50.	
Ammonium sulphate	cwt.	521,804	647,110	551,730	376,689	204,005	545,182
	£	214,509	458,823	458,858	337,470	228,346	662,121
Potash salts	cwt.	212,813	145,049	126,941	216,977	184,400	258,480
	£	82,220	155,940	147,022	206,231	139,299	265,454
Rock phosphate	cwt.	12,701,938	13,285,672	14,520,198	14,032,030	18,195,277	23,708,035
	£	775,840	1,898,373	2,089,026	1,862,846	2,022,983	2,559,282
Sodium nitrate	cwt.	143,985	..	92,159	129,175	143,460	268,322
	£	63,464	..	60,049	68,085	106,711	273,099
Other ..	cwt.	68,603	106,938	6,074	54,854	10,672	13,467
	£	7,657	18,997	11,307	38,259	35,233	24,966
Total	cwt.	13,649,143	14,184,769	15,297,102	14,809,725	18,737,814	24,793,486
	£	1,143,690	2,532,133	2,766,262	2,512,891	2,532,572	3,784,922

4. **Exports.**—The following table shows the exports of fertilizers (practically all of which are manufactured locally) during the same periods:—

FERTILIZERS : EXPORTS FROM AUSTRALIA.

Fertilizer.	Average, 1934-35 to 1938-39.	1945-46.	1946-47.	1947-48.	1948-49.	1949-50.	
Ammonium sulphate	cwt.	3,267	3,484	2,471	2,640	1,743	1,686
	£	1,130	6,125	1,996	1,961	1,465	1,722
Bone-dust ..	cwt.	2,789	9	..	..	..	1,000
	£	1,550	7	..	..	..	422
Sodium nitrate	cwt.	18	11,243	104	80	..	1,151
	£	24	12,927	374	137	..	3,326
Superphosphate	cwt.	35,962	951	4,946	10,359	17,260	24,743
	£	6,209	570	2,061	5,012	10,146	12,459
Other ..	cwt.	54,489	3,198	10,674	1,286	2,532	2,187
	£	25,498	6,389	7,076	1,269	1,294	12,539
Total	cwt.	96,525	18,885	18,195	14,365	21,535	30,767
	£	34,411	26,018	11,507	8,379	12,905	30,468

5. **Quantities Locally Used.**—Information regarding the area fertilized with artificial fertilizers and the quantity of artificial fertilizers (superphosphate, bonedust, nitrates, etc.) used in each State during the year 1949-50 is given in the following table. Details of the area manured with natural manure (stableyard, etc.) are no longer collected.

AREA FERTILIZED AND QUANTITY OF FERTILIZERS USED, 1949-50.

State or Territory.	Area Fertilized (Acres).			Fertilizers Used (Cwt.).		
	Crops.	Pasture Lands.	Total.	Crops.	Pasture Lands.	Total.
New South Wales	3,209,312	1,288,832	4,498,144	2,269,897	1,213,532	3,483,429
Victoria	3,839,014	6,726,723	10,565,746	3,511,176	7,489,225	11,000,401
Queensland	315,606	1,730	317,336	1,443,132	2,805	1,445,937
South Australia	3,121,981	1,792,334	4,914,315	2,962,993	1,912,357	4,875,350
Western Australia	4,251,299	2,736,146	6,987,445	4,316,282	2,836,361	7,152,643
Tasmania	196,935	461,635	658,568	506,442	571,047	1,077,489
Australian Capital Territory ..	8,711	11,623	20,334	11,093	10,860	21,953
Total	14,942,856	13,019,023	27,961,888	15,021,035	14,036,187	29,057,222

Particulars of the quantity of artificial fertilizers used in each State and Territory during each of the years 1945-46 to 1949-50, compared with the average for the five years ended 1938-39, are shown in the next table. These details include the quantity used in the top-dressing of pasture lands.

The serious diminution in the output of superphosphate during the war caused by the interruption of imports of rock phosphate necessitated the introduction of a system of rationing of supplies which adversely affected the yields from those crops which are mainly dependent upon the use of superphosphate.

QUANTITY OF ARTIFICIAL FERTILIZERS USED.

(Tons.)

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Total.
Average, 1934-35 to 1938-39 ..	148,277	305,969	50,651	200,566	230,713	30,272	276	966,724
1945-46 ..	106,008	248,025	46,833	147,147	190,639	34,220	318	773,190
1946-47 ..	141,388	321,092	54,274	194,216	252,532	37,062	517	1,001,081
1947-48 ..	171,707	402,643	54,433	224,253	292,723	41,945	870	1,188,574
1948-49 ..	171,738	467,690	62,084	250,107	333,622	39,109	860	1,325,210
1949-50 ..	174,171	550,020	72,298	243,768	357,632	53,874	1,098	1,452,861

As mentioned in § 20 the Commonwealth Government has encouraged the use of artificial fertilizers by providing subsidies to primary producers.

6. **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 1949-50 was 51, made up as follows:—New South Wales 14; Victoria, 9; Queensland, 7; South Australia, 7; Western Australia, 6; and Tasmania, 8. The production of superphosphate in Australia during 1949-50 amounted to 1,483,458 tons, the largest producing States being Victoria, Western Australia and South Australia.

§ 22. Ensilage.

1. **Government Assistance in Production.**—The several State Governments devote a considerable amount of attention to the education of the farming community in 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.**—Information regarding the quantity of ensilage made during each of the seasons 1946-47 to 1949-50, together with respective averages for the five years ended 1938-39, is given in the following table:—

ENSILAGE MADE.
(Tons.)

State.	Average, 1934-35 to 1938-39.	1946-47.	1947-48.	1948-49.	1949-50.
New South Wales ..	109,278	51,783	119,453	91,519	73,047
Victoria ..	30,591	24,644	21,873	20,945	25,687
Queensland ..	10,291	13,146	15,635	11,123	10,622
South Australia ..	8,493	4,739	6,531	5,793	5,545
Western Australia ..	15,779	8,809	13,267	9,077	11,091
Tasmania ..	1,114	2,890	3,514	3,902	8,271
Australian Capital Territory ..	..	5	349	110	64
Australia ..	175,549	106,016	180,622	142,469	134,327

The drought of 1902-3 drew increased attention to the value of stocks of ensilage, and during the four seasons ended 1909-10 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, though far less than would have been the case if more attention had been paid to production during the previous years when there was a surplus of green fodder. The quantities made since that date have fluctuated considerably, but the output increased up to 1939-40 in which year the production of 303,495 tons was the highest yet recorded. During subsequent seasons output declined noticeably and reached the extremely low level of 94,744 tons during the drought year 1944-45, but rose to 180,622 tons in 1947-48, and fell again to 134,327 tons in 1949-50.

3. **Stocks Held on Farms.**—Details of farm stocks of ensilage, which were collected for the first time as at 31st March, 1943, are shown in the following table as at 31st March, 1946 to 1950:—

ENSILAGE : FARM STOCKS.
(Tons.)

31st March—	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Total.
1946 ..	73,371	27,675	16,926	3,186	3,832	3,925	1,740	130,655
1947 ..	60,348	30,662	11,298	2,658	2,916	3,930	100	111,912
1948 ..	109,681	29,649	18,116	5,265	3,987	4,379	491	171,568
1949 ..	100,799	26,995	15,330	4,544	2,565	3,828	266	154,327
1950 ..	108,156	(a)	15,096	2,940	4,628	6,814	194	(a)

(a) Not available.

§ 23. Agricultural Colleges and Experimental Farms.

Agricultural colleges, administered by State Departments of Agriculture, 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 live stock 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 or animal husbandry, 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 scattered throughout Australia, and sometimes undertakes joint research with the appropriate State authorities. In general, however, the Commonwealth Scientific and Industrial Research Organization concentrates on fundamental research, except when otherwise specifically invited, while the State Departments of Agriculture study problems of particular significance within their own boundaries. The universities also carry out valuable research work on their own experimental farms.

§ 24. 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 103,795 in 1950, or by 147 per cent. Since 1943, the first year in which the collection was made by types, wheeled type tractors have increased by 106 per cent., and crawler types by 43 per cent.

The table below sets out the total numbers of tractors on rural holdings in 1939, and the number of wheeled type and crawler tractors for the five years ended 1950.

TRACTORS ON RURAL HOLDINGS.

March—	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Aust.(a)
WHEELED TYPE TRACTORS.(b)								
1946 ..	16,112	13,599	14,127	6,448	5,774	1,539	48	57,647
1947 ..	17,793	14,321	15,326	7,117	6,803	1,697	51	63,108
1948 ..	18,659	15,611	16,312	7,429	7,482	1,876	62	67,431
1949 ..	21,283	18,480	17,980	8,891	8,527	2,069	71	77,301
1950 ..	25,533	23,235	20,616	11,184	10,323	2,464	84	93,439
CRAWLER OR TRACK TYPE TRACTORS.(b)								
1946 ..	1,418	584	2,228	2,763	1,412	129	2	8,536
1947 ..	1,456	614	2,466	2,339	1,326	219	2	8,422
1948 ..	1,599	684	2,637	2,235	1,569	178	3	8,905
1949 ..	1,649	770	2,781	2,380	1,693	173	2	9,448
1950 ..	1,831	884	3,111	2,525	1,796	201	8	10,356
TOTAL TRACTORS.								
1939(c) ..	12,926	8,802	8,541	5,969	5,680	(d)	25	(e) 41,943
1946 ..	17,530	14,183	16,355	9,211	7,186	1,668	50	66,183
1947 ..	19,249	14,935	17,792	9,456	8,129	1,916	53	71,530
1948 ..	20,258	16,295	18,949	9,664	9,051	2,054	65	76,336
1949 ..	22,932	19,250	20,761	11,271	10,220	2,242	73	86,749
1950 ..	27,364	24,119	23,727	13,709	12,119	2,665	92	103,795

(a) Excludes Northern Territory. (b) Details not collected separately prior to 1943. (c) At commencement of year. (d) Not available. (e) Excludes Tasmania.

§ 25. Number and Area of Rural Holdings and Permanent Employment Thereon.

1. **General.**—The statistical data included in the chapters relating to agricultural, pastoral and dairying activities are obtained at an annual census taken in each State under the direction of the State Statisticians. This census is taken as early as practicable after the conclusion of the main harvest and covers every holding within the boundaries of each State.

A holding in Australia has been defined by the States on a more or less uniform basis and discrepancies which exist are not of sufficient importance to vitiate any 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 live stock or the products of live stock.

With the exception of Queensland, particulars of the number of holdings included in these censuses are available for all States over a series of years. It was not until 1938-39, however, that a complete tabulation became available for Queensland.

2. **Number and Area.**—The following table shows the number and area of the holdings in each State for the years 1938-39 and 1945-46 to 1949-50.

RURAL HOLDINGS : NUMBER AND AREA.

Year.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Australian Capital Territory.	Total.
NUMBER OF RURAL HOLDINGS.								
1938-39 ..	75,365	72,452	41,503	31,280	21,052	11,680	204	253,536
1945-46 ..	74,173	70,652	42,511	27,035	18,400	11,991	221	245,583
1946-47 ..	74,671	70,750	42,173	28,040	19,064	11,980	217	246,895
1947-48 ..	74,669	70,910	42,070	27,901	19,141	11,852	215	246,758
1948-49 ..	74,303	71,049	41,986	28,110	19,754	11,739	214	247,155
1949-50 ..	73,987	70,486	41,560	27,900	19,565	11,548	221	245,267
TOTAL AREA OF RURAL HOLDINGS. (⁰⁰⁰ ACRES.)								
1938-39 ..	174,660	40,791	317,782	144,682	211,720	6,778	371	896,784
1945-46 ..	169,380	40,523	354,944	142,505	206,001	6,479	376	920,208
1946-47 ..	169,498	40,056	357,551	146,173	211,589	6,401	374	931,642
1947-48 ..	169,198	39,345	358,621	142,393	208,693	6,183	368	924,801
1948-49 ..	167,637	38,867	356,422	146,723	210,658	6,123	376	926,806
1949-50 ..	170,027	38,342	355,803	146,563	211,057	6,411	403	928,606

3. **Analysis of Holdings.**—(i) *General.* It is not possible to classify these holdings according to the purpose for which they are used. This arises from a number of factors, the chief of which is mixed farming. The general trend in Australia is for farmers to diversify their activities and consequently it is very difficult to determine whether the purpose of many holdings is mainly agricultural, pastoral or dairying, or any of these in combination.

(ii) *New South Wales.* Such an analysis has been made in New South Wales but, as pointed out by the Statistician, it should be regarded as an approximation. It was compiled from the description of purpose given by the occupier of the holding at the time of the annual census. This tabulation reveals that there were 71,165 holdings so classified in New South Wales during 1945-46. Of this number 10,447 described their main purposes as agricultural only, 21,590 as pastoral only, 12,157 dairying only, 3,973

as poultry, pig or bee farming, while the main purpose of the remaining 22,998 holdings was stated to be a combination of two or more of these activities. Holdings used mainly for residential or other purposes but which were used partly for the production of rural products were omitted. These numbered 3,008 during 1945-46.

4. **Special Tabulation Relating to Rural Holdings, 1949-50.**—With the co-operation of State Statisticians, the second series of special tabulations relating to rural holdings was undertaken for all States for the year 1949-50. These tabulations have been published in detail in *Primary Industries Bulletin* No. 44, 1949-50. The following table shows particulars of the number and area of rural holdings classified according to the size of holdings.

RURAL HOLDINGS : NUMBER AND AREA CLASSIFIED IN AREA SERIES, 1949-50.

Area Series (Acres).	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Aust.(a)
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NUMBER OF HOLDINGS.

Under 3	941	408	214	317	463	157	..	2,500
3- 4..	1,391	907	239	432	469	178	1	3,677
5- 9..	3,160	2,445	634	927	1,036	437	14	8,653
10- 24..	4,503	6,916	1,596	2,690	1,569	977	9	18,320
25- 49..	4,080	5,520	1,852	2,192	761	1,168	15	15,588
50- 99..	5,209	7,676	4,060	2,182	663	2,048	9	21,847
100- 149..	4,627	6,816	3,733	1,187	745	1,662	4	18,774
150- 249..	6,656	8,742	6,720	1,732	1,279	1,708	6	26,843
250- 499..	9,034	11,118	7,386	2,969	1,699	1,472	16	33,694
500- 749..	6,478	7,047	3,380	2,650	898	510	18	20,981
750- 999..	4,657	3,794	1,527	1,897	887	226	16	13,004
1,000- 1,499..	6,695	4,128	1,957	2,631	1,905	288	34	17,638
1,500- 2,499..	5,925	2,881	1,349	2,584	3,083	256	46	16,324
2,500- 4,999..	5,559	1,401	1,523	1,991	2,718	229	21	13,442
5,000- 9,999..	2,517	424	1,185	806	746	134	7	5,819
10,000-19,999..	1,107	123	1,200	311	142	59	2	2,945
20,000-49,999..	832	11	1,640	173	53	3	3	2,793
50,000-99,999..	369	61	608	78	37	..	..	1,110
100,000 and over	187	8	557	151	412	..	..	1,315
Total	73,987	70,486	41,560	27,900	19,565	11,548	221	245,267

AREA OF HOLDINGS.

('000 ACRES.)

Under 3	2	1	..	9	1	..	..	4
3- 4..	5	3	1	1	2	1	..	13
5- 9..	20	16	4	6	7	3	..	56
10- 24..	71	113	25	45	24	16	..	294
25- 49..	148	197	68	77	26	43	..	559
50- 99..	375	555	301	157	47	148	..	1,583
100- 149..	561	824	457	144	90	197	..	2,273
150- 249..	1,292	1,680	1,264	339	246	324	1	5,146
250- 499..	3,249	3,931	2,633	1,112	595	502	6	12,028
500- 749..	3,976	4,345	2,060	1,630	549	308	11	12,879
750- 999..	4,050	3,288	1,315	1,647	796	194	14	11,304
1,000- 1,499..	8,173	5,021	2,362	3,205	2,302	345	41	21,449
1,500- 2,499..	11,374	5,410	3,009	4,876	6,048	496	93	31,306
2,500- 4,999..	19,090	4,677	5,301	6,793	9,275	811	69	46,016
5,000- 9,999..	16,932	2,809	8,349	5,470	4,810	904	56	39,330
10,000-19,999..	14,918	1,672	17,274	4,344	1,869	763	25	40,865
20,000-49,999..	26,454	1,756	51,240	5,406	1,879	899	87	87,721
50,000-99,999..	25,780	685	42,108	5,502	2,711	457	..	77,243
100,000 and over	33,557	1,359	218,032	105,809	179,780	..	..	538,537
Total	170,027	38,342	355,803	146,563	211,057	6,411	403	928,606

(a) Excludes Northern Territory.

5 Permanent Employment on Rural Holdings.—The following table shows for each State of Australia the recorded number of persons permanently engaged full-time on rural holdings as at 31st March, 1950. 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.

**RURAL HOLDINGS: PERMANENT FULL-TIME EMPLOYMENT AS AT
31st MARCH, 1950:**

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Total.
MALES.								
Owners, Lessees or Sharefarmers	71,277	64,627	43,160	28,122	18,900	9,061	155	235,302
Relatives of Owner, Lessee or Sharefarmer over 14 years of age, not receiving wages or salary ..	7,866	7,142	5,147	2,079	2,340	1,294	21	25,889
Employees, including Managers and Relatives working for wages or salary	33,923	15,174	20,171	8,360	8,782	4,378	136	90,924
Total	113,066	86,943	68,478	38,561	30,022	14,733	312	352,115

FEMALES.								
Owners, Lessees or Sharefarmers	1,649	4,449	10,851	4,766	1,265	567	7	23,554
Relatives of Owner, Lessee or Sharefarmer over 14 years of age, not receiving wages or salary ..	7,835	1,971	5,096	1,273	4,269	373	15	20,832
Employees, including Managers and Relatives working for wages or salary	1,996	1,256	3,467	951	904	369	19	8,962
Total	11,480	7,676	19,414	6,990	6,438	1,309	41	53,348

TOTAL PERSONS ENGAGED.

Owners, Lessees or Sharefarmers	72,926	69,076	54,011	32,888	20,165	9,638	162	258,856
Relatives of Owner, Lessee or Sharefarmer over 14 years of age, not receiving wages or salary ..	15,701	9,113	10,243	3,352	6,609	1,667	36	46,721
Employees, including Managers and Relatives working for wages or salary	35,919	16,430	23,638	9,311	9,686	4,747	155	99,886
Total	124,546	94,619	87,892	45,551	36,460	16,042	353	405,463

The next table shows for Australia as a whole the number of persons permanently engaged full-time on rural holdings as at 31st March of the six years 1945 to 1950.

RURAL HOLDINGS : PERMANENT FULL-TIME EMPLOYMENT, AUSTRALIA.

Particulars.	As at 31st March—					
	1945.	1946.	1947.	1948.	1949.	1950.
Males—						
Owners, Lessees or Sharefarmers	227,796	233,593	240,753	240,992	236,467	235,302
Relatives of Owner, Lessee or Sharefarmer over 14 years of age, not receiving wages or salary	37,760	34,241	32,233	28,171	25,195	25,889
Employees, including managers and relatives working for wages or salary	73,816	82,582	84,300	90,502	91,177	90,924
Total, Males	339,372	350,416	357,286	359,665	352,839	352,115
„ Females (a)	58,979	54,513	48,844	47,509	47,933	53,348
Total Persons engaged	398,351	404,929	406,130	407,174	400,772	405,463

(a) Total permanently engaged full-time.