

CHAPTER XX.

AGRICULTURAL PRODUCTION.

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

§ 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. The largest increase took place in Victoria, which returned an area of 299,000 acres. For the same year South Australia had 264,000 acres in cultivation, Tasmania 229,000 acres, and New South Wales 223,000 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 six seasons ended 1943-44 :—

AREA OF CROPS.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	N.T.	A.C.T.	Australia.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
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	607,113	2,746,334	855,024	286,920	360	..	11,893,838
1920-21	4,405,143	4,489,503	779,497	3,231,083	1,804,987	297,383	296	1,966	15,009,858
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
1938-39	7,049,357	5,019,299	1,734,789	4,724,090	4,719,254	243,048	1,116	6,827	23,497,780
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	4,254,348	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	..	5,549	20,450,345
1942-43	5,297,313	3,816,430	1,742,802	3,436,675	2,819,713	300,005	..	6,779	17,419,717
1943-44	4,707,388	3,462,537	1,757,306	2,760,778	2,788,414	331,033	..	6,760	15,002,212

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 1914-19 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, reaching a maximum of 23½ million acres in 1938-39 and thereafter declined to under 16 million acres in 1943-44. Following the outbreak of war in 1939, the area under crop declined with each successive year. This movement was contrary to the experience of the 1914-19 War when the decline did not occur until the third war-year.

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 5¼ million acres in 1929-30 to more than 10 million acres in 1944-45.

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 principle functions of the Council are (i) the promotion of the welfare and development of agricultural industries generally; (ii) the improvement of the quality of agricultural products and the maintenance of high grade standards; (iii) to ensure, as far as possible, balance between production and available markets; and (iv) 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 and whose functions would be:—(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 to 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 Council for Scientific and Industrial Research, the Commonwealth Director-General

of Health, the Secretary, Department of Commerce and Agriculture and the Director-General of Agriculture. The membership of the Standing Committee was extended during the war to include the Director-General of Man Power, the Commonwealth Statistician and the Commonwealth Prices Commissioner.

§ 3. Distribution, Production and Value of Crops.

1. **Distribution of Crops.**—The following table gives the areas in the several States and Territories of each of the principal crops for the season 1943-44:—

AREA OF PRINCIPAL CROPS, 1943-44.

Crop.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T. (a)	A.C.T.	Aust.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Wheat (Grain)	2,693,302	1,793,428	281,302	1,533,816	1,567,016	4,839	..	1,418	7,875,121
Oats ..	374,205	426,305	22,104	224,454	358,129	9,744	..	403	1,415,344
Maize ..	103,237	6,598	172,722	..	105	19	..	..	282,681
Barley—									
2 Row ..	10,154	70,341	9,349	234,334	29,913	3,128	..	128	357,347
6 Row ..	9,921	12,918	3,562	27,112	31,487	308	..	229	85,537
Rye ..	552	2,919	146	11,203	1,773	269	..	..	16,862
Rice ..	40,690	..	..	..	..	..	..	..	40,690
Hay ..	534,470	740,672	71,992	312,277	282,614	99,283	..	2,806	2,044,114
Green Fodder ..	782,265	112,880	600,181	269,645	446,803	51,592	..	1,436	2,264,802
Other Stock									
Fodder ..	7,403	8,793	22,557	21,860	4,773	16,133	..	21	81,540
Grass and other									
Seeds ..	(a) 7,794	8,433	73,274	9,062	(b)	1,570	..	..	(a) 100,133
Orchards and									
other Fruit-									
gardens ..	81,283	70,024	31,878	25,521	21,154	32,135	..	105	262,106
Vines—									
Productive ..	15,347	41,285	2,563	55,690	8,803	..	..	2	123,699
Unproductive	654	1,426	435	1,571	1,437	..	..	..	5,523
Sugar-cane—									
Productive ..	8,240	..	220,932	..	..	..	..	..	229,172
Unproductive	7,373	..	99,874	..	..	..	..	..	107,247
Beans, Navy ..	6,828	1,503	2,146	1	14	19	..	..	10,511
Peas, Blue ..	1,223	4,106	159	1,923	1,035	37,500	..	..	46,036
Potatoes ..	30,067	70,430	14,609	8,958	7,375	60,500	..	136	192,075
Onions ..	876	6,151	1,934	702	445	62	..	5	10,175
Other vegetables									
for human									
consumption	76,930	44,266	48,506	10,442	9,916	8,468	..	80	198,608
Tobacco ..	657	2,000	2,348	..	1,611	..	..	..	6,616
Broom-Millet ..	2,224	890	143	..	17	..	..	..	3,274
Hops ..	..	160	..	..	21	1,114	..	..	1,295
Cotton ..	..	..	41,389	..	..	..	..	..	41,389
Flax—for fibre	..	31,567	..	9,511	7,642	6,011	..	..	55,631
All other Crops	1,690	5,352	33,291	2,696	331	1,339	..	..	44,699
Total Area ..	4,797,385	3,462,537	1,757,396	2,760,778	2,782,414	334,933	..	6,769	15,902,212

(a) Incomplete. (b) Not available.

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 1943-44 is shown in the next table. 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. In Queensland the most extensive crops are green forage, wheat, sugar-cane and maize, and in Tasmania hay, green fodder, potatoes, blue peas, orchards and fruit-gardens, and oats.

As pointed out previously wheat is the main crop in Australia, the area thereof for grain only representing almost half the total area of crops in 1943-44.

RELATIVE AREAS UNDER CROP, 1943-44.

Crop.	N.S.W.	Victoria.	Q'land.	S. Aust.	W.Aust.	Tas.	N.T. (a)	A.C.T.	Aust.
	%	%	%	%	%	%	%	%	%
Wheat ..	56.14	51.80	16.01	55.56	56.32	1.45	..	20.95	49.52
Hay ..	11.14	21.39	4.10	11.31	10.16	29.64	..	41.46	12.85
Oats ..	7.80	12.31	1.26	8.13	12.87	2.91	..	5.95	8.90
Green Fodder ..	16.31	3.26	34.15	9.77	16.06	15.40	..	21.21	14.26
Barley ..	0.42	2.40	0.73	9.47	2.21	1.03	..	5.27	2.79
Sugar-cane ..	0.33	..	18.26	..	..	..	..	..	2.12
Maize ..	2.15	0.19	9.83	..	..	..	..	..	1.77
Orchards and Fruit-gardens	1.69	2.02	1.81	0.92	0.76	9.59	..	1.55	1.65
Potatoes ..	0.65	2.04	1.16	0.33	0.27	18.06	..	2.00	1.25
Vineyards ..	0.33	1.23	0.17	2.07	0.36	..	..	0.03	0.81
All other ..	3.04	3.36	12.52	2.44	0.99	21.92	..	1.58	4.08
Total ..	100.00	100.00	100.00	100.00	100.00	100.00	..	100.00	100.00

(a) Not available.

3. Area of Principal Crops in Australia.—The area of the principal crops during each of the four seasons ended 1943-44, the last pre-war season 1938-39 and the average for the decennium ended 1938-39 is shown hereunder:—

AREA OF PRINCIPAL CROPS : AUSTRALIA.

Crop.	Average, Ten years ended 1938-39.	1938-39.	1940-41.	1941-42.	1942-43.	1943-44.
	'000 acres.	'000 acres.	'000 acres.	'000 acres.	'000 acres.	'000. acres.
Barley (a) ..	428	650	639	663	356	357
Maize ..	295	324	363	301	285	283
Oats ..	1,393	1,784	1,723	1,461	1,497	1,415
Rice ..	22	24	24	24	34	41
Wheat ..	14,345	14,346	12,645	12,004	9,280	7,875
Green Fodder ..	1,272	1,789	1,989	1,808	2,112	2,265
Hay ..	2,994	3,250	2,353	2,758	2,359	2,044
Beans and Peas ..	49	43	51	58	77	57
Onions ..	8	7	7	8	10	10
Potatoes (b) ..	130	98	123	99	140	192
Other Vegetables for consumption ..	(c)34	(c)66	(c)79	(c)96	(c)129	199
Sugar-beet ..	3	4	4	3	1	1
Vineyards ..	118	127	130	129	130	129
Hops ..	1	1	1	1	1	1
Sugar-cane ..	332	369	371	332	329	336
Cotton ..	43	66	41	61	56	41
Tobacco ..	12	8	8	9	7	7
Orchards ..	276	272	270	267	260	262
All Other Crops ..	203	270	297	348	357	337
Total ..	21,958	23,498	21,118	20,450	17,420	15,902

(a) Malting only. (b) Excludes Sweet Potatoes. (c) Market Gardens.

4. Weights and Measures.—The production of agricultural commodities in Australia is recorded either in terms of 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 cwts.

In the following table the weights adopted per bushel are given 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 fruit weights.

APPROXIMATE BUSHEL EQUIVALENTS.

Commodity.	Approximate Bushel Equivalent in lb.	Commodity.	Approximate Bushel Equivalent in lb.
Cereals—		Fruit— <i>continued.</i>	
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. Total and Average Production of Principal Crops in Australia.—The following table shows the production of the principal crops for the four years ended 1943-44, the year 1938-39 and for the decennium ended 1938-39 :—

TOTAL AND AVERAGE PRODUCTION OF PRINCIPAL CROPS : AUSTRALIA.

Crop.	Unit of Quantity.	Average, Ten years ended 1938-39.	1938-39.	1940-41.	1941-42.	1942-43.	1943-44.
Barley (a)	'000 bus.	7,480	9,704	6,185	15,713	6,782	6,307
Maize	" "	7,228	7,057	9,193	7,436	6,885	7,433
Oats	" "	16,437	15,555	10,199	22,302	21,532	17,712
Rice	" "	2,005	2,775	2,240	2,192	3,084	4,915
Wheat	" "	169,398	155,369	82,233	166,713	155,728	109,720
Hay	" tons	3,490	3,321	2,177	3,575	3,116	2,717
Beans and Peas	" bus.	734	495	596	(b) (d) 14	(b) (d) 25	(b) 20
Onions	" tons	43	13	33	34	55	47
Potatoes (c)	" "	351	274	460	333	484	599
Pumpkins and Melons	" "	60	81	138	(e)	(e)	(e)
Sugar (Beet)	" "	5	1.5	3.3	2.8	0.7	0.7
Grapes	" "	381	402	430	464	480	527
Wine	" gals.	16,330	14,958	15,997	16,045	19,864	19,865
Raisins and Currants	" tons	70	75	81	93	91	103
Hops	" lb.	2,127	2,402	3,248	3,032	2,779	2,999
Sugar (Cane)	" tons	658	823	806	746	650	524
Cotton, Unginned	" lb.	15,667	13,688	12,108	15,869	14,058	9,540
Tobacco	" "	5,336	4,046	5,476	7,040	4,969	4,633

(a) Malting only. (b) Tons. (c) Excludes Sweet Potatoes. (d) Incomplete. (e) Not available.

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 four years ended 1943-44, for the year 1938-39 and the decennium ended 1938-39.

AVERAGE YIELD PER ACRE OF PRINCIPAL CROPS : AUSTRALIA.

Crop.	Unit of Quantity.	Average, Ten years ended 1938-39.	1938-39.	1940-41.	1941-42.	1942-43.	1943-44.
Barley (a)	Bushel	17.49	14.92	9.68	23.72	19.03	17.89
Maize	"	24.53	21.77	25.33	24.67	24.19	26.29
Oats	"	11.80	8.72	5.92	15.27	14.38	12.52
Rice	"	93.00	117.92	91.26	92.75	90.11	98.67
Wheat	"	11.81	10.83	6.50	13.89	16.78	13.93
Hay	Ton	1.17	1.02	0.93	1.30	1.32	1.33
Onions	"	5.54	2.74	4.92	4.47	5.63	4.61
Potatoes (b)	"	2.71	2.80	3.74	3.35	3.45	3.12
Pumpkins and Melons	"	2.75	2.65	3.29	2.45	2.85	2.38
Sugar (Beet)	"	1.40	0.35	0.91	0.97	0.71	0.84
Grapes (c)	"	3.45	3.43	3.51	3.75	3.56	4.26
Wine (c)	Gallon	349	300	316	318	397	402
Raisins and Currants (c)	Ton	1.28	1.26	1.27	1.44	1.39	1.57
Hops (c)	lb.	2,003	2,235	2,862	2,264	2,106	2,279
Sugar (Cane) (c)	Ton	2.76	3.14	2.95	2.93	2.70	2.29
Cotton, Unginned (c)	lb.	366	206	293	258	249	230
Tobacco	"	463	518	640	798	693	700

(a) Malting only.

(b) Excludes Sweet Potatoes.

(c) 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 years 1938-39 to 1943-44 :—

GROSS VALUE OF AGRICULTURAL PRODUCTION : AUSTRALIA.

Crops.	1938-39.	1939-40.	1940-41.	1941-42.	1942-43.	1943-44.
	£'000.	£'000.	£'000	£'000.	£'000.	£'000.
Barley (a)	1,417	2,429	1,474	2,316	1,124	1,856
Maize	1,503	1,365	2,040	1,632	2,251	2,530
Oats	2,085	2,597	1,523	2,697	2,911	2,471
Rice	540	413	474	506	759	983
Wheat	21,989	38,775	17,145	31,091	33,346	25,021
Green Fodder	2,999	3,039	3,558	3,764	4,205	(e)4,170
Hay	12,704	10,567	8,278	12,988	14,445	13,483
Beans and Peas	253	377	411	455	607	599
Onions	306	296	456	543	781	696
Potatoes (b)	3,649	3,497	2,834	4,312	5,961	7,233
Other Vegetables for Human Consumption	(c)2,473	(c)2,818	(c)2,923	(c)2,941	(d)12,114	14,864
Sugar-beet	27	99	59	53	14	17
Grapes	3,924	4,657	4,618	5,377	6,031	7,384
Hops	183	148	244	233	219	238
Sugar-cane	9,178	11,102	10,655	9,607	9,282	8,521
Tobacco	360	504	625	822	577	536
Cotton, Unginned	230	301	205	304	320	212
Orchards	9,695	9,212	9,241	10,512	14,253	19,327
Other Crops	3,336	3,498	3,643	4,625	2,335	2,978
Total, Gross Value	76,851	95,784	70,406	94,778	111,535	113,124

(a) Malting only. (b) Excludes Sweet Potatoes. Includes some values of vegetables for stock fodder.

(c) Market Gardens.

(d) Incomplete.

(e) Excludes Western Australia.

8. Value of Production—Gross and Net.—(i) General. Uniform methods for arriving at the gross and net values of production in the various States were finally 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 XXVIII "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, 1943-44.

(AS ESTIMATED BY STATE STATISTICIANS IN ACCORDANCE WITH CONFERENCE RESOLUTIONS.)

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.		
	£	£	£	£	£	£	£
New South Wales ..	36,039,000	5,798,000	30,241,000	4,147,000	(b) 687,000	25,407,000	(c)
Victoria (d) ..	25,027,101	2,813,549	22,213,552	4,898,701	1,251,651	16,062,900	900,000
Queensland ..	22,015,000	2,100,000	19,915,000	1,640,000	1,520,000	16,755,000	1,000,000
South Australia ..	15,306,268	1,541,811	13,764,457	2,056,276	970,048	10,738,133	594,493
Western Australia ..	8,079,883	1,105,281	6,974,602	1,051,863	1,011,742	4,910,997	540,200
Tasmania ..	7,262,240	1,149,650	6,112,590	1,101,440	204,530	4,826,620	130,000
Total ..	113,749,492	14,508,291	99,241,201	14,895,280	5,645,271	78,700,650	23,164,693

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

(ii) States 1934-35 to 1943-44. In the following table the net value of agricultural production and the net value per head of population are given by States for the years 1934-35 to 1943-44:—

VALUE OF AGRICULTURAL PRODUCTION.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Total.
NET VALUE.(a)							
	£	£	£	£	£	£	£
1934-35 ..	12,787,000	8,735,776	9,018,187	6,375,538	4,268,547	1,951,150	43,136,198
1935-36 ..	13,285,000	11,716,768	9,699,000	7,336,655	4,678,399	1,723,180	48,438,993
1936-37 ..	19,364,000	16,356,341	10,706,000	9,057,406	5,921,108	1,708,630	63,113,485
1937-38 ..	14,829,000	14,962,412	11,264,000	9,150,941	6,142,705	2,482,500	58,840,550
1938-39 ..	11,804,000	5,619,765	11,615,000	5,489,228	4,065,616	3,084,971	41,678,520
1939-40 ..	16,350,000	11,907,131	13,606,000	9,458,140	7,064,100	2,433,760	60,909,131
1940-41 ..	9,294,000	7,097,209	13,723,000	6,048,310	3,678,106	1,730,480	41,571,105
1941-42 ..	15,957,000	15,511,086	13,380,000	7,769,642	6,335,815	3,179,810	62,133,353
1942-43 ..	23,853,000	19,026,308	15,416,000	10,316,341	4,955,665	3,525,910	77,093,224
1943-44 ..	25,407,000	16,062,900	16,755,000	10,738,133	4,910,997	4,826,620	78,700,650
NET VALUE PER HEAD OF MEAN POPULATION.							
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1934-35 ..	4 17 1	4 15 2	9 7 8	10 18 3	9 12 8	8 10 4	6 8 9
1935-36 ..	5 0 0	6 7 1	9 19 6	12 10 4	10 8 11	7 9 8	7 3 6
1936-37 ..	7 4 6	8 16 7	10 17 7	15 7 11	13 2 1	10 7 2	9 5 6
1937-38 ..	5 9 6	8 0 9	11 6 4	15 10 2	13 8 8	10 11 3	8 11 5
1938-39 ..	4 6 4	2 19 11	11 10 9	9 4 8	8 15 9	13 0 5	6 0 4
1939-40 ..	5 18 5	6 6 0	13 8 5	15 16 1	15 1 7	10 3 5	8 14 1
1940-41 ..	3 6 10	3 13 11	13 5 11	10 1 10	7 15 7	7 3 11	5 17 9
1941-42 ..	5 13 11	7 18 9	12 17 9	12 15 11	13 10 5	13 5 1	8 14 1
1942-43 ..	8 8 6	9 13 1	14 15 8	16 16 7	10 6 5	14 12 1	10 14 2
1943-44 ..	8 18 0	8 1 6	15 16 8	17 7 2	10 3 7	19 15 6	10 16 8

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

§ 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 § 19, Bounties, hereafter.

2. **Wheat Industry Stabilization Plan.**—The Wheat Industry Stabilization Plan operated throughout Australia during each of the seasons 1941-42 to 1945-46. The plan provides for the registration of farms and licensing of areas. The area allotted to each grower is fixed in proportion to the average sown during the basic four-year period, details of which are shown for each State in the table below. Although licensing continued during the 1945-46 season, growers were permitted to plant without restriction. A similar freedom is to apply in 1946-47. In Western Australia growers' acreages during 1942-43 were restricted to a maximum of two-thirds of their basic acreage which restriction continued during the 1943-44 and 1944-45 seasons. During 1945-46 no such restriction was imposed but where growers voluntarily restricted the area sown to five-sixths or less of their basic acreage, compensation equal to one-sixth of their basic acreage was payable subject to the qualification that half of the area licensed for wheat was cropped for grain.

In the following table supplied by the Wheat Stabilization Board the basic acreage and the areas licensed to grow wheat for grain are given for each State and the Australian Capital Territory. Details of the area sown as well as the percentage that these areas bear to the area licensed are also given.

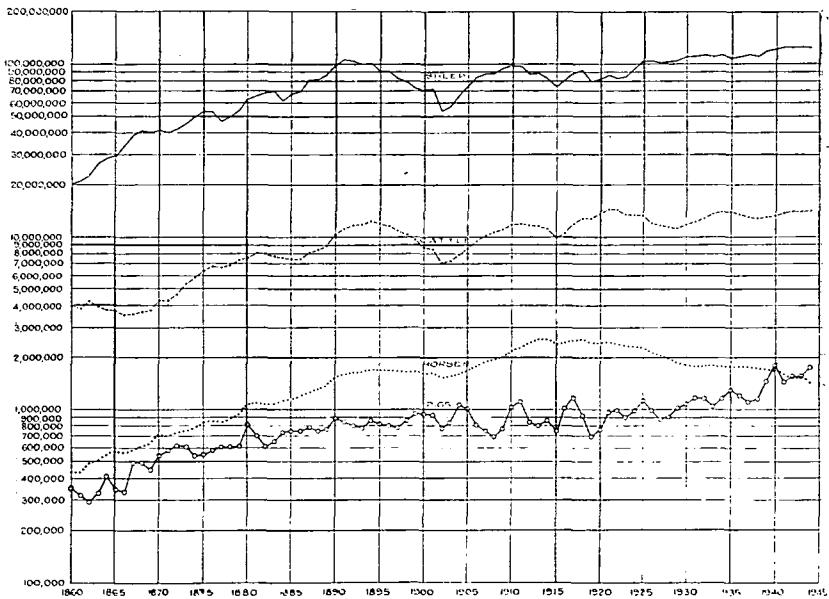
WHEAT FOR GRAIN : LICENSED AND SOWN ACREAGES.

(⁰000 acres.)

Particulars.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	A.C.T.	Aust.
Basic Acreage	5,096	3,195	481	3,058	3,205	12	1	15,048
1941-42—								
Area licensed	4,286	2,877	461	2,497	2,687	8	2	12,818
Area sown	3,969	2,757	290	2,326	2,653	6	1	12,002
Area sown as a percentage of area licensed .. per cent.	95	96*	63.	93	99	75	75	94
Number of licences issued No.	24,022	17,942	3,729	15,989	9,887	(a)	(a)	b 71,569
1942-43—								
Area licensed	3,667	2,614	447	2,415	(c) 1,818	5	2	10,968
Area sown	3,033	2,145	335	2,009	(c) 1,753	4	1	9,280
Area sown as a percentage of area licensed .. per cent.	83	82	75	83	96	80	75	85
Number of licences issued No.	19,833	15,724	3,474	15,727	8,693	(a)	(a)	b 63,451
1943-44—								
Area licensed	3,692	2,395	474	2,132	(c) 1,950	4	2	10,649
Area sown	2,693	1,793	281	1,534	(c) 1,567	5	2	7,875
Area sown as a percentage of area licensed .. per cent.	73	75	59	73	80	..	..	74
Number of licences issued No.	19,884	15,181	3,582	14,727	8,692	(a)	(a)	b 62,066
1944-45—								
Area licensed	3,992	2,562	523	2,215	(c) 1,980	3	2	11,277
Area sown	2,845	2,142	332	1,623	(c) 1,516	4	1	8,463
Area sown as a percentage of area licensed .. per cent.	71	84	63	73	76	..	75	75
Number of licences issued No.	21,566	15,810	3,675	14,743	8,683	(a)	(a)	b 64,477
1945-46 (f)—								
Area licensed	(e) 4,880	(e) 3,570	(e) 524	(e) 2,829	(d) 2,559	3	2	e 14,367
Area sown (g)	4,047	3,227	400	2,040	(d) 1,800	3	1	11,518
Area sown as a percentage of area licensed .. per cent.	83	90	76	72	70	100	75	80
Number of licences issued No.	23,340	18,099	3,436	15,507	8,475	132	30	69,019

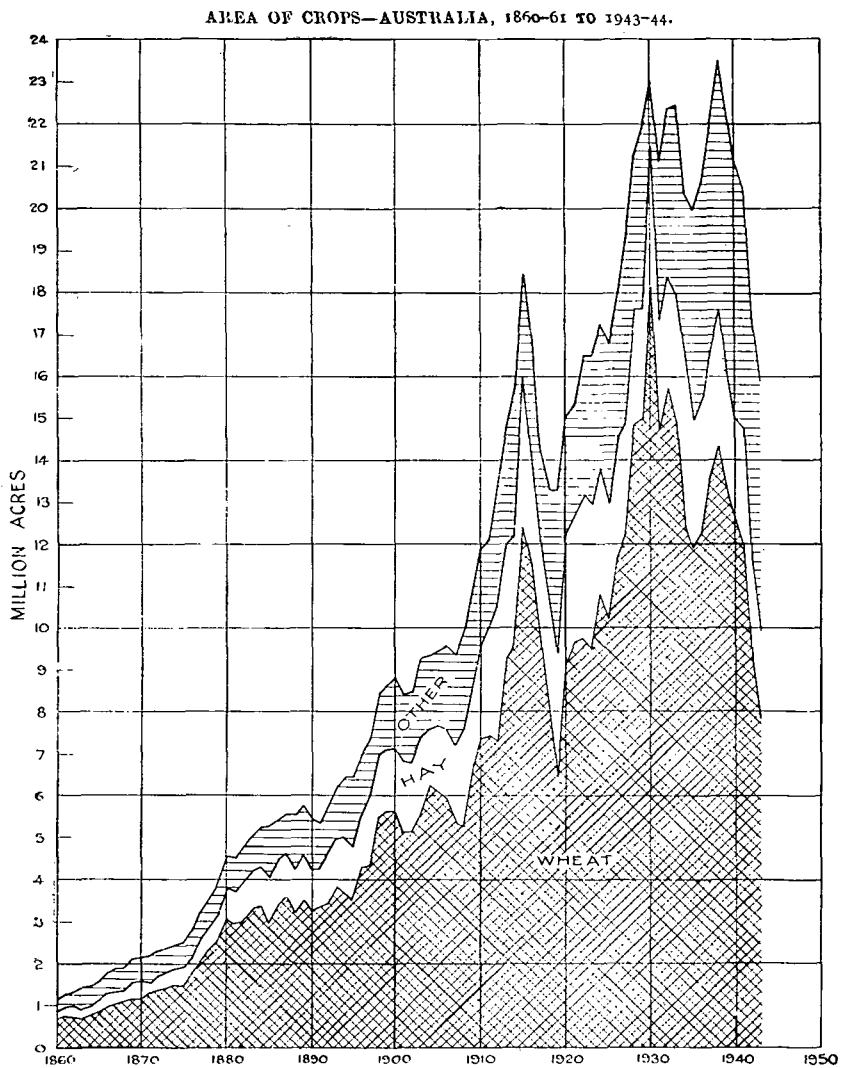
(a) Not available. (b) Excludes Tasmania and Australian Capital Territory. (c) Compulsorily restricted by one-third. (d) Restriction not compulsory but compensation paid where area is voluntarily restricted. (e) Includes areas temporarily licensed on temporary wheat farms, viz., New South Wales, 66,032 acres; Victoria, 18,261 acres; Queensland, 71,404 acres; South Australia, 363,855 acres; Australia, 519,552 acres. (f) Subject to revision. (g) Forecast.

LIVE STOCK—AUSTRALIA, 1860 TO 1944.



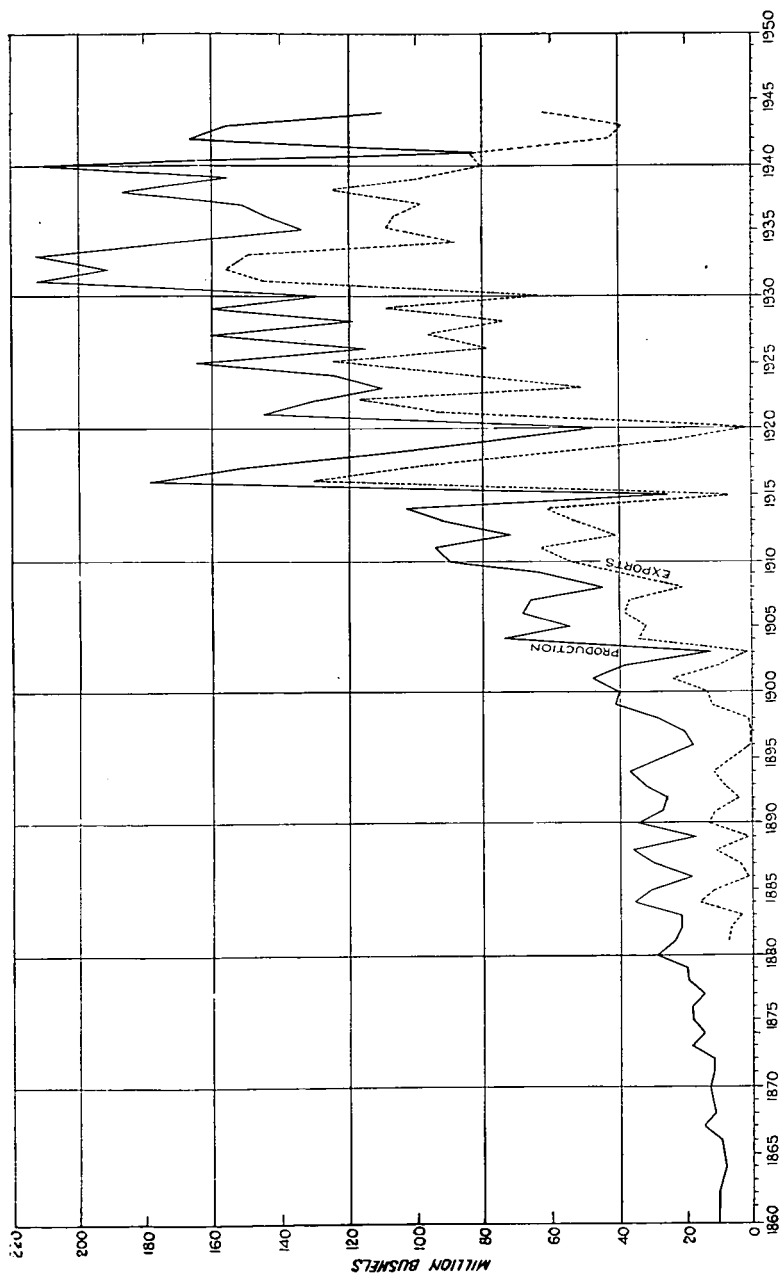
(See page 748.)

EXPLANATION.—This is a ratio graph, the vertical scale being logarithmic and the curves rise and fall according to the rate of increase or decrease. Actual numbers are indicated by the scale at the side of the graph.



EXPLANATION.—The total area of crops is shown by the top curve in this graph, and the area of wheat by the bottom curve. The vertical distances between these curves and that in the centre indicate the areas of hay and other crops.

PRODUCTION AND EXPORTS OF WHEAT--AUSTRALIA, TO 1943-44.



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 War of 1914-1919. For these years the quantity consumed in Australia has been averaged and the balance taken as exports.

3. **Post-war Wheat Stabilization Plan.**—Legislation for the stabilization of the wheat growing industry was introduced by the Commonwealth Government in 1946. Plans for this development arose from the Premiers' Conference held in January, 1946, at which it was agreed that joint action by all Australian Governments should be taken to give effect to proposals agreed upon.

The principal features of the plan, as provided by the two Acts passed by the Commonwealth Government, viz. the Wheat Industry Stabilization Act 1946, and the Wheat Export Charge Act 1946, are as follows :—

- (i) The preservation over five years of a price of 5s. 2d. f.o.r. at ports bagged for all wheat consumed within Australia ;
- (ii) A guarantee by the Government of a minimum price for export of 5s. 2d. per bushel f.o.r. at ports bagged ;
- (iii) When the export price exceeds the guaranteed price, growers to contribute to a fund to an amount not exceeding 50 per cent. of the difference between the export price and the guaranteed price of 5s. 2d. ;
- (iv) When the export price falls below 5s. 2d., the fund will be called upon to provide the amount necessary to bring the export up to 5s. 2d. ;
- (v) If and when the fund is exhausted in any one year, the Government under its guarantee will provide, out of general revenue, the funds necessary to bring export prices up to 5s. 2d. ;
- (vi) For the 1945-46 harvest the Government proposes that the grower will be paid on export wheat 5s. 2d. plus 2s. 2d. plus the excess of export returns over 9s. 6d. Under this arrangement, it is calculated that, for the whole of his sales (export and local), growers will receive 6s. 7d. per bushel f.o.r. at ports bagged.

During 1946 complementary legislation was passed in Queensland and Tasmania. In Victoria the Bill passed the Legislative Assembly only, and was deferred until 1947. In New South Wales legislation had not been introduced. In South Australia and Western Australia the Act was not to operate unless first approved by a poll of wheat-growers. In January, 1947, the South Australian poll rejected the proposals by a narrow majority.

4. **Wheat Farms.**—Particulars of the number of farms growing wheat for grain on 20 acres and upwards during each of the five years ended 1940-41 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. Later details have not been tabulated.

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

State.	1936-37.	1937-38.	1938-39.	1939-40.	1940-41.
	No.	No.	No.	No.	No.
New South Wales	15,425	16,287	16,550	16,175	15,831
Victoria	12,090	12,936	12,305	12,065	11,972
Queensland	2,211	2,809	3,190	2,542	2,169
South Australia	12,155	12,251	11,842	11,468	10,986
Western Australia	8,625	8,841	8,989	8,482	8,074
Tasmania	379	372	146	143	140
Total	50,885	53,496	53,022	50,875	49,172

5. **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 is materially reflected in the total area of crops. The area and yield of wheat for grain in each State are given below for 1938-39 and the five years ended 1944-45; the table also includes the average for the decennium ended 1943-44 :—

WHEAT FOR GRAIN : AREA AND PRODUCTION.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	A.C.T.	Australia.
AREA ('000 OMITTED).								
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1938-39 ..	4,651	2,748	442	3,080	3,413	10	2	14,346
1940-41 ..	4,434	2,673	322	2,560	2,625	8	2	12,644
1941-42 ..	3,969	2,757	290	2,326	2,653	6	1	12,002
1942-43 ..	3,033	2,145	335	2,009	1,753	4	1	9,280
1943-44 ..	2,693	1,794	281	1,534	1,567	5	1	7,875
1944-45 ..	2,845	2,142	332	1,623	1,516	4	1	8,463
Average for ten seasons ended 1943-44 ..	3,937	2,481	315	2,664	2,589	11	2	11,999

PRODUCTION ('000 OMITTED).								
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1938-39 ..	59,898	18,104	8,584	31,675	36,844	205	59	155,309
1940-41 ..	23,933	13,522	5,687	17,856	21,060	140	35	82,233
1941-42 ..	48,500	46,954	3,080	30,511	37,500	145	23	166,713
1942-43 ..	51,693	41,803	5,005	36,526	20,600	73	28	155,728
1943-44 ..	47,500	19,733	5,084	20,691	16,550	122	39	109,719
1944-45 ..	17,134	3,497	6,981	9,244	15,929	93	2	52,880
Average for ten seasons ended 1943-44 ..	51,635	33,959	4,677	30,954	28,149	238	38	149,650

A graph showing the expansion of the area sown to wheat for grain in Australia since 1860 appears on page 786. A graph showing the distribution in 1924-25 is shown in Official Year Book, No. 22, p. 695 and the distribution of area for 1938-39 is shown in Official Year Book No. 34, p. 451.

(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, which include the proper tillage of the soil, rotation of crops, the growing of suitable varieties and the application of fertilizers, average yields per acre during four decades to 1940 have shown a continued improvement, and fluctuations in production have become less pronounced.

Australia's wheat production in 1943-44 amounted to 109.7 million bushels representing an average yield of 13.93 bushels per acre. Production for that year represents a decline of about 45 million bushels on that of the previous year and on the average for the five years ended 1938-39. The 1944-45 harvest of only 53 million bushels represented a return of only 6.25 bushels per acre and was less than half that for the previous season.

(iii) *Decennial Averages, 1861-70 to 1935-44.* The following table gives the average area, production and yield per acre for decennial periods since 1861, together with the average wholesale price since 1871. 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.

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 4½
1935-44	11,999	149,650	12.47	4 1

(a) Not available.

(iv) *Average Yield.* In the next table will be found the average yield of wheat per acre for specified periods:—

WHEAT FOR GRAIN : YIELD PER ACRE.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	A.C.T.	Australia.
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1937-38 ..	12.34	17.93	10.05	13.74	11.97	24.95	24.24	13.63
1938-39 ..	12.88	6.59	19.42	10.28	10.79	20.84	28.74	10.83
1939-40 ..	17.48	15.93	18.77	15.02	13.76	14.37	18.54	15.84
1940-41 ..	5.37	5.06	17.66	6.97	8.02	17.46	17.09	6.50
1941-42 ..	12.22	17.03	10.59	13.12	14.13	22.64	17.64	13.89
1942-43 ..	17.04	19.49	14.95	18.18	11.75	17.76	24.88	16.78
1943-44 ..	17.64	11.00	18.07	13.49	10.56	25.24	27.75	13.93
1944-45 ..	6.02	1.63	21.00	5.70	10.51	24.18	1.22	6.25
Average 10 seasons ended 1943-44	13.11	13.69	14.84	11.62	10.87	21.63	22.01	12.47

Variation in the average yield is chiefly due to the vagaries of the seasons. The best average yields for single seasons since 1901 were obtained in 1920-21, 16.08 bushels; in 1924-25, 15.20 bushels; in 1939-40, 15.84 bushels; and in 1942-43, 16.78 bushels.

(v) *Relation to Population.* The main wheat-producing States of Australia are New South Wales, Victoria, South Australia and Western Australia. Queensland production closely 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.

6. *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 Council for Scientific and Industrial Research but the number of the principal varieties grown during each season is restricted to about 40,

(ii) *States, 1940.* Particulars of the varieties of wheat sown and the areas thereunder were collected annually up to 1940. Since then the collection has been suspended, but, commencing with 1946-47, the tabulation is to be resumed on a triennial basis. The following table shows for the year 1940 details of the nine principal varieties sown in the four main producing States and the percentage each bears to the total area sown.

WHEAT : PRINCIPAL VARIETIES SOWN, 1940.

New South Wales.		Victoria.		South Australia.		Western Australia.	
Variety.	Per-centage.	Variety.	Per-centage.	Variety.	Per-centage.	Variety.	Per-centage.
	%		%		%		%
Bencubbin ..	28.8	Ghurka ..	47.6	Ranee ..	16.7	Bencubbin ..	35.7
Ford ..	18.4	Ranee ..	20.2	Bencubbin ..	16.1	Gluehub ..	19.0
Dundee ..	9.1	Dundee ..	8.5	Dundee ..	11.3	Merredin ..	6.8
Nabawa ..	7.4	Free Gallipoli ..	5.8	Sword ..	6.6	Noongaar ..	5.4
Waratah ..	4.6	Bencubbin ..	5.3	Nabawa ..	6.5	Nabawa ..	4.0
Gular ..	4.2	Bobin ..	2.1	Waratah ..	5.8	Gluyas Early ..	3.7
Ranee ..	3.8	Regalia ..	1.9	Gluyas ..	5.1	Dundee ..	3.6
Bobin ..	2.5	Bobin ..	1.4	Ghurka ..	3.6	Ranee ..	3.3
Pusa No. 4 ..	1.9	Sepoy ..	1.4	Bobin ..	3.2	Totadgin ..	2.9
All Others ..	19.3	Rajah ..	1.4	All Others ..	25.1	All Others ..	15.6
		All Others ..	5.8				
Total ..	100.0	Total ..	100.0	Total ..	100.0	Total ..	100.0

Continued progress in the breeding of new and better wheats has resulted in many changes in the varieties sown. In New South Wales, Bencubbin, previously a variety relatively unimportant outside Western Australia, was the leading wheat sown in 1940. It was also the second variety sown in South Australia, while in Victoria it held only a minor place although the area sown to this wheat was increasing. The leading variety sown in Victoria between 1929 and 1934 was Free Gallipoli, but since 1935 it has been supplanted by Ghurka, Ranee and Dundee. In South Australia, Nabawa came into prominence in 1933, but in 1939, though still relatively important, it ceded the leading position to Ranee and in 1940 occupied fifth place after Bencubbin, Dundee and Sword. Nabawa was the principal variety in Western Australia until it was displaced by Bencubbin in 1934. While this latter variety had occupied only 7 per cent. of the total area sown in Western Australia in 1933, in the year following it occupied no less than 22.5 per cent. and in 1940 it retained its leading position with 35.7 per cent.

7. *Price of Wheat.*—The collapse in the price of wheat which occurred between 1928 and 1931 was chiefly due to the accumulation of stocks in exporting countries. The weighted average price of wheat (shippers' limits f.o.r. ports Sydney, Melbourne and Adelaide) fell from 5s. 1½d. in 1928 to 2s. 4¾d. in 1931, a decline of 53 per cent. Subsequent to 1931, prices fluctuated between 2s. 6d. and 3s. per bushel until 1936, when an upward movement coincided with the depletion of excess stocks following crop failures in North America. By December, 1936 prices exceeded 5s. per bushel and remained at that level during 1937. By the end of 1938 world exportable surpluses had again accumulated and prices receded to 2s. 1d. per bushel by August, 1939, the lowest level recorded in Australia.

On 21st September, 1939 the Australian Wheat Board was appointed under war-time legislation and the price of wheat for export or local consumption is determined by that authority. In consequence, the open market for wheat ceased and therefore a price comparison on a pre-war basis is no longer possible. The following table shows the price of wheat in Australia for the periods indicated. The price stated for 1940 and subsequent years represents the approximate average price of wheat exported during those years.

PRICE OF WHEAT : AUSTRALIA.

(WEIGHTED AVERAGE OF SHIPPERS' LIMITS FOR GROWERS' BAGGED AND BULK LOTS, SYDNEY, MELBOURNE AND ADELAIDE.)

Item.	1939. (a)	1940. (b)	1941. (b)	1942. (b)	1943. (b)	1944. (b)
Price per bushel	s. d. 2 4	s. d. 3 11½	s. d. 4 2	s. d. 4 2	s. d. 4 3½	s. d. 5 4

(a) Average for eight months ended August.

(b) Approximate export price.

8. Value of the Wheat Crop.—The estimated value of the wheat crop in each State and in Australia during the seasons 1942-43 and 1943-44 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 these values are subject to revision.

WHEAT FOR GRAIN : VALUE OF CROP, (a) 1942-43 and 1943-44.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Australia.
1942-43.	£	£	£	£	£	£	£	£
Aggregate value ..	11,537,630	9,057,340	1,014,541	7,496,642	4,219,460	14,660	5,481	33,345,754
Value per acre ..	£3/16/1	£4/4/5	£3/0/7	£3/14/8	£2/8/2	£3/11/0	£4/17/5	£3/11/10
1943-44.								
Aggregate value ..	10,735,850	4,434,749	1,038,317	5,185,679	3,592,852	25,100	8,631	25,021,178
Value per acre ..	£3/19/9	£2/9/5	£3/13/10	£3/7/7	£2/5/10	£5/3/9	£6/1/9	£3/3/7

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

9. Consumption of Wheat in Australia.—The estimated annual consumption of wheat for food and the quantity used for seed in Australia during the five years 1939-40 to 1943-44 were as follows:—

AVERAGE ANNUAL HUMAN CONSUMPTION, 1939-40 TO 1943-44.

Flour milled .. .. .	..	..	..	..	..	1,256,526 tons
Less net exports of flour .. .. .	..	..	..	564,544 tons	..	
Less net exports of flour in biscuits .. .. .	..	..	..	8,124 "	..	
						572,668 "
						683,858
Change in flour stocks .. .. .	..	..	..	..	..	2,648 "
						686,506 "
Equivalent in terms of wheat .. .. .	..	..	..	..	..	32,952,000 bushels
Net quantity consumed per head of population—						
As flour .. .. .	..	..	..	..	..	(a) 192.5 lb.
Equivalent in terms of wheat .. .. .	..	..	..	..	..	(a) 4.6 bushels

AVERAGE ANNUAL QUANTITY USED FOR SEED, 1939-40 TO 1943-44.

Average area sown for grain, hay and green forage .. .. .	..	10,978,204 acres
Average quantity of seed used .. .. .	..	10,732,646 bushels
Average quantity of seed used per acre .. .. .	..	59 lb.
Average quantity of seed used per head of population	(a)	1.50 bushels

(a) Subject to revision.

In addition to the above, allowance must be made for wheat fed to poultry and other live stock. The average quantity so used for the five years ended 1943-44 is estimated at 27,798,869 bushels or 3.90 bushels per head of population. Because of the accumulation of wheat due to shipping difficulties arising from the war, the use of wheat

as a stock fodder was encouraged. The objective was to obtain a greater output of eggs and pig meat to meet the increasing demands by the armed services and civilians for which purpose the Commonwealth Government provided a subsidy of 8d. per bushel for wheat sold for fodder purposes.

Following the disastrous drought of 1944-45, however, the surpluses accumulated in earlier years had disappeared by the end of November, 1945. As a result the quantities available as stock feed have been restricted in order to make greater quantities available for exports to meet urgent needs of the war-stricken areas of Europe and Asia.

Grain used for seed has been estimated on the basis of data collected from growers or from estimates supplied by the Departments of Agriculture. The average annual quantity used for seed during the five years ended 1943-44 was 1.50 bushels per head of population, or 59 lb. per acre sown.

The consumption of wheat in Australia for all purposes (human consumption, live-stock and seed) during the five years ended 1943-44 averaged 71,483,803 bushels, or 10.0 bushels per head of population.

10. **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, 1940 to 1945. 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. 787.)

WHEAT: PRODUCTION AND DISPOSAL, AUSTRALIA.

(million bushels).

Particulars.	Year ended 30th November—					
	1940.	1941.	1942.	1943.	1944.	1945.(a)
Opening stocks (including flour as wheat)	21.0	77.5	42.0	104.5	154.0	77.9
Production	210.5	82.2	166.7	155.7	109.7	52.9
Total available supplies ..	231.5	159.7	208.7	260.2	263.7	130.8
Exports—						
Wheat	58.8	26.8	28.7	18.6	54.3	6.1
Flour as wheat	35.5	31.3	15.9	18.6	36.9	12.9
Local Consumption—						
Flour as wheat	34.1	32.2	32.9	34.3	34.5	33.1
Stock feed	10.0	11.2	14.7	20.3	40.7	44.9
Breakfast foods and other uses ..	(b)	1.0	1.0	1.0	3.2	3.1
Seed	13.5	12.8	10.0	8.3	9.0	12.0
Balance retained on farm (excluding seed)	2.1	2.4	1.0	5.1	7.2	7.2
Closing stocks (including flour as wheat)	77.5	42.0	104.5	154.0	77.9	11.5
Total Disposals	231.5	159.7	208.7	260.2	263.7	130.8

(a) Subject to revision.

(b) Included with flour for local consumption.

11. **Exports of Wheat and Flour.**—(i) *Quantities.* The following table shows the exports and net exports of wheat and flour from 1938-39 to 1943-44. For the sake of convenience, flour has been expressed at its equivalent in wheat, 1 ton of flour being taken as equal to 48 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 six years ended

1943-44 exports in terms of wheat ranged between 38,946,000 bushels in 1942-43 and 97,932,000 bushels in 1938-39, the net exports for the period averaging 67,551,000 bushels :—

WHEAT AND FLOUR : EXPORTS FROM AUSTRALIA.

Year.	Exports.			Net Exports.
	Wheat.	Flour.	Total.	
	'000 Bushels.	'000 Eq. Bushels.(a)	'000 Bushels.	
1938-39 ..	63,129	34,803	97,932	97,931
1939-40 ..	47,593	32,846	80,439	80,438
1940-41 ..	46,957	37,051	84,008	83,996
1941-42 ..	22,312	19,856	42,168	42,008
1942-43 ..	22,544	16,402	38,946	38,608
1943-44 ..	33,658	28,346	62,004	62,004

(a) Wheat equivalent in bushels of wheat.

(ii) *Destination.* (a) *Wheat.* The following table gives the exports of wheat to various countries for 1938-39 and each of the four years ended 1943-44, and the average for the five years ended 1938-39.

WHEAT : EXPORTS FROM AUSTRALIA.

('000 omitted.)

Country to which Exported.	Average, Five years ended 1938-39.	1938-39.	1940-41.	1941-42.	1942-43.	1943-44.
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
United Kingdom ..	45,195	32,235	24,104	6,900	8,987	321
Eire ..	3,276	2,303	790	..	..	..
India ..	1,662	6,922	699	753	6,360	8,404
Union of South Africa ..	602	1,706	2,046	4,710	1,354	813
Other British Countries ..	2,246	3,880	4,014	5,072	3,882	9,495
Belgium ..	756	324	..	..	..	..
China ..	6,151	10,621	3,519	..	..	..
Egypt ..	503	389	1,105	3,496	..	3,705
France ..	939	..	..	..	..	..
Germany ..	235	376	..	..	..	..
Italy ..	3,152	..	..	..	..	5,636
Japan ..	6,471	431	3,751	268	..	..
Other Foreign Countries ..	5,285	3,942	(a) 6,929	1,108	1,961	5,284
Total ..	76,473	63,129	46,957	22,312	22,544	33,658

(a) Includes 253,000 bushels lost at sea.

(b) *Flour.* The following table gives the exports of flour to various countries for 1938-39 and each of the four years ended 1943-44, and the average for the five years ended 1938-39 :—

FLOUR : EXPORTS FROM AUSTRALIA.

Country to which Exported.	Average, Five years ended 1938-39.	1938-39.	1940-41.	1941-42.	1942-43.	1943-44.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
United Kingdom ..	142,912	118,957	80,418	10,480	23,291	..
Ceylon ..	16,915	18,147	19,312	27,301	188,409	315,505
Hong Kong ..	44,966	23,040	36,446	19,386	..	..
Malaya (British) ..	63,309	66,965	90,107	67,153	..	..
Union of South Africa ..	306	132	2,422	7,566	9,712	258
Other British Countries ..	67,669	86,404	66,523	122,754	86,960	186,906
China ..	56,460	216,878	201,670	5,442	..	..
Egypt ..	24,284	17,153	43,909	50,765	13,949	56,880
Manchuria (a) ..	74,867	..	35,877	..	..	..
Netherlands East Indies ..	83,751	96,524	114,144	70,547	..	..
Philippine Islands ..	32,690	32,722	18,838	7,472	..	..
Other Foreign Countries ..	45,544	48,053	62,239	24,816	19,397	30,995
Total ..	647,073	725,065	771,905	413,682	341,718	590,544

(a) Includes Kwantung Peninsula.

12. **Stocks of Wheat and Flour.**—Stocks of wheat and flour held by each State at 30th November in each year 1939 to 1945, 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
1940	18,676,776	15,769,306	840,694	19,876,130	16,190,656	273,148	71,626,710
1941	4,298,718	2,567,321	532,273	11,400,000	16,693,904	284,788	35,777,004
1942	14,173,791	26,819,500	33,456	25,000,000	32,879,349	871,000	99,777,096
1943	24,862,000	37,943,000	307,000	47,200,000	38,942,000	505,000	149,759,000
1944	17,662,000	18,274,000	278,000	19,858,000	17,297,000	378,000	73,747,000
1945	695,000	1,848,000	175,000	900,000	2,191,000	238,000	6,047,000
Flour (tons of 2,000 lb.).							
1939	34,875	27,350	5,292	21,479	8,592	1,695	99,283
1940	44,302	27,457	7,397	17,330	23,007	2,393	121,886
1941	40,277	55,098	5,931	16,250	9,657	1,760	128,973
1942	39,187	29,000	6,476	5,750	14,779	3,813	99,005
1943	20,764	39,007	5,948	15,600	5,972	1,492	88,783
1944	29,747	22,614	3,578	11,300	18,418	385	86,642
1945	28,895	25,664	3,674	42,000	12,419	987	113,639
Total in terms of wheat (bushels.)							
1939	6,733,320	4,748,584	558,215	6,170,500	2,527,182	243,611	20,981,412
1940	20,803,272	17,087,266	1,195,750	20,707,970	17,294,992	388,012	77,477,262
1941	6,232,014	5,212,001	816,961	12,180,000	17,157,440	369,268	41,967,684
1942	16,054,791	28,211,500	344,304	25,276,000	33,588,741	1,054,024	104,529,360
1943	25,858,672	39,815,344	592,504	47,948,800	39,228,656	576,616	154,020,592
1944	19,089,856	19,359,472	449,744	20,400,400	18,181,064	396,480	77,877,016
1945	2,081,960	3,079,872	351,352	2,916,000	2,787,112	285,376	11,501,672

(a) One ton of flour treated is equivalent to 48 bushels of wheat.

13. **Flour Milling.**—Particulars of the grain-milling industry are given in some detail in Chapter XXV. "Manufacturing Industry". The following table summarizes the operation of flour mills in Australia for the years stated.

OPERATIONS OF FLOUR MILLS : AUSTRALIA.

Particulars.	Unit.	1938-39.	1940-41.	1941-42.	1942-43	1943-44.
Number of mills	No.	172	171	163	159	167
Number of persons employed	"	3,783	3,995	3,513	3,343	3,993
Wheat milled	'000 bushels	66,999	69,242	56,514	51,169	69,559
Output of Flour	" tons	1,373	1,418	1,127	995	1,358
" " Bran	" "	289	292	226	199	278
" " Pollard	" "	284	314	244	210	280
" " Wheatmeal	" "	29	41	57	83	83

14. **Voluntary Wheat Pools.**—Details of voluntary wheat pools operating in Australia are given in previous issues of the Official Year Book. These pools ceased to function when the Australian Wheat Board was created in September, 1939.

15. **War-time Marketing of Wheat.**—(i) *General.* At the outbreak of war in September, 1939, the wheat industry of Australia was experiencing a period of low prices. The price of wheat had fallen to 2s. 1d. per bushel in August, 1939, compared with 3s. 1d. in August, 1938, 5s. 1d. in August, 1937, and 2s. 2d. per bushel in the same month of 1931, which was the lowest monthly quotation during the economic depression of that period.

Apart from low prices, other difficulties created by war conditions were those of marketing and transport. There was also a large accumulation of surplus stocks in the chief exporting countries of the world and this, combined with the natural disability of Australia's remoteness from the main centres of consumption, was another factor adding to a most difficult position.

In view of these circumstances, the Commonwealth Government, under the Wheat Acquisition Regulations, constituted the Australian Wheat Board on the 21st September, 1939 to acquire, with certain exceptions, all wheat held in Australia. The harvest of 1939-40 was also acquired by notification published on 16th November, 1939.

(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.

(iii) *Wheat Acquired and Disposed of.*—(a) *Wheat Acquired.* Particulars of wheat acquired by the Australian Wheat Board up to 31st December, 1945 are shown in the following table :—

AUSTRALIAN WHEAT BOARD : WHEAT ACQUIRED TO 31st DECEMBER, 1945.
'000 Bushels.

Pool.	Harvest.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Australia.
1	1938-39 ^a	6,226	2,805	..	5,884	2,925	..	17,840
2 and 3	1939-40	66,689	46,960	6,255	38,130	37,370	41	195,445
4	1940-41	16,919	9,985	5,287	13,818	17,575	75	63,059
5	1941-42	41,242	48,157	2,680	27,740	34,077	78	153,974
6	1942-43	44,797	40,925	4,403	34,708	17,982	22	142,837
7	1943-44	40,981	17,297	4,599	18,153	13,854	56	94,940
8	1944-45	12,166	940	5,997	6,760	13,080	40	38,983
Total to 31st December, 1945		229,020	167,069	29,221	145,193	136,863	312	707,678

(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 31st DECEMBER, 1945.**

'000 Bushels.

Particulars.	To 31st December, 1940.	1941.	1942.	1943.	1944.	1945.	Total to 31st December, 1945
Sold for export as wheat ..	91,610	6,862	21,169	20,053	54,619	2,742	197,055
Sold for export as flour ..	46,917	20,198	9,738	20,159	37,648	14,897	149,557
Sold for local consumption as flour	36,301	31,933	32,639	34,872	33,886	33,373	203,004
Sold for all other purposes ..	12,002	12,011	14,718	20,919	46,969	45,104	151,723

Owing to war-time conditions a great proportion of sales of wheat and flour for export was made in large quantities to the British Government. The Board has shipped a total of 197,055,000 bushels of wheat, and, in addition, has shipped on its own account (i.e., not including millers' shipments), 1,886,000 long tons of flour.

(iv) *Finance.* Under the terms of the Wheat Acquisition Regulations the Minister is empowered to arrange with the Commonwealth Bank for advances to the Board. These advances are guaranteed by the Commonwealth Government.

**AUSTRALIAN WHEAT BOARD : FINANCIAL OPERATIONS
TO 31st DECEMBER, 1945.**

Particulars.	2 Pool.	4 Pool.	5 Pool.	6 Pool.	7 Pool.	8 Pool.
	£	£	£	£	£	£
Paid to growers	31,352,526	11,240,078	27,120,503	27,644,008	18,725,776	7,703,524
Rail freight	3,814,079	1,205,102	3,008,277	2,781,300	1,855,866	760,252
Expenses	3,478,227	1,399,423	3,596,285	3,936,030	3,048,510	1,245,969
Total Payments	38,644,832	13,844,603	33,725,165	34,361,338	23,630,152	9,709,745
Value of sales delivered	37,744,752	12,851,989	32,676,048	35,348,036	21,317,991	6,825,984
Value of flour tax	900,080	992,614	1,093,343	1,127,283	1,840,000	940,000

(v) *Advances to Growers.*—(a) *Pools Nos. 1 to 5.* The advances made to growers to 31st December, 1945 in each of the first five pools are shown in the following table :—

**WHEAT POOLS Nos. 1 TO 5 : ADVANCES MADE TO GROWERS TO
31st DECEMBER, 1945.**

Particulars.	Amount Paid (f.o.b. Basis).				Amount Paid. (Trucks Terminal Port Basis).			
	No. 1 Pool.		No. 2 Pool.		No. 4 Pool.		No. 5 Pool.	
	Per Bushel.	Total.	Per Bushel.	Total.	Per Bushel.	Total.	Per Bushel.	Total.
	s. d.	£'000.	s. d.	£'000.	s. d.	£'000.	s. d.	£'000.
Advances made to Growers—								
1st Payment(a)—								
Bulk	2 0	1,784	2 8.5	27,350	2 10.5	9,331	2 10	22,429
Bagged	2 0		2 10.5		3 0		3 0	
2nd Payment—								
Bulk	0 6	501	0 4	3,257	0 4	1,062	0 3	1,924
Bagged	0 8		0 4		0 4		0 3	
3rd Payment—								
Bulk	0 1.75	130	0 3	2,442	0 3	795	0 4	2,566
Bagged	0 1.75		0 3		0 3		0 4	
4th Payment—								
Bulk	0 0.158	12	0 1.125	916	0 3	795	0 3	1,924
Bagged	0 0.158		0 1.125		0 3		0 3	
5th Payment—								
Bulk .. .. .	.. .. .	.. .. .	0 1.333	1,086	0 0.75	250	0 1.125	1,185
Bagged .. .. .	.. .. .		0 1.333		0 1.25		0 2.625	
6th Payment—								
Bulk .. .. .	.. .. .	.. .. .	.. .. .	.. .. .	0 0.25	171	.. .. .	.. .. .
Bagged .. .. .	.. .. .		0 1.125		.. .. .		
Total—								
Bulk	2 7.908	2,427	03 5.958	35,051	3 9.5	12,413	3 9.125	30,028
Bagged	2 9.908		03 7.958		4 0.375		4 0.625	

(a) From which rail freight was deducted.

(b) No. 3 Pool in New South Wales equals 3d. per bushel less.

(b) *Pools Nos. 6 to 8.* The Wheat Acquisition Regulations, 1939 provide that the Minister for Commerce and Agriculture shall determine the compensation to be paid for wheat acquired by the Commonwealth. During the seasons 1939-40 to 1941-42 an initial payment of compensation was made as wheat was acquired and further payments were made as the realization of the various pools progressed. In August, 1942 the Government gave approval to the proposal to guarantee to wheat-growers compensation at a fixed rate on the first 3,000 bushels delivered by each grower (known as quota wheat), while on the remainder of deliveries (non-quota) compensation at a lower rate would be paid as the wheat was acquired and further payments made as warranted by realizations.

A quota was allotted to each wheat-grower by the Wheat Industry Stabilization Board and, on the wheat delivered by him to the extent of his quota, the grower received the guaranteed payment.

The quota allotted to the majority of wheat-growers was for 3,000 bushels but, in certain instances, growers who operated under a share farming agreement, either as owners or share farmers, or who farmed under family arrangements, received a quota of less than 3,000 bushels.

For the 1942-43 season (No. 6 Pool) the guarantee at country stations was 4s. per bushel for bagged wheat and 3s. 10d. for bulk wheat, while deliveries in excess of quota received an initial payment of 2s. per bushel for bagged wheat and 1s. 10d. per bushel for bulk wheat. Since then, additional payments of compensation on non-quota wheat have been made.

Payment of initial compensation on wheat acquired for the 1943-44 season (No. 7 Pool) was on the same basis, although the payment on both quota and non-quota wheat was increased by 1½d. per bushel, this amount being the estimated increased cost for harvesting the 1943-44 crop due to the introduction of an industrial award for labour employed for this purpose.

For the 1944-45 season (No. 8 Pool) the initial compensation for quota wheat was the same as for the previous season while for non-quota wheat it was 10½d. per bushel more than that for the previous year.

The advances made to growers to 31st December, 1945, and proportions of quota and non-quota wheat received in the 1942-43, 1943-44 and 1944-45 seasons were as follows:—

**WHEAT POOLS Nos. 6 TO 8 : ADVANCES MADE TO GROWERS TO
31st DECEMBER, 1945.**

Particulars.	Amount Paid (Trucks Terminal Port Basis.)		Amount Paid Net at Sidings.									
	No. 6 Pool.		No. 7 Pool.		No. 8 Pool.		Percentage of Total Wheat Received.					
	Per Bushel.	Total.	Per Bushel.	Total.	Per Bushel.	Total.	No. 6 Pool.	No. 7 Pool.	No. 8 Pool.			
	s. d.	£'000.	s. d.	£'000.	s. d.	£'000.	%	%	%			
Advance made to Growers—												
Quota Wheat—												
Bulk ..	3 10	19,482	3 11.333	15,668	3 11.333	6,589	70	82	85			
Bagged ..	1 0		4 1.333		4 1.333					4 1.333		
2nd Payment(a)												
Bulk ..	0 6.5	(b) 1,070						
Bagged ..	0 7.5											
Total Quota Wheat—												
Bulk ..	4 4.5	20,552	3 11.333	15,668	3 11.333	6,589	70	82	85			
Bagged ..	4 7.5		4 1.333		4 1.333					4 1.333		
Non-quota Wheat—												
1st Payment—												
Bulk ..	1 10	4,088	1 11.333	1,718	2 10	890	30	18	15			
Bagged ..	2 0		2 1.333		2 1.333					3 0		
2nd Payment—												
Bulk ..	1 0	2,128	1 0	847	0 9	224						
Bagged ..	1 0		1 0		0 9					0 9		
3rd Payment—												
Bulk ..	0 6	1,063	0 7	492						
Bagged ..	0 6		0 7			
4th Payment—												
Bulk ..	0 5	883						
Bagged ..	0 5			
5th Payment(a)												
Bulk ..	0 8.5	(b) 813	..	..	..	..		
Bagged ..	0 9.5		..		..		..
Total Non- quota Wheat												
Bulk ..	4 5.5	8,975	3 6.333	3,057	3 7	1,114	30	18	15			
Bagged ..	4 8.5		3 8.333		3 9					..		
Total Wheat..	..	29,527	..	18,725	..	7,703	100	100	100			

(a) From which rail freight was deducted.

(b) Estimated.

16. **Special Tabulation of Wheat Holdings.**—With the co-operation of the State Statisticians an extensive analysis was made of the returns collected at the annual agricultural census of 1935-36 in respect of all holdings growing wheat for grain in the principal producing States. The results are published in the Official Year Book No. 33, pp. 374 to 377.

17. **World Area and Production of Wheat.**—The details of the world area and production of wheat given in the following table by countries and continents for the periods shown have been compiled from official sources so far as they are available, but more particularly from the records published by the International Institute of Agriculture and the United States Office of Foreign Agricultural Relations. The harvests shown for countries in the Northern Hemisphere refer to those garnered during the period March to October whilst those for the Southern Hemisphere cover the period November to February following. Figures in parentheses are Office of Foreign Agricultural Relations estimates based on foreign service reports and other information.

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

Continent and Country.	Area.(a)			Production.			Yield per acre.		
	Average—		1944.	Average—		1944.	Average—		1944.
	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	23,284	348,560	312,399	417,000	13.6	12.2	17.9
Mexico ..	1,237	1,244	1,362	14,364	14,282	14,568	11.6	11.5	10.7
United States	54,193	57,293	59,309	732,527	758,623	1,078,600	13.5	13.2	18.2
Total (c) ..	81,150	84,150	84,000	1,096,000	1,086,000	1,530,000	..	..	..
Europe—									
Austria ..	535	(d) 616	(b)	12,626	d 15,117	(b)	23.6	d24.5	(b)
Belgium ..	384	402	489	14,726	16,150	19,900	38.3	40.2	40.7
Bulgaria ..	3,078	3,080	(b)	52,864	64,228	(b)	17.2	20.9	(b)
Czechoslovakia	2,129	(d) 2,220	(b)	53,097	d 59,090	(b)	25.2	d26.6	(b)
Denmark ..	259	316	210	11,131	14,358	10,141	43.0	45.4	48.3
Eire ..	43	225	642	1,698	7,689	20,388	39.5	34.2	31.8
France ..	13,280	(d) 12,724	(e) 10,378	305,318	d 292,568	e 256,285	23.0	d23.0	d24.7
Germany ..	5,310	(d) 5,074	(b)	170,212	d 176,654	(b)	32.1	d34.8	(b)
Greece ..	1,612	2,150	(b)	18,414	30,205	(b)	11.4	14.0	(b)
Hungary ..	3,943	4,091	(b)	76,506	d 91,210	(b)	19.4	d22.3	(b)
Italy ..	12,089	12,635	11,853	252,604	279,519	236,485	20.9	22.1	20.0
Netherlands ..	267	338	(375)	11,802	15,209	(13,044)	44.2	45.0	34.8
Poland ..	4,280	4,303	(b)	74,267	77,245	(b)	17.4	18.0	(b)
Portugal ..	1,321	1,227	(b)	18,359	16,066	(12,309)	14.0	13.1	(b)
Rumania ..	7,703	9,053	(b)	103,447	140,816	(b)	13.4	15.6	(b)
Spain ..	11,236	10,220	(8,896)	158,081	d 113,905	(102,239)	14.1	d11.1	11.5
Sweden ..	697	740	682	23,214	26,351	19,941	33.3	35.6	29.2
United Kingdom ..	1,522	1,843	3,220	51,176	62,361	117,200	33.6	33.8	36.4
Yugoslavia ..	5,098	5,349	(b)	79,494	96,750	(b)	15.6	18.1	(b)
Total (c)	76,033	78,313	70,000	1,516,000	1,632,000	1,465,000	..	..	..
Soviet Union(c)	85,798	98,764	(b)	f 860,448	1,050,000	(b)	10.0	10.6	(b)
Africa—									
Algeria ..	3,893	4,184	3,496	32,571	35,201	26,455	8.4	8.4	7.6
Egypt ..	1,560	1,464	1,714	43,128	45,848	34,761	27.6	31.3	20.3
French Morocco	2,887	3,254	2,891	29,509	23,198	17,821	10.2	7.1	6.2
Tunisia ..	1,995	1,901	1,606	12,956	14,965	6,908	6.5	7.9	4.3
Union of South Africa(g) ..	1,516	1,926	2,345	12,301	16,259	14,000	8.1	8.4	6.0
Total(c)	12,630	13,720	13,300	135,000	142,000	108,000	..	..	..

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

Continent and Country.	Area.(a)			Production.			Yield per acre.		
	Average—		1944.	Average—		1944.	Average—		1944.
	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 ..	(d)49,106	(d)48,120	(b)	d 820,624	d 715,536	(b)	d16.7	d14.9	(b)
Korea ..	809	832	(b)	9,048	10,240	(b)	11.2	12.3	(b)
India ..	33,340	34,492	33,740	355,593	370,660	361,760	10.7	10.7	10.8
Japan ..	1,356	1,738	(b)	36,806	50,133	(b)	27.1	28.8	(b)
Manchuria ..	3,301	2,903	(b)	40,770	35,200	(b)	12.4	12.1	(b)
Syria and Lebanon ..	1,245	1,363	(2,090)	14,638	19,485	20,824	11.8	14.3	10.0
Turkey ..	7,023	8,952	9,243	94,790	135,690	115,683	13.5	15.2	12.5
Total(c) ..	102,300	105,900	107,000	1,456,000	1,442,000	1,530,000	..	..	..
South America—									
Argentina ..	17,709	15,834	11,064	243,932	221,769	150,000	13.8	14.0	13.6
Chile ..	1,763	1,963	1,989	27,355	35,562	33,684	15.5	16.1	16.9
Uruguay ..	1,055	1,210	856	9,876	13,256	6,494	9.4	11.0	7.6
Total(c)	21,500	20,500	15,300	295,000	280,000	205,000	..	..	..
Oceania—									
Australia ..	15,223	12,980	8,428	185,773	154,325	52,068	12.2	11.9	6.2
New Zealand ..	266	221	187	8,037	7,129	6,500	30.2	32.3	34.8
Total ..	15,489	13,201	8,615	193,810	161,454	58,568	..	..	..
World Total(c)	395,213	414,703	373,000	5,553,000	5,810,000	5,650,000	..	..	..
Totals—									
Northern Hemisphere(c)	356,507	378,866	346,740	5,051,164	5,351,186	5,372,432	14.2	14.1	15.5
Southern Hemisphere(c)	38,706	35,837	26,260	501,836	458,814	277,568	13.0	12.8	10.6
World Total(c)	395,213	414,703	373,000	5,553,000	5,810,000	5,650,000	..	..	..

(a) The figures of areas are, as far as possible, those of areas harvested. (b) Not available. (c) Estimated total including the area and production of those countries particulars for which are not shown separately. (d) Average of less than five years. (e) Adjusted to include Alsace Lorraine. (f) Beginning with 1933, production estimates for the Soviet Union have been reduced 15 per cent. to take account of heavy harvesting losses. (g) Excluding native cultivation.

18. Exports—Principal Countries.—The following table shows the latest available statistics respecting net quantities of wheat exported from the chief exporting countries compared with the period from 1909 to 1913. In the years before the 1914-19 War the U.S.S.R. (Russia) was the outstanding contributor to the world's supply of wheat, followed by the United States of America. Owing to increased demands within their own borders, however, the net exports from both of these countries have since become relatively unimportant. Canada now occupies the foremost position, with Argentina and Australia coming next in order.

Although Australia's production of wheat is little more than 3 per cent. of the world's total, its exports represented just under 18½ per cent. of the quantities shipped during 1934 to 1938, and as an exporting country Australia has made the greatest relative advance since 1913.

WHEAT (a) : NET EXPORTS, PRINCIPAL COUNTRIES.

Country.	Average 1909-13.		1937.	1938.	Average 1934-38.	
	'000 Bushels.	Per cent.	'000 Bushels.	'000 Bushels.	'000 Bushels.	Per cent.
U.S.S.R. (Russia)(b) ..	157,109	23.71	33,803	39,154	22,520	4.04
U.S.A.	100,864	15.22	36,416	105,540	43,648	7.83
Argentina	95,041	14.34	147,493	75,413	122,739	22.01
Canada	89,919	13.57	112,462	125,195	175,407	31.45
British India ..	50,886	7.68	20,043	12,203	8,877	1.59
Australia	49,417	7.46	99,658	124,202	102,695	18.41
All Other Countries ..	119,351	18.02	108,431	99,303	81,839	14.67
Total	662,587	100.00	558,306	581,010	557,725	100.00
World's Production ..	3,779,479		5,435,863	6,007,964	5,083,344	
Percentage of Australian Net Exports on Total Net Exports	7.46		17.85	21.38	18.41	
Percentage of Australian Production on World's Production	2.39		3.46	2.51	3.02	

(a) Includes flour expressed in terms of wheat. (b) The average for 1909-13 is not strictly comparable with the later years shown, owing to changes of frontiers.

19. Imports—Principal Countries.—The 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) : IMPORTS, PRINCIPAL COUNTRIES.(b)

Country Importing.	Average, 1909-13.		1937.	1938.	Average, 1934-38.	
	'000 Bushels.	Per cent.	'000 Bushels.	'000 Bushels.	'000 Bushels.	Per cent.
United Kingdom ..	219,365	30.42	202,058	208,854	208,749	33.80
Germany	89,732	12.44	47,161	48,253	25,606	4.15
Netherlands	76,340	10.59	24,058	27,009	22,584	3.66
Belgium	73,963	10.26	44,972	38,196	42,856	6.94
Italy	57,156	7.93	61,097	10,698	25,891	4.19
France	38,682	5.36	18,931	19,332	23,767	3.85
Brazil	20,774	2.88	36,226	7,146	29,812	4.83
Egypt	7,915	1.10	115	208	586	0.09
Union of South Africa	6,519	0.90	38	2,643	753	0.12
China (c)	5,526	0.77	6,914	24,242	27,471	4.45
Japan	3,714	0.52	7,555	2,617	11,551	1.87
All Other	121,409	16.83	187,599	202,295	198,051	32.05
Total	721,095	100.00	636,724	591,493	617,677	100.00

(a) Includes flour expressed in terms of wheat. (b) In some instances the average 1909-13 is not strictly comparable with the other years shown, owing to changes of frontiers. (c) Includes Manchurian ports.

§ 5. Oats.

1. Area, Production and Average Yield.—(i) *Area and Production.* Oats are usually next in importance to wheat amongst the grain crops cultivated in Australia, but while wheat grown for grain accounted for 49.52 per cent., oats represented only 8.90 per cent. of the area of crops in 1943-44, being less than hay. The acreage and production of oats for the years 1938-39 to 1943-44 and for the decennium ended 1943-44 are shown in the following table :—

OATS : AREA AND PRODUCTION.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	A.C.T.	Australia.
AREA ('000 ACRES).								
1938-39..	399	658	9	267	426	25	..	1,784
1939-40..	405	439	12	349	453	23	1	1,682
1940-41..	237	559	7	473	429	18	..	1,723
1941-42..	304	422	8	291	407	27	1	1,460
1942-43..	431	428	19	263	343	13	..	1,497
1943-44..	374	426	22	225	358	10	..	1,415
Average 10 seasons ended 1943-44..	316	472	11	328	412	23	..	1,562
PRODUCTION ('000 BUSHELS).								
1938-39..	4,831	2,909	93	2,401	4,668	645	7	15,554
1939-40..	6,904	8,281	200	4,063	5,315	529	10	25,302
1940-41..	1,996	2,624	76	1,829	3,250	416	8	10,199
1941-42..	4,118	8,149	67	3,800	5,325	839	4	22,302
1942-43..	7,338	6,638	277	3,365	3,612	292	10	21,532
1943-44..	7,051	3,705	389	2,294	3,964	299	10	17,712
Average 10 seasons ended 1943-44..	4,819	5,536	141	2,787	4,273	641	7	18,204

The oat crop showed considerable variation during the past decennium, ranging from 10,199,000 bushels in 1940-41 to a record yield of 25,302,000 bushels in 1939-40 with an average for the period of 18,204,000 bushels.

The principal oat-growing State is Victoria, followed closely by New South Wales. These States 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 negligible.

Oats are mainly used in Australia as feed grain. The quantity consumed by stock averages about 12 million bushels annually, leaving a balance of about 4 million bushels for seed purposes, about 2 million bushels for oatmeal and a small quantity for the production of spirits and for malting.

(ii) *Average Yield.* The average yield per acre of oats varies considerably in the different States, being highest in Tasmania and lowest in South Australia. Averages for each of the seasons 1938-39, 1940-41 to 1943-44 and for the decennium ended 1943-44 are given in the following table :—

OATS : AVERAGE YIELD PER ACRE.

Season.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Aust.
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1938-39 ..	12.09	4.42	10.77	8.99	10.95	25.97	21.95	8.72
1940-41 ..	8.42	4.69	10.61	3.87	7.57	23.73	20.84	5.92
1941-42 ..	13.55	19.31	8.29	13.04	13.08	30.73	5.56	15.27
1942-43 ..	17.01	15.51	14.49	12.81	10.55	22.19	23.29	14.38
1943-44 ..	18.84	8.69	17.60	10.22	11.07	30.69	24.67	12.52
Average for 10 seasons ended 1943-44 ..	15.25	11.72	13.55	8.49	10.37	27.82	18.55	11.65

The smallest-average yield per acre ever recorded for Australia was that experienced in the abnormally dry season 1914-15, namely, 5.60 bushels, while the largest in the last ten years was that of the season 1941-42, amounting to 15.27 bushels per acre.

2. Price of Oats.—The average wholesale prices in the Melbourne market for oats of good milling quality for the years 1940-41 to 1944-45 in comparison with 1938-39 are given in the following table:—

OATS : MELBOURNE AVERAGE WHOLESALE PRICES.

Particulars.	1938-39.	1940-41.	1941-42.	1942-43.	1943-44.	1944-45.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Average price per bushel ..	3 5½	3 2¾	2 9½	2 9	3 3	3 9½

3. Value of Oat Crop.—The estimated value of the oat crop for the season 1943-44 was as follows:—

OATS : VALUE OF CROP (a), 1943-44.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Australia.
	£	£	£	£	£	£	£	£
Aggregate value..	998,810	523,643	81,706	297,825	503,762	63,410	1,408	2,470,564
Value per acre ..	£2/13/5	£1/4/7	£3/13/11	£1/6/6	£1/8/2	£6/10/2	£3/9/11	£1/14/11

(a) Excludes the value of straw.

4. Imports and Exports.—The production of oats in Australia is sufficient to admit of a regular export trade. The quantities and values of oats imported into and exported from Australia during the years 1938-39 and 1940-41 to 1943-44 are given hereunder:—

OATS : IMPORTS AND EXPORTS, AUSTRALIA.

Year.	Imports.		Exports.		Net Exports.	
	Quantity.	Value.(a)	Quantity.	Value.(a)	Quantity.	Value.(a)
	Bushels.	£.	Bushels.	£.	Bushels.	£.
1938-39 ..	10,428	2,762	117,347	18,866	106,919	16,104
1940-41 ..	1,943	747	159,907	25,339	157,964	24,592
1941-42 ..	2,558	959	78,157	16,418	75,599	15,459
1942-43 ..	1,045	350	284,113	57,975	283,068	56,725
1943-44 ..	643	193	88,040	18,618	87,397	18,425

(a) Australian currency values.

The quantity of oats imported into Australia is usually not very large, although in 1927-28 imports exceeded exports by 460,581 bushels. New Zealand is the chief supplier. The principal countries to which oats were exported during pre-war years were the United Kingdom, New Zealand, Malaya (British), Ceylon, India and Mauritius.

5. Oatmeal, etc.—The production of oatmeal in Australia—much of which is consumed locally—amounted in 1943-44 to 309,381 cwt., the quantity of oats used for this purpose being 1,717,761 bushels, or about 10 per cent. of the total production. Oversea trade in this and similar products is small; the exports of oatmeal, including rolled oats, during 1943-44 amounted to 14,039 cwt. There were no imports during the year.

6. World's Production.—The world's production of oats for the year 1941, as compiled by the International Institute of Agriculture, amounted to 4,225 million bushels. This quantity was harvested from 140.4 million acres, and represents an average yield of 30 bushels per acre. In comparison with this average return per acre, that of Australia for the same period (15.27 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 six years ended 1941 which is the latest for which particulars are available:—

OATS : WORLD'S PRODUCTION.

Year.	Area.		Production.	Average Yield per Acre.
	Million Acres.	Million Bushels.	Bushels.	
Average 1935-1939	139	4,336	31.26	
1936	137	3,290	24.01	
1937	138	3,605	26.12	
1938	136	3,704	27.24	
1939	141	4,400	31.21	
1940	143	4,545	31.78	
1941	140	4,225	30.09	

§ 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 1943-44 season being 275,959 acres, or 98 per cent. of the total for Australia. Of the balance, Victoria contributed 6,598 acres and Western Australia 105 acres. The climate of Tasmania is generally unsuitable for the growing of maize for grain although 19 acres were sown in this State in 1943-44. 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.**—(i) *Area and Production.* Although maize for grain is grown extensively in other countries, the area sown to maize for grain in Australia has averaged only 310,000 acres during the past decennium. Compared with the previous year, the area in 1943-44 decreased by 1,911 acres, but the acreage sown was considerably less than the comparatively large areas of 414,914 and 400,544 acres sown respectively in 1910-11 and 1927-28.

The area and production of maize for grain in each State for the years 1938-39, 1940-41 to 1943-44 and the average for the decennium ended 1943-44 are given in the following table:—

MAIZE FOR GRAIN : AREA AND PRODUCTION.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Australia.
AREA.								
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1938-39.. .. .	122,201	18,485	183,415	37	8	..	..	324,146
1940-41.. .. .	142,147	15,382	205,310	22	10	..	..	362,871
1941-42.. .. .	117,262	9,594	174,450	16	38	..	..	301,360
1942-43.. .. .	103,591	7,131	173,816	..	46	..	8	284,592
1943-44.. .. .	103,237	6,598	172,722	..	105	19	..	282,681
Average 10 seasons ended 1943-44	118,105	15,625	176,004	17	39	2	6	309,798
PRODUCTION ('000 Bushels). (a)								
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1938-39.. .. .	2,905	417	3,733	2	..	..	..	7,057
1940-41.. .. .	4,044	703	4,444	1	1	..	..	9,193
1941-42.. .. .	3,141	306	3,989	..	..	..	..	7,436
1942-43.. .. .	2,815	271	3,798	..	1	..	..	6,885
1943-44.. .. .	2,769	151	4,512	..	1	..	..	7,433
Average 10 seasons ended 1943-44..	3,178	516	3,725	..	..	..	..	7,419

(a) 56 lb. per bushel.

The greatest production of maize in Australia was recorded in 1910-11, when it amounted to over 13,000,000 bushels. The production in 1940-41 amounted to 9,193,000 bushels, declining to 7,433,000 bushels in 1943-44, the average for the decennium ended 1943-44 being 7,419,000 bushels.

(ii) *Average Yield. (a) Australia.* The following table gives particulars of the average yields per acre of the maize crops of the States for the seasons 1938-39, 1940-41 to 1943-44 and for the decennium ended 1943-44 :—

MAIZE FOR GRAIN : AVERAGE YIELD PER ACRE.

Season.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Aust.
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1938-39 ..	23.77	22.54	20.36	41.35	11.25	..	..	21.77
1940-41 ..	28.45	45.70	21.65	40.91	42.90	..	..	25.33
1941-42 ..	26.79	31.88	22.86	21.00	7.18	..	..	24.67
1942-43 ..	27.17	38.05	21.85	..	16.24	..	6.00	24.19
1943-44 ..	26.82	22.80	26.12	..	11.89	6.63	..	26.29
Average for 10 seasons ended 1943-44.	26.91	33.05	21.16	26.70	12.97	6.63	8.79	23.95

The average for Victoria is generally amongst the highest in the world. The area however, is comparatively small and is situated in specially favourable districts. The average for New South Wales is generally higher than that for Queensland.

(b) *Various Countries.* The average for Australia for the past ten years was 23.95 bushels per acre. During the period 1935-39 the United States of America averaged 25.0 bushels, Argentine Republic 28.0 bushels, Rumania 16.8 bushels, and the U.S.S.R. (Russia) 18.9 bushels per acre.

3. *Price of Maize.*—The average wholesale price of maize in the Sydney or Melbourne market for each of the years 1938-39 and 1941-42 to 1944-45 is given in the following table :—

MAIZE : AVERAGE PRICE,

Particulars.	1938-39.	1941-42.	1942-43.	1943-44.	1944-45.
	s. d.	s. d.	s. d.	s. d.	s. d.
Average price per bushel ..	(a) 4 6½	(b) 4 4½	(b) 7 4½	(b) 8 0	(b) 8 4
	(a) Sydney.	(b) Melbourne.			

4. *Value of Crop.*—The value of the crop for the season 1943-44 was as follows :—

MAIZE FOR GRAIN : VALUE OF CROP, 1943-44.

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
	£	£	£	£	£	£	£
Aggregate value	1,015,320	57,837	1,455,593	..	881	70	2,529,701
Value per acre	£9/16/8	£8/15/4	£8/8/7	..	£8/7/10	£3/13/8	£8/19/0

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 countries of destination being New Zealand and the Pacific Islands. In 1943-44 3,728,505 lb., valued at £84,156, were exported, compared with an annual average of 36,761 lb., valued at £364, during the five years ended 1938-39.

6. **Oversea Imports and Exports.**—The imports of maize into Australia during the five years ended 1943-44 were negligible, averaging 17,000 bushels compared with nearly 600,000 bushels during the five years ended 1929-30. Details of imports and exports for the years 1938-39 and 1940-41 to 1943-44 are as follows :—

MAIZE : IMPORTS AND EXPORTS, AUSTRALIA.

Year.	Imports.		Exports.		Net Exports.	
	Quantity.	Value.(a)	Quantity.	Value.(a)	Quantity.	Value.(a)
	Bushels.	£	Bushels.	£	Bushels.	£
1938-39.. ..	54	55	282,018	41,489	281,964	41,434
1940-41.. ..	61	154	779	401	718	247
1941-42.. ..	80	11	1,623	456	1,543	445
1942-43.. ..	9,305	2,377	1,418	546	-7,887	-1,831
1943-44.. ..	613	1,761	5,166	2,321	4,553	560

NOTE.—The minus sign (—) denotes net imports. (a) Australian currency values.

7. **World's Production.**—The following table furnishes particulars of the world's acreage, production and average yield per acre of maize for the latest available period according to the data compiled by the International Institute of Agriculture :—

MAIZE : WORLD'S PRODUCTION.

Year.	Area.	Production.	Average Yield
			per Acre.
	Million Acres.	Million Bushels.	Bushels.
Average 1935-1939	216	4,725	21.88
1937	196	4,617	23.56
1938	196	4,547	23.20
1939	218	5,107	23.43
1940	214	5,000	23.36
1941	209	5,038	24.11

The United States of America is the most important maize-producing country in the world. Approximately 100,000,000 acres are planted there annually, and in normal seasons more than 2,000 million bushels are reaped, representing about 50 per cent. of the world's production. About 85 per cent. of the production is fed to live stock on farms, 10 per cent. is used for human food, and only a very small fraction—less than 1 per cent.—is exported.

§ 7. Barley.

1. **Area, Production and Average Yield.**—(i) *Area and Production.* The area sown to barley for grain has expanded considerably during the past ten years. Although a substantial decrease occurred during 1942-43 and 1943-44, the average annual area sown for the decennium ended 1943-44 amounted to 613,000 acres, compared with an average of 377,000 acres for the previous ten years. Victoria was originally the principal barley-growing State, but since 1913-14 its place has been taken by South Australia which accounted for 67 per cent. of the Australian acreage in 1943-44. Victoria was next in

importance with 14 per cent., leaving a balance of about 19 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 and production of barley for grain in the several States for the years 1938-39, 1940-41 to 1943-44 and the average for the decennium ended 1943-44 are shown in the following table:—

BARLEY FOR GRAIN : AREA AND PRODUCTION.

Season.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Australia.
AREA ('000 Acres).								
1938-39 ..	14	176	14	457	75	9	..	745
1940-41 ..	20	188	7	471	65	6	..	757
1941-42 ..	21	204	8	478	68	5	..	784
1942-43 ..	14	78	8	298	50	3	..	451
1943-44 ..	20	83	13	262	61	4	..	443
Average 10 seasons ended 1943-44	16	138	9	390	54	6	..	613
PRODUCTION ('000 Bushels). (a)								
1938-39 ..	218	1,672	246	7,541	946	208	..	10,831
1940-41 ..	176	1,187	122	4,776	725	147	..	7,133
1941-42 ..	304	4,792	117	11,714	959	118	..	18,004
1942-43 ..	223	1,274	165	6,020	533	63	..	8,278
1943-44 ..	380	1,078	250	5,057	723	95	6	7,589
Average 10 seasons ended 1943-44	252	2,252	158	7,015	655	164	1	10,497

(a) 50 lb. per bushel.

(ii) *Average Yield.* The average yield of barley per acre varies considerably in the different States, being as a rule highest in Tasmania and lowest in Western Australia. Details for each State during the seasons 1938-39, 1940-41 to 1943-44 and for the decennium ended 1943-44 are given in the following table:—

BARLEY : YIELD PER ACRE.

Season.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Aust.
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1938-39.. ..	15.34	9.50	17.56	16.50	12.63	23.94	..	14.54
1940-41.. ..	8.74	6.33	16.92	10.14	10.53	26.08	..	9.42
1941-42.. ..	14.75	23.45	15.78	24.49	14.03	22.11	..	22.96
1942-43.. ..	15.61	16.36	19.90	20.20	10.78	23.04	..	18.37
1943-44.. ..	18.91	12.95	19.38	19.34	11.80	27.54	17.20	17.14
Average for 10 seasons ended 1943-44 ..	15.95	16.30	16.71	18.01	12.00	26.99	18.52	17.15

South Australia and Victoria were the only States producing more than 1,000,000 bushels on the average during the past decade, the yields being respectively 7,015,000 and 2,252,000 bushels.

(iii) *Malting (2 Row) and Other (6 Row) Barley.* (a) *Season 1943-44.* 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 1943-44 are given by States:—

BARLEY, MALTING (2 ROW) AND OTHER (6 ROW) : AREA AND PRODUCTION, 1943-44.

('000 omitted.)

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Aust.
Barley—	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Malting (2 Row)	10	70	9	235	30	3	..	357
Other (6 Row)	10	13	4	27	31	1	..	86
Total	20	83	13	262	61	4	..	443
Barley—	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
Malting (2 Row)	206	915	181	4,644	363	86	2	6,397
Other (6 Row)	174	163	69	413	360	9	4	1,192
Total	380	1,078	250	5,057	723	95	6	7,589

Taking Australia as a whole, about 81 per cent. of the area of barley for grain in 1943-44 was sown with malting or 2 row barley while the remainder consisted of 6 row or feed varieties. The proportion, however, varied largely in the several States. The disposal of barley during the season 1943-44 was as follows: malt works, 3,915,925 bushels; flour and other grain mills, 739,007 bushels; distilleries, 169,387 bushels; exports, 997,952 bushels; leaving a balance of 1,768,180 bushels for feed and seed.

(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 1938-39, 1940-41 to 1943-44 and the decennium ended 1943-44:—

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

Season.	'000 Acres.			'000 Bushels.			Average Yield per Acre.		
	Malting (2-row).	Other (6-row).	Total.	Malting (2-row).	Other (6-row).	Total.	Malting (2-row).	Other (6-row).	Total.
1938-39 ..	650	95	745	9,705	1,126	10,831	14.92	11.92	14.54
1940-41 ..	639	118	757	6,185	948	7,133	9.68	8.01	9.42
1941-42 ..	662	122	784	15,713	2,291	18,004	23.72	18.81	22.96
1942-43 ..	357	94	451	6,782	1,496	8,278	19.03	15.88	18.37
1943-44 ..	357	86	443	6,397	1,192	7,589	17.89	13.96	17.14
Average for 10 seasons ended 1943-44 ..	518	95	613	9,110	1,387	10,497	17.58	14.58	17.15

During the past ten seasons the area and production of barley of the malting or 2 row class have been more than five times the corresponding figures for barley of the 6 row or feed class. The average yield per acre differs very little in respect of the two classes, the results for the last ten-yearly period showing a slight increase in the malting variety.

2. **Australian Barley Board.**—The Australian barley crops for the seasons 1939-40, 1940-41 and 1941-42 were acquired by the Australian Barley Board which was created under the National Security Act 1939-1943. For the season 1942-43 and those following the acquisition was restricted to South Australia and Victoria—the main producing States.

Particulars of the barley acquired and sold, and of advances made to growers are given in the following table. All these pools have been finalized.

BARLEY ACQUIRED, SOLD, ETC., AS AT MARCH, 1946.

Pool.	Quantity Acquired.	Quantity Sold.(a)	Total Advances made per Bushel on 2-row, No. 1 Grade.		Total Payments to Growers.
			s.	d.	
	'000 bushels.	'000 bushels.	s.	d.	£
No. 1 (1939-40 crop)	11,616	11,635	3	3.49	1,688,091
No. 2 (1940-41 "	4,186	4,217	4	3.50	852,485
No. 3 (1941-42 "	13,223	13,341	3	5.05	2,025,155
No. 4 (1942-43 "	3,810	3,839	4	3	771,294
No. 5 (1943-44 "	3,340	3,356	4	5.75	649,587
No. 6 (1944-45 "	2,171	2,190	5	0	541,484

(a) Includes surplus in out-turn.

3. Prices.—The average prices in the Melbourne market during each of the years shown are given in the following table:—

BARLEY: AVERAGE MELBOURNE PRICES PER BUSHEL.

Particulars.	1938-39.	1940-41.	1941-42.	1942-43.	1943-44.
	s. d.	s. d.	s. d.	s. d.	s. d.
Malting barley	3 5 ³ / ₄	4 8 ¹ / ₂	5 0 ³ / ₄	4 11	5 3
Cape barley	2 11 ¹ / ₂	3 11 ¹ / ₂	4 3 ³ / ₄	4 3	4 6

4. Value of Barley Crop.—The estimated value of the barley crop for the season 1943-44 and the value per acre are shown in the following table:—

BARLEY FOR GRAIN: VALUE OF CROP (a), 1943-44.

Value.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Australia.
	£	£	£	£	£	£	£	£
Total ..	97,410	265,660	40,612	1,553,001	151,595	24,570	1,522	2,134,370
Per acre ..	£4/17/1	£3/3/10	£3/3/0	£5/18/10	£2/9/5	£7/3/0	£4/5/6	£4/16/5

(a) Excludes the value of straw.

5. Imports and Exports.—Australian exports of barley during the five years ended 1943-44 averaged 1,469,000 bushels, South Australia being the principal exporting State. Particulars of the Australian oversea imports and exports for the years 1938-39, and 1940-41 to 1943-44 are shown in the following table:—

BARLEY: IMPORTS AND EXPORTS, AUSTRALIA.

Year.	Imports.		Exports.		Net Exports.	
	Quantity.	Value.(a)	Quantity.	Value.(a)	Quantity.	Value.(a)
	'000 Bushels.	£	'000 Bushels.	£	'000 Bushels.	£
1938-39 .. ..	..	24	2,618	341,935	2,618	341,911
1940-41	I	220	913	141,343	912	141,123
1941-42	I	222	1,034	171,690	1,033	171,468
1942-43 .. ..	..	..	511	63,846	511	63,846
1943-44 .. ..	..	4	998	205,790	998	205,786

(a) Australian currency values.

In addition to barley grain, there is also an export of Australian pearl and scotch barley, the total for 1943-44 amounting to 3,904,603 lb., valued at £45,119, and consigned mainly to Ceylon and India.

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 in the next section. Details of the quantity of grain used and the production of barley 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.	Bushels.(a)
1938-39	3,729,730	3,620,909	(b)	111,728
1940-41	4,164,230	4,116,720	(b)	121,569
1941-42	3,943,669	3,849,719	(b)	145,219
1942-43	3,613,086	3,586,422	172,956	149,948
1943-44	3,915,925	3,822,215	221,739	196,153

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

(ii) *Imports and Exports.* In the years before the 1914-19 War the imports of malt into Australia were fairly extensive, the supply being obtained principally from the United Kingdom, but now imports are practically negligible. The production in Australia is more than sufficient to meet local requirements and the surplus is shipped chiefly to the Far East and New Zealand. Details of imports and exports for the years 1938-39 and 1940-41 to 1943-44 are given in the next table :—

MALT : IMPORTS AND EXPORTS, AUSTRALIA.

Year.	Imports.		Exports.		Net Exports.	
	Quantity.	Value.(a)	Quantity.	Value.(a)	Quantity.	Value.(a)
	Bushels.	£	Bushels.	£	Bushels.	£
1938-39	140	91	137,473	49,552	137,333	49,461
1940-41	7	12	517,240	198,141	517,233	198,129
1941-42	1,155	639	314,177	132,949	313,022	132,310
1942-43	9,695	1,299	15,588	4,895	5,893	3,596
1943-44 .. .. .	..	..	19,695	9,756	19,695	9,756

(a) Australian currency values.

7. **World's Production.**—In comparison with the barley production of other countries, that of Australia is extremely small. Separate particulars for some of the leading countries during 1942 were not available at date of publication, but the United States produced 429 million bushels and Canada 259 million bushels during that year. Production in the U.S.S.R. (Russia) in 1935 approximated 360 million bushels, while China produced 281 million bushels in 1937.

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 International Institute of Agriculture:—

BARLEY : WORLD'S PRODUCTION.

Period.				Area.	Production.	Average Yield per Acre.
				Million Acres.	Million Bushels.	Bushels.
Average 1935-1939	..	..	..	114.0		20.46
1938	..	..	..	90.7	1,915	21.11
1939	..	..	..	117.0	2,400	20.51
1940	..	..	..	119.0	2,350	19.75
1941	..	..	..	116.0	2,340	20.17
1942	..	..	..	120.0	2,585	21.54

§ 8. Rice.

Although experimental rice cultivation was carried on at the Yanco Experimental Farm in New South Wales for a number of years before 1924-25, 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 was equal to Australian requirements.

Consequent upon the outbreak of war in the Pacific in 1941 and the enemy occupation of the rice producing countries north of Australia, the demand for rice was so great as to be beyond the capacity of the industry. From August, 1942 civilian consumption in Australia has been prohibited except in the case of invalids, hospital patients and resident Asiatics, and the total production has been diverted to service needs and for the feeding of natives in the South-West Pacific Area. It has been announced that this restriction is to continue for the 1946-47 crop which has been disposed of to the United Kingdom Ministry of Food.

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. Because of war-time demands the areas sown have been expanded. The extent of any expansion is 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 22,900 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 a new area in the Wakool Irrigation District of New South Wales was developed. In 1943-44, 4,100 acres was sown to rice in this area, bringing the total area for the State and for Australia to 40,690 acres.

The area and production for the year 1944-45 declined, owing to the water shortage, to 24,596 acres and 1,692,747 bushels. This decline occurred in the Murrumbidgee Irrigation Area where the area dropped from 36,500 acres in 1943-44 to 19,800 acres in 1944-45. At Wakool, however, the area sown rose to 4,800 acres.

The average yield per acre—68.82 bushels—in 1944-45 was the lowest since the 1926-27 season.

During the past five years an annual average of 312,500 centials of cleaned and 62,000 centials of uncleaned rice has been exported from Australia, mainly to the United Kingdom, New Zealand, Canada and the Pacific Islands.

Details relating to area, production, and trade since 1934-35 are shown in the following table :—

RICE : AREA, PRODUCTION, AND TRADE, AUSTRALIA.

Year.	No. of Growers. (a)	Area.	Production (Paddy Rice.)		Average Yield (Paddy) per acre.	Imports.		Exports.	
			Quan- tity.	Gross Value. (b)		Un- cleaned.	Cleaned.	Un- cleaned.	Cleaned.
		Acres.	'000. Bushels	£'000.	Bushels.	Centals.	Centals.	Centals.	Centals.
1934-35 ..	290	21,746	1,888	383	88.84	67	37,725	28,618	235,872
1935-36 ..	304	21,715	2,164	409	99.64	963	41,697	9,820	215,793
1936-37 ..	320	23,384	2,277	458	97.36	26	32,605	2,137	320,893
1937-38 ..	319	23,737	2,269	459	95.59	9,535	33,315	2,825	308,844
1938-39 ..	313	23,533	2,775	540	117.92	29	46,019	3,386	277,851
1939-40 ..	314	24,120	1,858	413	77.02	5	29,765	2,554	326,267
1940-41 ..	329	24,547	2,240	474	91.26	..	25,722	5,188	223,416
1941-42 ..	331	23,633	2,192	506	92.75	660	36,737	5,475	271,995
1942-43 ..	348	34,232	3,084	759	90.11	..	1,800	37,085	209,628
1943-44 ..	342	40,690	4,015	983	98.67	1	3,258	259,230	531,158

(a) New South Wales.

(b) Excludes the value of straw.

(c) 42 lb. per bushel.

The production from several small experimental plots in States other than New South Wales is included in the foregoing table for some years but the quantity is negligible.

§ 9. 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 total area of the first two mentioned crops for the season 1943-44 was 56,547 acres, giving a yield of 758,277 bushels, or an average of 13.41 bushels per acre which was less than the average yield for the decennium ended 1943-44, namely 13.46 bushels per acre. Navy beans are grown chiefly in New South Wales, Queensland and Victoria in that order, but in other States the quantity produced is negligible. The production of blue peas is almost entirely restricted to Tasmania which accounts for more than 80 per cent. of the total area and production for Australia. Peas are exported in considerable quantities to the United Kingdom, the chief exporting State being Tasmania.

The total area of rye in Australia during the season 1943-44 was 16,862 acres, yielding 75,937 bushels, or an average of 4.50 bushels per acre, as compared with the average of 9.42 bushels for the last ten seasons. Of the total area sown to rye in 1943-44, about 3.3 per cent. was in New South Wales, 66.4 per cent. in South Australia, and 17.3 per cent. in Victoria.

§ 10. Potatoes.

1. *Area, Production and Average Yield.*—(i) *Area and Production.* Victoria possesses peculiar advantages for the growth of potatoes, as the rainfall is generally satisfactory, and the climate is unfavourable to the spread of Irish blight; consequently the crop is widely grown. The principal areas are the central highlands, the south-western and Gippsland districts. Tasmania comes next in order of acreage sown, but the production exceeded that of Victoria in 1938-39, 1939-40 and 1943-44. New South Wales occupies third place in acreage and production. The area for these three States accounted for 83.82 per cent. of the total for Australia in 1943-44.

The area sown and production of potatoes in each State during the years 1938-39, 1940-41 to 1943-44 and the average for the decennium ended 1943-44 are given hereunder:—

POTATOES : AREA SOWN AND PRODUCTION.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W.Aust.	Tas.	A.C.T.	Australia.
AREA SOWN.								
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1938-39 ..	16,866	34,396	10,389	4,290	5,355	26,696	50	98,048
1940-41 ..	17,836	44,195	12,586	4,840	6,118	37,364	51	122,990
1941-42 ..	17,685	33,392	8,151	4,783	4,643	30,640	30	99,324
1942-43 ..	24,488	51,757	9,885	7,233	6,399	40,383	61	140,209
1943-44 ..	30,067	70,430	14,609	8,958	7,375	60,500	136	192,075
Average 10 seasons ended								
1943-44..	21,486	45,046	11,723	5,292	5,309	36,655	59	125,570
PRODUCTION.								
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1938-39 ..	39,385	81,415	19,183	18,487	26,532	89,330	109	274,441
1940-41 ..	50,388	216,568	21,745	25,583	31,487	114,041	177	459,989
1941-42 ..	38,634	118,454	16,220	24,142	25,329	109,850	98	332,727
1942-43 ..	64,728	195,138	22,438	32,866	32,246	135,930	215	483,561
1943-44 ..	65,655	217,380	30,717	35,991	30,552	217,800	960	599,055
Average 10 seasons ended								
1943-44..	52,532	145,607	21,321	23,949	26,685	117,571	215	387,880

The area sown to potatoes averaged 141,000 acres during the ten years ended 1933-34, but it dropped to an average of 126,000 acres during the past decade. Victoria, with a drop of 21,000 acres, was mainly responsible for this decline. After the outbreak of war in the Pacific in December, 1941, the area sown to potatoes rose rapidly and in 1943-44 was 56 per cent. greater than in 1940-41. The area in 1944-45 amounted to almost 242,000 acres.

This expansion was necessary in order to meet the large demand for potatoes by Australian and Allied Servicemen based upon Australia and to maintain supplies for civil needs. As a result, production rose to 599,055 tons in 1943-44, the greatest quantity produced to that date. In 1944-45, however, production rose to a new high level and reached 881,000 tons.

(ii) *Average Yield.* Particulars for each State for the 1938-39, 1940-41 to 1943-44 seasons, and the average for the decennium ended 1943-44, are given hereunder :—

POTATOES : AVERAGE YIELD PER ACRE.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Aust.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1938-39	2.34	2.37	1.85	4.31	4.95	3.35	1.95	2.80
1940-41	2.83	4.90	1.73	5.29	5.15	3.05	3.47	3.74
1941-42	2.18	3.55	1.99	5.05	5.46	3.59	3.27	3.35
1942-43	2.64	3.77	2.27	4.54	5.04	3.37	3.36	3.45
1943-44	2.18	3.09	2.10	4.02	4.14	3.60	7.06	3.12
Average for 10 seasons ended 1943-44 ..	2.44	3.23	1.82	4.53	5.03	3.27	3.66	3.09

Compared with the average yield per acre obtained in other countries, that returned for Australia is very low; the production in New Zealand, for example, in 1943-44 averaged 5.94 tons per acre from an area of 27,178 acres, as compared with 3.12 tons per acre from 192,075 acres in Australia.

(iii) *Relation to Population.* The average annual production of potatoes for the last five seasons was 61 tons per 1,000 of population. In Tasmania, where this crop is of far greater importance in relation to population than is the case in any other State, the production per head in 1906-7 was nearly a ton, while for the last five seasons it has averaged almost 11½ cwt. Details for each State for the 1938-39 and 1940-41 to 1943-44 seasons are as follows :—

POTATOES : PRODUCTION PER 1,000 OF POPULATION.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Australia.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1938-39	14	43	19	31	57	377	9	40
1940-41	18	113	21	43	67	475	14	65
1941-42	14	61	16	40	54	459	8	47
1942-43	23	99	22	54	69	565	18	67
1943-44	23	109	29	58	63	893	69	82

2. *Gross Value of Potato Crop.*—The estimated gross value of the potato crop of each State for the season 1943-44 is given in the following table :—

POTATOES : VALUE OF CROP, 1943-44.

Value.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Australia.
	£	£	£	£	£	£	£	£
Total	1,025,040	2,308,993	491,472	314,921	355,040	2,722,500	15,093	7,232,969
Per Acre	£34/1/10	£32/15/8	£33/12/10	£35/3/1	£48/2/10	£45/0/0	£110/6/4	£37/13/2

3. *Consumption.*—The annual civilian consumption of potatoes in Australia during the three years ended 1945 averaged 105.5 lb. per head or the equivalent of 311,000 tons. These figures exclude the quantities used for seed, which averaged about 100,000 tons annually over this period. New South Wales, Queensland and, in some seasons, South Australia do not produce the quantities necessary for their requirements and must import from Tasmania and Victoria which have a surplus.

4. **War-time Control.**—Details of the appointment of the Australian Potato Committee, which was created in 1942, and its functions are set out in Chapter XXVIII. "Miscellaneous."

In the following table details of the quantities of potatoes received and the manner of their distribution are given for the years ended 31st October, 1944 and 1945. The quantities shown are those recorded by the Committee and therefore exclude a quantity which does not come within the Committee's control.

AUSTRALIAN POTATO COMMITTEE : RECEIVALS AND DISPOSALS OF POTATOES, AUSTRALIA.

Particulars.	Year ended 31st October—			
	1944.		1945.	
	Tons.	Per cent.	Tons.	Per cent.
Quantity received	441,435	100	619,710	100
Distribution—				
Civilian consumption	317,801	72.0	342,676	55.3
Service consumption	76,859	17.4	69,548	11.2
Exports	5,226	1.2	25,005	4.0
Canning including Meat Packs	16,473	3.7	19,490	3.2
Dehydration	21,758	4.9	59,025	9.5
Loss in weight, stock feed and quantity in transit	3,318	0.8	61,417	9.9
Carried to next year .. .. .	..	..	42,549	6.9
Total	441,435	100	619,710	100

5. **Imports and Exports.**—Under normal conditions small quantities of potatoes are exported, principally to the Pacific Islands and Papua. In case of a shortage in Australia, supplies are usually obtained from New Zealand. Details showing the trade for the years 1938-39 and 1940-41 to 1943-44 are given in the following table :—

POTATOES : IMPORTS AND EXPORTS, AUSTRALIA.

Year.	Imports.		Exports.		Net Exports.	
	Quantity.	Value.(a)	Quantity.	Value.(a)	Quantity.	Value.(a)
	Tons.	£	Tons.	£	Tons.	£
1938-39	2	35	1,255	17,443	1,253	17,408
1940-41	5,619	36,301	3,321	36,710	-2,298	409
1941-42	21	223	12,003	114,644	11,982	114,421
1942-43 .. .. .	..	..	1,705	27,064	1,705	27,064
1943-44 .. .. .	..	..	2,956	43,932	2,956	43,932

(a) Australian currency values.

Minus sign (-) signifies net imports.

§ 11. Onions.

1. Area, Production and Average Yield.—Australia's supply of onions comes chiefly from Victoria which accounted for 60 per cent. of the total area and quantity produced in 1943-44. Queensland came next with nearly 20 per cent. leaving a balance of about 20 per cent. distributed among the remaining four States. Details of the area, production and average yield per acre are given in the following table for the years 1938-39 and 1940-41 to 1943-44.

ONIONS : AREA, PRODUCTION AND AVERAGE YIELD.

State.	1938-39.	1940-41.	1941-42.	1942-43.	1943-44.
AREA (Acres.)					
New South Wales	105	179	786	1,096	876
Victoria	4,898	5,004	4,497	5,741	6,151
Queensland	1,001	782	1,316	1,843	1,934
South Australia	542	582	544	495	702
Western Australia	149	192	306	400	445
Tasmania	7	42	47	133	62
Australian Capital Territory	6	1	3	8	5
Total	6,708	6,782	7,499	9,716	10,175

PRODUCTION (Tons).					
New South Wales	316	714	1,131	3,288	2,774
Victoria	10,404	25,004	23,430	30,500	27,994
Queensland	2,831	1,379	2,797	7,480	7,665
South Australia	3,892	4,646	4,300	4,059	5,274
Western Australia	874	1,555	1,735	2,946	2,945
Tasmania	37	87	94	373	237
Australian Capital Territory	18	6	15	42	33
Total	18,372	33,391	33,502	54,688	46,922

AVERAGE YIELD PER ACRE (Tons).					
New South Wales	3.01	3.99	1.44	3.00	3.17
Victoria	2.12	5.00	5.21	6.36	4.55
Queensland	2.83	1.76	2.13	4.06	3.96
South Australia	7.18	7.98	7.90	8.20	7.51
Western Australia	5.87	8.10	5.67	7.37	6.62
Tasmania	5.29	2.07	2.00	2.80	3.82
Australian Capital Territory	3.00	6.00	5.00	5.25	6.60
Total	2.74	4.92	4.47	5.63	4.61

Details of the area and production of fresh vegetables other than potatoes and onions are given in § 17.

2. **Gross Value of Onion Crop.**—The gross value of the onion crop is given in the following table for the years shown.

ONIONS : GROSS VALUE, AUSTRALIA.

Year.	Total Production.	Gross Value of crop.	Average value per ton.		Average value per acre.	
			£	s. d.	£	s. d.
	Tons.	£	£	s. d.	£	s. d.
1938-39	18,372	305,744	16	12 10	45	11 7
1940-41	33,391	456,483	13	13 5	67	6 0
1941-42	33,502	542,839	16	4 1	72	7 9
1942-43	54,688	781,398	14	5 9	80	8 6
1943-44	46,922	695,909	14	16 7	68	7 2

3. **Consumption.**—During the war years the onion requirements of Australian and Allied Services based upon Australia were the first to be met, the balance of production being available for civilian consumption and for exports. Throughout these years, however, production was such that civilian supplies were not seriously limited. The following table furnishes details of the quantity available for consumption by Services and civilians for the years shown.

PRODUCTION AND CONSUMPTION OF ONIONS, AUSTRALIA.

Particulars.	1938-39.	1940-41.	1941-42.	1942-43.	1943-44.
	Tons.	Tons.	Tons.	Tons.	Tons.
Production	18,372	33,391	33,502	54,688	46,922
Less net exports	+3,548	1,146	+588	439	3,239
Balance available for Civilian and Service consumption	21,920	32,245	34,090	54,249	43,683

Plus sign (+) signifies net imports.

4. **Imports and Exports.**—Onions are the only root crop, other than potatoes, in which any considerable oversea trade is carried on by Australia. During the five years ended 1943-44 7,743 tons, valued at £A65,823, were imported, principally from New Zealand, Egypt and Japan, while during the same period the exports, which amounted to 6,644 tons valued at £A74,223, were shipped mainly to the Pacific Islands.

§ 12. Hay.

1. **General.**—(i) *Area and Production.* As already stated, the chief crop in Australia is wheat grown for grain. Next in importance is hay, which for the season 1943-44 averaged 12.85 per cent. of the total area cropped. A graph showing the area sown to hay since 1860 appears on page 786. 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 and production of hay of all kinds in the several States during the years 1938-39 and 1940-41 to 1943-44 and for the decennium ended 1943-44 is given below :—

HAY : AREA AND PRODUCTION.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	A.C.T.	Aust.
AREA.								
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1938-39 ..	1,068,925	1,104,558	65,732	519,309	408,276	79,959	3,501	3,250,260
1940-41 ..	715,625	672,955	63,581	403,678	418,486	76,082	3,099	2,353,506
1941-42 ..	714,142	1,007,979	58,190	557,624	325,266	92,636	2,291	2,758,128
1942-43 ..	736,157	788,792	70,025	425,505	253,150	82,062	3,424	2,359,115
1943-44 ..	534,470	740,672	71,992	312,277	282,614	99,283	2,806	2,044,114
Average 10 seasons ended 1943-44 ..	739,963	1,018,233	68,366	497,833	390,156	85,949	2,775	2,803,275
PRODUCTION.								
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1938-39 ..	1,181,264	892,975	109,761	585,554	437,809	109,533	4,265	3,321,161
1940-41 ..	617,264	580,237	111,746	394,274	375,143	95,180	3,626	2,177,470
1941-42 ..	715,005	1,443,505	103,220	748,313	414,115	147,628	3,102	3,574,888
1942-43 ..	985,743	1,050,107	118,195	568,529	277,957	109,956	5,568	3,116,055
1943-44 ..	735,641	963,103	138,080	407,078	314,359	153,834	4,777	2,716,872
Average 10 seasons ended 1943-44 ..	878,555	1,221,101	113,260	569,593	412,598	125,437	3,886	3,324,430

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 of hay in Australia during the season 1915-16, 3,597,771 acres, was the largest on record, whilst the average during the decennium ended 1943-44 amounted to 2,803,275 acres.

(ii) *Average Production.* During the last ten years Queensland and Tasmania show the highest average production per acre, although the area sown in these States is small. For the same period the lowest yield for Australia as a whole was that of 18.6 cwt. per acre in 1940-41, while the highest was that of 27.8 cwt. in 1939-40. The average for the decennium was 23.8 cwt. Particulars for the several States for the seasons 1938-39, 1940-41 to 1943-44 and the average of the ten years ended 1943-44 are given hereunder :—

HAY : PRODUCTION PER ACRE.

Season.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Aust.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1938-39 ..	1.11	0.72	1.67	1.13	1.07	1.37	1.22	1.02
1940-41 ..	0.86	0.86	1.76	0.98	0.90	1.25	1.17	0.93
1941-42 ..	1.00	1.43	1.77	1.34	1.27	1.59	1.35	1.30
1942-43 ..	1.34	1.33	1.69	1.34	1.10	1.34	1.63	1.32
1943-44 ..	1.38	1.30	1.92	1.30	1.11	1.55	1.70	1.33
Average for 10 seasons ended 1943-44 ..	1.19	1.20	1.66	1.14	1.06	1.46	1.40	1.19

(iii) *Varieties Grown.* Information in regard to the crops cut for hay is available for all States, and details for 1938-39 and the four seasons ended 1943-44 are given in the following table:—

HAY : VARIOUS KINDS GROWN.

Varieties.	1938-39.	1940-41.	1941-42.	1942-43.	1943-44.
	Acres.	Acres.	Acres.	Acres.	Acres.
NEW SOUTH WALES—					
Wheaten	559,437	354,833	346,261	287,470	198,066
Oaten	413,002	248,493	289,943	351,985	252,300
Lucerne	92,598	109,164	75,855	91,671	82,179
Other	3,888	3,135	2,083	5,031	1,925
Total	1,068,925	715,625	714,142	736,157	534,470
VICTORIA—					
Wheaten	258,839	96,852	132,773	67,759	71,467
Oaten	722,528	464,192	691,486	518,040	448,315
Lucerne	(a)36,838	30,443	38,321	36,123	36,040
Other	86,353	81,468	145,399	166,870	184,850
Total	1,104,558	672,955	1,007,979	788,792	740,672
QUEENSLAND—					
Wheaten	6,628	6,502	8,350	10,678	6,891
Oaten	4,901	2,475	5,710	6,085	6,889
Lucerne	50,228	49,435	37,010	51,715	50,391
Other	3,975	5,169	7,120	1,547	7,821
Total	65,732	63,581	58,190	70,025	71,992
SOUTH AUSTRALIA—					
Wheaten	227,604	212,284	229,792	152,589	120,129
Oaten	270,425	171,491	303,558	230,901	157,352
Lucerne	4,805	2,209	4,251	4,424	4,157
Other	16,475	17,694	20,023	37,591	30,639
Total	519,309	403,678	557,624	425,505	312,277
WESTERN AUSTRALIA—					
Wheaten	165,153	228,736	121,951	100,947	117,149
Oaten	204,610	149,899	166,772	118,000	126,093
Lucerne .. ..	..	87	66	239	104
Other	38,513	39,764	36,477	33,964	39,268
Total	408,276	418,486	325,266	253,150	282,614
TASMANIA—					
Wheaten	979	772	133	1,962	3,879
Oaten	64,310	64,098	73,771	61,542	69,002
Lucerne	3	..	..	694	663
Other	14,667	11,212	18,732	17,864	25,739
Total	79,959	76,082	92,636	82,062	99,283

(a) Includes barley and rye hay.

Oats are generally the predominant hay crop throughout Australia except in Queensland where lucerne is the chief variety grown. For all States combined the proportions of the areas sown to the principal kinds of hay were 52 per cent. for oaten, 25 per cent. for wheaten, 9 per cent. for lucerne, and 14 per cent. for other hay.

2. *Comparison with Other Countries.*—As already stated, the hay crops of most European countries consist of grasses of various kinds, amongst which clover, lucerne, sainfoin and rye grass occupy prominent places. The statistics of hay production in these countries are not prepared on a uniform basis, consequently any attempt to furnish extensive comparisons would be misleading. It may be noted, however, that in the United Kingdom the production of hay from clover, sainfoin, etc., for the year 1941 amounted to 3,435,000 tons from 2,332,000 acres, while from permanent grasses a yield of 3,238,000 tons of hay was obtained from 2,989,000 acres, giving a total of 6,673,000 tons from 5,321,000 acres, or an average of about 25 cwt. per acre.

3. 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 season 1943-44 :—

HAY : VALUE OF CROP, 1943-44.

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Australia.
	£	£	£	£	£	£	£	£
Total Value ..	4,730,380	4,444,794	1,333,073	1,445,829	848,687	655,030	30,581	13,488,374
Value per acre ..	£8/17/0	£6/0/0	£18/10/4	£4/12/7	£3/0/1	£6/11/11	£10/17/2	£6/12/0

4. 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, 1947 and 1944 are given in the table below.

STOCKS OF HAY HELD ON FARMS.

31st March—	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Australia.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1943 ..	698,332	1,107,137	114,131	499,475	188,740	74,277	2,201	2,684,293
1944 ..	522,294	859,302	107,375	403,002	140,494	89,010	2,246	2,123,723

The disastrous drought which occurred during 1944-45 caused hay stocks to decline to about 1,190,000 tons on 31st March, 1945.

5. 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 1943-44, 23 tons were imported, while the exports amounted to 1,655 tons, valued at £16,917.

§ 13. Green Fodder.

1. Nature and Extent.—A considerable area is devoted to the production of green fodder, mainly in connexion with the dairying industry. Under normal conditions the principal crops cut for green fodder are maize, sorghum, rape and lucerne, while small quantities of sugar-cane also are so used. In certain circumstances the area sown to green fodder may be supplemented by areas of cereals sown originally for grain. In an adverse season some cereal crops may show no promise of producing grain or even hay and consequently the area may be turned over to stock for grazing. Particulars concerning the area of green fodder in the several States during each of the years 1938-39 and 1940-41 to 1943-44 are given in the following table :—

GREEN FODDER : AREA.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Australia.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1938-39	573,569	108,796	448,643	275,988	352,442	28,681	681	1,788,800
1940-41	579,646	130,738	593,521	213,140	436,262	35,045	603	1,988,955
1941-42	578,028	97,158	583,770	182,127	338,485	27,780	968	1,808,316
1942-43	728,404	103,598	578,452	285,587	351,509	62,751	1,518	2,111,819
1943-44	782,265	112,880	600,181	269,645	440,803	51,592	1,436	2,264,802

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 1943-44 excluding Western Australia may be taken approximately as £4,170,000.

§ 14. Sugar-cane and Sugar-beet.

1. Sugar-cane.—(i) *Area.* Sugar-cane for sugar-making purposes is grown only in Queensland and New South Wales, and much more extensively in the former than in the latter State. Thus, of a total area of 336,420 acres of sugar-cane grown for this purpose in Australia for the season 1943-44, there were 320,807 acres, or about 95 per cent., in Queensland. This latter area is made up of 220,932 acres cut for crushing, 13,563 acres cut for plants, and 86,312 acres left to stand-over or young cane on areas not ready for cutting. Sugar-cane growing appears to have commenced in Australia in or about 1862, as the earliest statistical record of sugar-cane as a crop is that which credits Queensland with an area of 20 acres for the season 1862-63. In the following season the New South Wales returns show an area of 2 acres of this crop. The area of cane in New South Wales reached its maximum in 1895-96 with a total of 32,927 acres. Thenceforward, with slight variations, it fell gradually to 10,490 acres in 1918-19, but from that year it expanded until 1924-25, when about 20,000 acres were planted. Since 1924-25, the area has fluctuated between 15,000 acres and 21,000 acres, the average for the decennium ended 1943-44 amounting to 19,719 acres. In Queensland, although fluctuations in area are manifest, the general trend has been upwards, but, because of the contingencies arising from war, the area under sugar in that State has declined since 1940-41. In 1939-40 Queensland's acreage of cane was the highest on record, namely, 353,996 acres. The area of sugar-cane in Australia for the seasons 1938-39 and 1940-41 to 1943-44 and the average for the decennium ended 1943-44 are given in the following table:—

SUGAR-CANE : AREA, 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.		
1938-39 ..	10,458	10,772	163	251,847	84,098	11,254	262,305	94,870	11,417	368,592
1940-41 ..	10,192	10,386	184	263,299	75,082	12,480	273,491	85,468	12,664	371,623
1941-42 ..	8,491	9,896	330	246,073	77,062	10,326	254,564	86,958	10,656	352,178
1942-43 ..	9,732	8,958	239	231,256	67,247	11,619	240,988	76,205	11,858	329,051
1943-44 ..	8,240	7,092	281	220,932	86,312	13,563	229,172	93,404	13,844	336,420
Average 10 seasons ended										
1943-44 ..	9,654	9,841	224	241,358	79,731	11,171	251,012	89,572	11,395	351,979

(ii) *Productive and Unproductive Cane.* The areas given in the preceding table do not include the small acreage cut for green fodder which in 1943-44 amounted to 5,651 acres in Queensland. 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 6,313,369 tons in 1939-40.

The average production of cane during the decennium ended 1943-44 was 5,098,889 tons, and of raw sugar 735,519 tons. Particulars of the total production of cane and sugar for the years 1938-39, 1940-41 to 1943-44 and the decennium ended 1943-44 are as follows:—

SUGAR-CANE : PRODUCTION OF CANE AND SUGAR.

Season.	New South Wales.		Queensland.		Australia.	
	Cane.	Sugar.	Cane.	Sugar.	Cane.	Sugar.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1938-39	336,701	45,022	5,342,193	778,064	5,678,894	823,086
1940-41	342,548	47,041	5,180,868	759,416	5,523,416	806,457
1941-42	359,433	48,336	4,794,237	697,644	5,153,670	745,980
1942-43	338,013	44,290	4,353,488	605,609	4,691,501	649,899
1943-44	290,364	37,442	3,397,617	486,423	3,687,981	523,865
Average 10 seasons ended 1943-44 ..	308,639	41,014	4,790,250	694,505	5,098,889	735,519

The production of raw sugar in Australia in 1943-44 amounted to 523,865 tons manufactured from 3,687,981 tons of cane, the maximum production being 928,621 tons recorded in 1939-40. Official data are not available regarding the total number engaged in the sugar industry in Queensland, other than the number of separate holdings growing cane which in 1943-44 totalled 6,871, and employees in sugar mills who in 1943-44 numbered 4,151. In the report of the Sugar Inquiry Committee, 1931, however, it was stated that the number of persons employed in all branches of the industry was 28,737. In addition, there is the employment afforded in New South Wales, particulars of which are not available, but the number is probably in the vicinity of 2,000.

(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 decennium ended 1943-44 were 17.46 tons for New South Wales, and 17.28 tons for Queensland. Similarly, the yields of sugar per acre crushed for the same period were estimated at 2.34 tons and 2.65 tons respectively. Apart from the consideration mentioned above, the yields of cane and sugar per acre crushed for Australia for the ten years ended 1943-44 were 20.31 tons and 2.93 tons respectively, as compared with 18.39 tons and 2.45 tons for the decennium ended 1933-34.

SUGAR-CANE AND SUGAR : YIELD PER ACRE.

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.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1938-39	32.20	4.31	7.48	21.21	3.09	6.87	21.65	3.14	6.90
1940-41	33.61	4.62	7.28	19.68	2.88	6.82	20.20	2.95	6.85
1941-42	42.33	5.69	7.43	19.48	2.84	6.87	20.25	2.93	6.91
1942-43	34.73	4.55	7.63	18.83	2.62	7.19	19.47	2.70	7.22
1943-44	35.24	4.54	7.76	15.38	2.21	6.99	16.09	2.29	7.04
Average 10 seasons ended 1943-44 ..	31.97	4.25	7.53	19.85	2.88	6.90	20.31	2.93	6.93

(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 decennium ended 1943-44 it required on the average 6.93 tons of cane to produce 1 ton of sugar, or 14.43 per cent. of its total weight, as compared with 7.49 tons for the decennium ended 1933-34. 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) *Relation to Population.* The yield of raw sugar in Australia during recent years was more than sufficient to supply local requirements, the average annual production during the last five years amounting to 230 lb. per head of population. Details for the years 1938-39 and 1940-41 to 1943-44 are as follows:—

RAW SUGAR : PRODUCTION PER HEAD OF POPULATION.

State.	1938-39.	1940-41.	1941-42.	1942-43.	1943-44.
	lb.	lb.	lb.	lb.	lb.
New South Wales ..	37	38	38	35	29
Queensland ..	1,731	1,651	1,510	1,306	1,030
Australia ..	266	256	234	202	161

(vii) *Consumption.* The average annual consumption of raw sugar during the five years ended 1943-44 was estimated at 459,456 tons, equal to 144.28 lb. of raw sugar or 137.78 lb. of refined sugar per head of population. The sugar content of jam, preserved fruit, milk, &c., exported during the period has been deducted in arriving at the figures quoted. The quantity of sugar used in factories during 1938-39 and the four years ended 1943-44 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.

Factories.	1938-39.	1940-41.	1941-42.	1942-43.	1943-44.
	Tons.	Tons.	Tons.	Tons.	Tons.
Aerated Waters and Cordials	11,810	13,306	17,982	21,167	24,593
Bacon Factories ..	267	322	335	356	357
Biscuits and Bakeries, including Cakes and Pastry	18,801	20,515	22,657	24,881	26,648
Breweries ..	16,733	19,669	21,307	19,612	20,132
Cereal Foods ..	1,287	1,329	1,484	1,267	1,422
Condensed and Concentrated Milk ..	6,889	9,943	17,430	12,605	12,973
Confectionery, Ice Cream, &c.	26,926	30,193	28,806	33,023	38,979
Jams, Jellies and Preserved Fruit(a) ..	40,537	59,020	61,058	71,041	71,610
Wineries and Distilleries (b)	..	..	17,956	19,265	49,479
Other ..	583	1,785	760	2,942	926
Total ..	123,833	156,082	189,775	206,159	247,119

(a) Includes Condiments, Pickles, etc.

(b) Raw Sugar.

(viii) *Control of Cane Production in Queensland.* By agreement between the Commonwealth and Queensland Governments an Australian price has been fixed for refined sugar of £33 4s. per ton in each of the capital cities. This is substantially above the world price which has prevailed during recent years, and the proceeds of Australian sales are pooled with the proceeds of exports. 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 Sugar Board 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. At that date 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 Agreements imposed certain restrictions on the volume of Australian exports, the Queensland Parliament passed further legislation limiting the pool to 737,000 tons. Any production in excess of this was to be acquired at a penalty price of 10s. per ton. 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 1939 and 1940 crops. Crops for subsequent years have been similarly treated.

2. *Sugar-beet.*—Victoria is the only State growing beet for sugar, although 5 tons of sugar-beet were produced from 1 acre in Tasmania during 1942-43. Particulars in regard to acreage and production for Victoria for the five years and for the decennium ended 1943-44 are shown in the following table :—

SUGAR-BEET : AREA AND PRODUCTION, VICTORIA.

Particulars.	1939-40.	1940-41.	1941-42.	1942-43.	1943-44.	Average ten seasons ended 1943-44.
Area harvested .. acres	4,235	3,588	2,866	955	836	3,043
Production .. tons	42,903	27,031	24,546	5,997	6,975	27,884
Average per acre .. "	10.13	7.53	8.56	6.28	8.34	9.16
Sugar produced .. "	6,250	3,279	2,769	678	704	3,511

The area under sugar-beet declined steadily during the war years and in 1943-44 was only one-fifth of that in 1939-40. Much of this decline was due to the diversion, as a war-time measure, of many areas to the production of vegetables. The mill at Maffra ceased operations at the end of 1943 but efforts are being made to re-open it to treat the 1946-47 crop.

3. **Sugar Bounties.**—Reference is made to the various Acts in connexion with sugar bounties and sugar excise tariffs in early issues of the Official Year Book. (See No. 6, pp. 394–6.)

4. **Sugar Purchase by Commonwealth Government.**—The steps taken by the Commonwealth Government in connexion with this matter are also referred to in the Official Year Book. (See No. 18, p. 720.)

5. **Sugar Agreement in Australia.—Embargo on Imports, etc.**—By agreement between the Commonwealth and Queensland Governments in 1925 the embargo on the importation of foreign sugar, which was first introduced in September, 1915, was extended for three years from 1st September, 1925. The price of raw sugar needed for home consumption was fixed at £27 per ton, £1 of which was to defray administrative and general expenses of the Sugar Board and to provide special concessions to certain consumers of sugar. The embargo was later extended for a further period of three years until 1st August, 1931, on practically the same terms as previously.

In response to representations the Commonwealth Government appointed a Committee of Inquiry on the 23rd August, 1930 to report on the industry. The Committee consisted of eight members representing the various interests concerned. The reports of the Committee were made available in March, 1931 and the renewal of the sugar agreement, with certain modifications, was recommended. The terms of the new agreement closely followed those previously in force, particularly as regards the embargo on imports and the fixation of prices. The assistance to the fruit industry was increased from an average of £180,000 per annum to £315,000 by way of grant from the sugar industry. The agreement was signed on 1st June, 1931, and was to remain in force for a period of five years from 1st September, 1931. In 1932, however, conferences arranged between the Commonwealth Government and representatives of the industry agreed to a reduction of $\frac{3}{4}$ d. per lb. in the retail price of sugar from 1st January, 1933 until the end of the period of the agreement (31st August, 1936). It was also decided to reduce the amount of the assistance to the fruit industry to £200,000. A renewal of the agreement for a period of five years commencing 1st September, 1936, was negotiated between the Commonwealth and Queensland Governments in July, 1935, and in May, 1940 the agreement was extended for a further period of five years to 31st August, 1946. The wholesale and retail prices of sugar remain unaltered but the concession to the fruit industry was increased to £216,000 in 1936.

6. **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 assure 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 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 is expected that the International Sugar Council, which has been established to administer the agreement, will 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 may be increased, however, where the delivery from any British Colony falls short of its quota. In such circumstances, the deficiency may 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. Two further protocols have since been signed, each extending the agreement for a period of one year. Since the outbreak of war in September, 1939, certain clauses of the agreement have been declared inoperative because of the difficulties arising therefrom.

7. **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 1940-41 to 1943-44 will be found in the following table :—

SUGAR : NET RETURNS, AUSTRALIA.

Year.	Percentage Exported. (a)	Net Value of Exports per Ton. (a)	Average Price per Ton for Whole Crop. (a)	Estimated Value of Crop.
	Per cent.	£ s. d.	£ s. d.	£
1938-39	55.78	8 4 3	15 3 11	12,806,376
1940-41	50.43	11 5 6	17 2 11	14,093,668
1941-42	40.83	10 18 9	17 18 11	13,770,584
1942-43	31.92	10 16 3	18 18 5	11,762,432
1943-44	17.12	13 2 6	20 18 4	12,554,579

(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 1943-44 amounted to £216,012. 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.

8. **Imports and Exports of Sugar.**—Particulars showing the imports and exports of cane sugar for the years 1938-39 and 1940-41 to 1943-44 are as follows :—

SUGAR : IMPORTS AND EXPORTS, AUSTRALIA.

Year.	Imports.		Exports.		Net Exports.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Tons.	£A.	Tons.	£A.	Tons.	£A.
1938-39	42	883	443,021	4,177,741	442,979	4,176,858
1940-41	14	362	374,707	4,880,402	374,693	4,880,040
1941-42	1,922	46,250	198,789	2,636,430	196,867	2,590,180
1942-43 .. ..	..	5	66,332	1,001,353	66,332	1,001,348
1943-44 .. ..	..	..	95,826	1,523,786	95,826	1,523,786

9. **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 proportions used for distilling, fuel, manure and other purposes will be found in Chapter XXV. "Manufacturing Industry". A distillation plant erected at Sarina, near Mackay, was opened in 1927 and produces power alcohol of excellent quality. Other distilleries were erected after the outbreak of war in 1939.

Boards are now being made from the residuum 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.

10. **Sugar Prices.**—The prices of sugar in Australia from 1915 to 1946 are shown in the following table. During recent years the prices were fixed in accordance with the agreements referred to on page 826.

SUGAR : PRICES FOR CONSUMPTION IN AUSTRALIA.

Date of Determination.	Raw Sugar.		Refined Sugar.	
	Price to Grower and Miller per Ton.		Wholesale Price per Ton.	Retail Price per lb.
	£	s. d.	£ s. d.	d.
19.7.15 to 15.1.16	18	0 0	25 10 0	3
16.1.16 to 30.6.17	18	0 0	29 5 0	3½
1.7.17 to 24.3.20	21	0 0	29 5 0	3½
25.3.20 to 30.6.20	21	0 0	49 0 0	6
1.7.20 to 31.10.22	30	6 8	49 0 0	6
1.11.22 to 30.6.23	30	6 8	42 0 0	5
1.7.23 to 21.10.23	27	0 0	42 0 0	5
22.10.23 to 31.8.25	26	0 0	37 11 4	4½
1.9.25 to 31.8.31	(a)26	10 0	37 6 8	4½
1.9.31 to 4.1.33	26	0 0	37 6 8	4½
5.1.33 to 31.8.36	24	0 0	33 4 0	4
1.9.36 to 31.8.41	24	0 0	33 4 0	4
1.9.41 to 31.8.46	(b)24	0 0	33 4 0	4

(a) The price of raw sugar for the years 1925 to 1943 was estimated at from £24 to £26 10s. per ton, but as the result of the values received for the surpluses exported, the actual price obtained in 1925-26 was £19 10s. 7d.; 1926-27, £24 10s. 10d.; 1927-28, £22 0s. 4d.; 1928-29, £20 17s. 11d.; 1929-30, £20 8s. 2d.; 1930-31, £19 12s. 11d.; 1931-32, £18 2s. 11d.; 1932-33, £18 17s. 9d.; 1933-34, £16 6s. 3d.; 1934-35, £15 13s. 9d.; 1935-36, £16 5s. 11d.; 1936-37, £15 7s. 4d.; 1937-38, £15 7s. 6d.; 1938-39, £15 3s. 11d.; 1939-40, £15 17s. 7d.; 1940-41, £17 2s. 11d.; 1941-42, £17 18s. 11d.; 1942-43, £18 18s. 5d.; and 1943-44, £20 18s. 4d.

(b) In 1944 the equivalent price was reduced to £22 2s. per ton due to increased costs through war.

11. **War-time 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 per ton in sterling currency 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.

§ 15. 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. As already mentioned, 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 1938-39 and 1940-41 to 1943-44 and the average for the decennium ended 1943-44 are given in the following table:—

VINEYARDS : AREA.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	A.C.T.	Australia.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres
1938-39 ..	16,979	42,436	2,793	58,020	6,277	2	126,507
1940-41 ..	16,478	43,238	2,903	58,416	8,841	3	129,879
1941-42 ..	16,445	42,554	3,687	58,039	9,011	3	129,739
1942-43 ..	16,302	42,634	3,040	58,202	10,126	3	130,307
1943-44 ..	16,001	42,711	2,998	57,261	10,240	2	129,213
Average 10 seasons ended 1943-44	16,298	42,221	2,796	56,928	7,505	..	125,748

The total area of vines in Australia has shown a substantial expansion since 1860. This development has been interrupted periodically, decreases occurring in 1896, in the years between 1904 and 1910, and in 1914. Since the latter year the area increased without interruption from about 61,000 acres to more than 114,000 acres in 1924-25, due largely to the planting of varieties suitable for drying. Subsequently the area fluctuated around 114,000 acres but commenced to increase again in 1933-34. Since then the expansion has continued, reaching the record area of 130,307 acres in 1942-43. There was a slight decline to 129,213 acres in 1943-44.

(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 decennium ended 1943-44 averaged 17.6 million gallons compared with 16.0 million gallons produced during the ten years ended 1933-34. 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 2½ million gallons only or 0.3 gallons per head per annum and consequently the local market is restricted. On this point, however, the quantity of wine released annually for home consumption during the war years has increased to 6½ million liquid gallons or the equivalent of about 1 gallon per head of population. 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 in a most difficult position. In addition, wine was not a priority cargo and until shipping conditions improve the problem of exporting wine, in quantity, will continue.

Particulars of the Wine Export Bounty are shown in § 19 hereafter. 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 ending 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.

The quantity of wine produced in the several States during the 1938-39 and 1940-41 to 1943-44 seasons, together with the average for the decennium ended 1943-44, is given in the following table:—

WINE : PRODUCTION.

('000 omitted.)

Season.	N.S.W.	Victoria.	Queensland.	S. Aust.	W. Aust.	Australia.
	Gallons.	Gallons.	Gallons.	Gallons.	Gallons.	Gallons.
1938-39 ..	2,502	825	45	11,147	439	14,958
1940-41 ..	3,229	1,208	23	11,067	470	15,997
1941-42 ..	3,112	1,162	32	11,329	410	16,045
1942-43 ..	2,721	1,382	44	15,203	514	19,864
1943-44 ..	3,530	1,320	27	14,435	553	19,865
Average 10 seasons ended						
1943-44 ..	2,693	1,323	32	13,121	440	17,609

2. Imports and Exports of Wine.—(i) Imports. The principal countries of origin of wine imported into Australia were, before the War, France, Spain, Portugal and Italy, the bulk of the sparkling wines coming from France. The imports for the four years ended 1943-44 compared with 1938-39 are given hereunder:—

WINE : IMPORTS INTO AUSTRALIA.

Year.	Quantity.			Value.		
	Sparkling.	Other.	Total.	Sparkling.	Other.	Total.
	Gallons.	Gallons.	Gallons.	£A.	£A.	£A.
1938-39 ..	10,759	30,451	41,210	23,303	22,792	46,095
1940-41 ..	545	5,791	6,336	1,411	5,445	6,856
1941-42 ..	74	3,112	3,186	212	2,887	3,099
1942-43 ..	3	59	62	63	82	145
1943-44 ..	..	755	755	..	1,319	1,319

(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. The main countries of destination of the 1,245,401 gallons exported in 1943-44 were:— New Caledonia (320,396 gallons, £68,339); New Zealand (135,852 gallons, £45,508); and Canada (181,535 gallons, £94,570).

Because of the prior claims of other commodities to shipping space, the export of wine to the United Kingdom virtually ceased during the war.

Exports for the years 1938-39 and 1940-41 to 1943-44 are given in the following table:—

WINE : EXPORTS FROM AUSTRALIA.

Year.	Quantity.			Value.		
	Sparkling.	Other.	Total.	Sparkling.	Other.	Total.
	Gallons.	Gallons.	Gallons.	£A.	£A.	£A.
1938-39 ..	2,369	3,718,135	3,720,504	3,507	978,570	982,077
1940-41 ..	13,368	1,644,639	1,658,007	20,366	496,047	516,413
1941-42 ..	17,000	1,376,803	1,393,803	26,444	471,420	497,864
1942-43 ..	9,918	807,097	817,015	12,136	284,907	297,043
1943-44 ..	10,306	1,235,095	1,245,401	6,966	415,966	422,932

3. 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 1938-39 and 1940-41 to 1943-44 are as follows:—

TABLE GRAPES : PRODUCTION.

Season.		N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Australia.
		Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1938-39 ..	..	4,034	4,089	2,313	985	3,139	14,560
1940-41 ..	..	4,869	4,256	2,496	1,598	2,528	15,747
1941-42 ..	..	4,573	3,659	3,234	1,131	2,308	14,905
1942-43 ..	..	5,186	4,123	2,621	1,218	3,194	16,342
1943-44 ..	..	5,325	4,067	2,696	1,150	3,240	16,478

(ii) *Raisins and Currants*. The quantities of raisins (sultanas and lexias) and currants dried during each of the seasons 1938-39 and 1940-41 to 1944-45 and the decennium ended 1943-44 are given in the following table. The production of 103,410 tons for the 1943-44 season represents the greatest output recorded in any year. The production for 1944-45 declined to 68,765 tons consequent upon severe drought conditions and some damage by frost.

RAISINS(a) AND CURRANTS : PRODUCTION.

Season.	N. S. Wales.		Victoria.		South Aust.		Western Aust.		Australia.	
	Raisins.	Currants.	Raisins.	Currants.	Raisins.	Currants.	Raisins.	Currants.	Raisins.	Currants.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1938-39 ..	4,837	1,239	33,659	10,301	11,656	9,569	737	2,762	9,889	23,871
1940-41 ..	6,777	1,102	41,342	6,629	15,517	6,745	487	2,467	64,123	16,943
1941-42 ..	8,022	1,381	47,520	8,738	15,889	8,814	470	2,420	71,809	21,353
1942-43 ..	7,528	1,100	49,439	8,620	15,263	9,233	671	2,329	69,904	21,562
1943-44 ..	7,719	1,488	48,851	9,987	20,739	10,457	835	3,334	78,144	25,266
1944-45(b) ..	5,053	1,064	32,851	6,817	12,445	6,969	674	2,892	51,023	17,742
Average 10 seasons ended										
1943-44 ..	6,059	1,190	41,603	8,470	14,479	8,787	678	2,406	62,819	22,853

(a) Sultanas and Lexias.

(b) Subject to revision.

4. **Production and Disposals.**—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 are given in the table below. The quantities disposed of to civilians are inclusive of amounts delivered to biscuit manufacturers, bakeries, etc. as well as retail sales for household consumption.

DRIED VINE FRUIT : QUANTITIES DISPOSED OF, AUSTRALIA.

Season ended December—	Australia.			Overseas.					Grand Total.
	Civilians.	Services.	Total.	United King- dom.	Canada.	New Zea- land.	Other Coun- tries.	Total.	
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1942..	16,500	5,000	21,500	44,000	20,000	5,650	1,050	70,700	92,200
1943..	20,921	4,283	25,204	42,810	15,830	5,770	761	65,171	90,375
1944..	29,951	5,120	35,071	44,570	16,000	6,756	1,820	69,146	104,217
1945..	20,604	3,636	24,240	21,500	15,000	5,550	1,746	43,796	68,036

5. **Exports of Raisins and Currants.**—The following table gives the oversea exports of raisins and currants during each of the five years ended 1944-45 compared with 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.	£A.	Tons.	£A.	Tons.	£A.
1938-39 ..	49,550	1,974,045	23,759	772,966	73,309	2,747,011
1940-41 ..	47,793	1,790,990	16,124	574,648	63,917	2,365,638
1941-42 ..	49,341	1,958,522	14,706	462,665	64,047	2,421,187
1942-43 ..	46,731	1,813,713	11,240	358,039	57,971	2,171,752
1943-44 ..	56,039	2,449,050	18,994	714,315	75,033	3,163,365
1944-45 ..	56,418	2,647,719	20,994	828,330	77,412	3,476,049

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, Canada and New Zealand, the quantities exported thereto in 1944-45 being respectively 45,506, 25,955 and 4,748 tons or 59, 34 and 6 per cent. 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.

6. **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.

7. **Post-war Contract.**—A long term agreement has been negotiated between the Governments of the Commonwealth and the United Kingdom for the purchase of the exportable surplus of the dried vine fruit crop for the 1946, 1947 and 1948 seasons. The contract prices for currants, sultanas and lexias sold to the United Kingdom during the war years 1942 to 1945, as well as the prices fixed under the post-war contract covering the years 1946 to 1948, are given in the following table.

DRIED VINE FRUITS : CONTRACT PRICES PER TON TO UNITED KINGDOM.
(Basis f.o.b. Australian Ports.)

Fruit.	Grade.	1942.	1943.	1944.	1945.	1946 to 1948.
		£A. s. d.	£A. s. d.	£A. s. d.	£A. s. d.	£A. s. d.
Currants ..	I Crown and upwards ..	35 0 0	37 16 3	41 11 3	43 2 6	50 0 0
Sultanas ..	I Crown and upwards ..	47 3 9	51 5 0	55 0 0	56 11 3	65 0 0
Lexias ..	4 and 5 Crown ..	49 7 6	50 12 6	54 7 6	55 18 9	64 7 6

§ 16. Orchards and Fruit-Gardens.

1. *Area.*—The greatest area of orchards and fruit-gardens was attained in 1933-34 when 281,989 acres were planted. The total area of orchards and fruit-gardens in the several States during the years 1938-39 and 1940-41 to 1943-44 is given in the following table :—

ORCHARDS AND FRUIT-GARDENS : AREA.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Nor. Terr.	A.C.T.	Australia..
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1938-39..	85,598	71,300	32,641	28,943	22,029	31,580	50	97	272,238
1940-41..	85,420	69,756	32,426	29,392	21,905	30,834	15	150	269,898
1941-42..	83,427	69,413	31,520	29,528	21,593	31,266	..	133	266,880
1942-43..	79,363	69,776	29,029	29,478	21,266	31,337	..	135	260,384
1943-44..	81,283	70,024	31,878	25,521	21,154	32,135	..	105	262,100

2. *Varieties of Crops.*—(i) *General.* 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.) occupy the leading position, although apples, peaches, plums, pears, cherries and bananas 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, 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, pear, plum, peach, apricot and fig are the chief varieties. In Tasmania, the apple occupies nearly four-fifths 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 taken up with the pear, apricot, plum and cherry. The following tables give the acreage—bearing and non-bearing—of the principal kinds of fruit, and the quantity and value of fruit produced.

(ii) *Area.* The table hereunder shows the total acreage for 1943-44:—

ORCHARDS AND FRUIT-GARDENS : AREA, 1943-44.

Fruit.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	A.C.T.	Australia.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Apples ..	14,650	22,360	5,561	7,802	12,740	22,890	66	86,069
Apricots ..	1,900	4,841	317	3,419	513	1,353	4	12,353
Bananas ..	12,868	..	7,450	..	186	..	..	20,504
Cherries ..	2,662	1,487	7	1,051	13	96	3	5,319
Citrus—								
Oranges ..	21,948	4,244	3,009	4,006	3,200	..	..	36,407
Mandarins ..	2,857	102	1,787	124	187	..	..	5,057
Lemons ..	3,443	1,919	487	356	538	..	..	6,743
Other ..	838	236	453	147	172	..	..	1,846
Nuts ..	903	631	271	2,507	326	..	5	4,043
Peaches ..	8,287	14,854	1,545	1,361	812	131	6	26,996
Pears ..	3,524	13,504	387	1,689	933	2,381	7	22,425
Pineapples ..	193	..	6,940	..	..	..	..	7,133
Plums and Prunes ..	4,895	3,510	1,238	1,809	899	382	9	12,742
Other Small Fruits ..	16	604	125	343	13	4,846	..	5,947
Other Fruits ..	2,299	1,732	2,301	907	616	56	5	7,916
Total ..	81,283	70,024	31,878	25,521	21,154	32,135	105	262,100

(iii) *Production.*—(a) *Quantities.* The production in 1943-44 is shown in the next table:—

ORCHARDS AND FRUIT-GARDENS : PRODUCTION, 1943-44.

Fruit.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	A.C.T.	Australia.
Apples .. bushel	1,233,758	2,326,224	482,326	894,838	1,560,441	8,022,500	2,888	14,523,275
Apricots .. "	246,008	464,934	25,953	536,734	61,514	97,210	236	1,432,589
Bananas .. "	1,426,404	..	662,183	..	19,795	..	..	2,108,382
Cherries .. "	213,229	64,689	492	52,065	..	3,670	42	334,907
Citrus—								
Oranges .. "	2,251,293	569,798	237,606	670,273	279,707	..	..	4,008,677
Mandarins .. "	231,114	20,000	147,911	19,698	15,973	..	..	434,696
Lemons .. "	298,011	162,000	58,883	50,577	88,710	..	..	658,181
Other .. "	111,230	48,000	37,400	16,888	16,832	..	..	230,350
Nuts .. lb.	292,865	796,121	79,898	1,007,104	56,641	..	589	1,633,218
Peaches .. bushel	752,357	1,469,813	126,661	149,229	66,798	8,090	472	2,573,420
Pears .. "	319,976	1,421,706	34,529	240,804	76,059	590,400	89	2,683,563
Pineapples .. dozen	25,287	..	2,000,844	..	..	..	..	2,026,131
Plums and Prunes bushel	486,854	246,392	115,317	153,831	81,873	86,560	264	1,171,091
Other Small Fruits cwt.	290	13,199	1,372	6,295	128	157,235	..	178,519

(b) *Gross Values.* The gross value of production for the various classes of fruit for the year 1943-44 is given in the following table:—

ORCHARDS AND FRUIT-GARDENS : GROSS VALUE OF PRODUCTION, 1943-44.

Fruit.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	A.C.T.	Australia.
	£	£	£	£	£	£	£	£
Apples ..	941,510	1,104,956	325,271	628,637	388,591	1,478,200	2,202	4,869,367
Apricots ..	300,880	209,220	26,598	279,115	52,970	30,820	289	899,892
Bananas ..	2,036,590	..	842,261	..	58,232	..	..	2,937,083
Cherries ..	497,070	84,096	1,640	98,242	3,938	2,540	98	688,306
Citrus—								
Oranges ..	1,965,770	560,743	211,530	743,616	171,321	..	..	3,652,980
Mandarins ..	191,620	20,000	136,201	55,680	16,572	..	..	426,073
Lemons ..	231,110	109,350	32,516	48,259	51,378	..	..	472,613
Other ..	75,840	26,400	21,428	12,666	10,099	..	..	146,433
Nuts ..	16,660	13,124	3,023	50,038	7,336	..	33	90,214
Peaches ..	515,410	606,298	93,949	71,361	67,911	1,990	323	1,357,242
Pears ..	251,200	586,454	19,887	95,893	24,253	137,040	70	1,114,797
Pineapples ..	20,860	..	881,329	..	..	..	..	902,189
Plums and Prunes ..	464,790	84,777	83,400	98,175	62,997	22,660	266	817,065
Other Small Fruits ..	1,410	50,606	19,772	29,681	9,768	306,760	..	417,997
Other Fruits ..	195,730	60,376	188,110	47,426	40,762	2,070	160	534,634
Total ..	7,706,450	3,522,400	2,886,915	2,259,471	966,128	1,982,080	3,441	19,326,885

3. **Principal Fruit Crops.**—(i) *Area.* The area in Australia of the principal fruit crops for each of the years 1938-39 and 1940-41 to 1943-44 is shown hereunder :—

PRINCIPAL FRUIT CROPS : AREA, BEARING AND NON-BEARING, AUSTRALIA.

Year.	Apples.	Bananas.	Citrus Fruits.	Peaches.	Pears.	Plums.(a)
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1938-39 ..	97,351	22,900	46,955	25,054	21,587	14,119
1940-41 ..	92,363	23,676	47,415	25,764	23,404	13,152
1941-42 ..	90,379	21,169	47,843	26,839	22,710	13,501
1942-43 ..	87,672	20,158	50,311	25,109	22,196	12,443
1943-44 ..	86,069	20,504	50,053	26,996	22,425	12,742

(a) Includes prunes.

(ii) *Production*—(a) *Quantities.* In the next table the production of the principal varieties of fruit grown in Australia is shown for the same periods :—

PRINCIPAL FRUIT CROPS : PRODUCTION IN AUSTRALIA.

('000 omitted.)

Year.	Apples.	Bananas.	Citrus Fruits.	Peaches.	Pears.	Plums.(a)
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1938-39 ..	11,126	2,494	5,644	2,523	2,300	771
1940-41 ..	12,165	2,610	5,472	2,369	2,921	950
1941-42 ..	10,531	2,491	5,196	2,121	2,208	851
1942-43 ..	9,851	2,408	4,180	2,036	2,837	927
1943-44 ..	14,523	2,108	5,332	2,573	2,684	1,171

(a) Includes prunes.

(b) *Values.* The gross value of the principal fruit crops during the periods mentioned is given in the following table :—

PRINCIPAL FRUIT CROPS : GROSS VALUE OF PRODUCTION, AUSTRALIA.

Year.	Apples.	Bananas.	Citrus Fruits.	Peaches.	Pears.	Plums.(a)
	£	£	£	£	£	£
1938-39 ..	3,357,817	1,206,879	1,916,912	737,791	674,887	232,681
1940-41 ..	2,521,185	1,250,663	1,894,067	737,647	779,416	297,332
1941-42 ..	2,446,589	1,456,056	2,613,223	816,595	679,518	379,725
1942-43 ..	3,364,691	2,131,309	3,281,856	1,084,036	1,098,863	595,374
1943-44 ..	4,869,367	2,937,083	4,698,099	1,357,242	1,114,797	817,065

(a) Includes prunes.

4. **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 value of the shipments in 1943-44 amounted to £315,329 and £3,294,553 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.

(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.	£A.	Centals.	£A.	Centals.	£A.
1938-39 ..	69,883	29,843	2,752,437	2,022,936	2,682,554	1,993,093
1940-41 ..	36,028	15,892	351,626	393,098	315,598	377,206
1941-42 ..	16,719	8,977	226,746	238,919	210,027	229,942
1942-43 ..	1,959	2,370	133,284	191,129	131,325	188,759
1943-44 ..	596	1,118	135,081	315,329	134,485	314,211

(iii) *Exports of Apples, Pears and Citrus Fruits.* The quantity and value of apples, pears and citrus fruits exported during each of the years 1938-39 and 1940-41 to 1943-44 are shown in the following table:—

APPLES, PEARS AND CITRUS FRUITS : EXPORTS FROM AUSTRALIA.

Year.	Apples.		Pears.		Citrus Fruits.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Centals.	£A.	Centals.	£A.	Centals.	£A.
1938-39 ..	2,111,139	1,433,440	294,930	264,805	274,229	221,184
1940-41 ..	87,651	105,140	3,371	5,143	231,843	222,381
1941-42 ..	31,448	41,699	809	1,123	190,348	191,141
1942-43 ..	10,434	19,024	1,073	1,974	117,908	165,830
1943-44 ..	21,401	45,563	2,988	7,594	107,386	255,703

(iv) *Dried Fruits.* The quantity and value of overseas imports and exports of dried fruits, other than raisins and currants, for the four years ended 1943-44 compared with 1938-39 are shown below. Normally, the bulk of the imports consist mainly 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 Imports.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	'000 lb.	£A.	'000 lb.	£A.	'000 lb.	£A.
1938-39 ..	11,097	80,752	3,927	117,814	7,170	(b) 37,062
1940-41 ..	9,349	108,920	3,565	129,741	5,784	(b) 20,821
1941-42 ..	7,735	102,245	5,428	175,736	2,307	(b) 73,491
1942-43 ..	23	323	2,428	105,265	(c) 2,405	(b) 104,942
1943-44 ..	19	303	3,631	131,188	(c) 3,612	(b) 130,885

(a) Excludes raisins and currants referred to separately under Vineyards, § 15 par. 5. (b) Export values exceed imports.

(c) Export quantities exceed imports.

(v) *Jams and Jellies.* Jams and jellies were exported in large quantities during the 1914-19 War, the record shipment of 79,277,560 lb., valued at £1,847,970, being dispatched from Australia during 1918-19. Exports during the 1939-45 War did not reach the record dimensions obtained during the 1914-19 War. Australian and Allied Services based upon Australia had prior claims upon Australia's output of jam, with the result that the exportable surplus, after meeting civil needs, was much reduced. Exports reached their highest level in 1940-41, before the outbreak of war in the Pacific, when nearly 45 million lb. of jam were exported. Peak production occurred in 1942-43 and amounted to 169 million lb. compared with the peak of 136 million lb. in 1918-19. Particulars of imports and exports during each of the years 1938-39 and 1940-41 to 1943-44 are as follows:—

JAMS AND JELLIES : IMPORTS AND EXPORTS, AUSTRALIA.

Year.	Imports.		Exports.		Net Exports.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	'000 lb.	£A.	'000 lb.	£A.	'000 lb.	£A.
1938-39 ..	81	3,253	13,872	262,486	13,791	259,233
1940-41 ..	13	470	44,909	929,458	44,896	928,988
1941-42 ..	21	877	40,514	960,937	40,493	960,060
1942-43 ..	42	1,359	18,276	498,097	18,234	496,738
1943-44 ..	..	5	21,638	557,161	21,638	557,156

(vi) *Preserved Fruit.* (a) *Imports and Exports.* The total value of fruit and vegetables, preserved or partly preserved in liquid or pulped, imported into Australia during 1943-44 was £stg.1,998, or £2,502 in Australian currency. Oversea exports in 1943-44 were as follows:—Apricots, 1,203,957 lb., £30,968; peaches, 8,350,983 lb., £210,075; pears, 4,816,942 lb., £122,714; pineapples, 785,768 lb., £20,001; and other, 7,162,471 lb., £199,568; or a total shipment valued at £583,326.

(b) *War-time Contract.* Two contracts were negotiated between the Commonwealth and United Kingdom Governments whereby the latter undertook to purchase the exportable surplus of the 1940 pack of Australian canned apricots, peaches and pears. Similar arrangements were concluded for the purchase of the 1941 pack but Australian and Allied Services based upon Australia took most of the 1942, 1943 and 1944 packs. This had the effect of limiting civilian supplies to a quota basis as well as reducing the quantity available for exports.

5. *Apple and Pear Acquisition.*—Prior to the 1939-45 War the stabilization of the apple and pear industry was dependent upon its export trade; normally little more than half of Australia's production was needed to meet the local demand. The interruption to exports due to the war imposed on the industry a severe strain, to meet which the Commonwealth Government introduced the National Security (Apple and Pear Acquisition) Regulations providing for the acquisition, with guaranteed payments by the way of advances to growers, and the orderly marketing of the crop. In 1940 the Australian Apple and Pear Board was appointed as the marketing authority and a Marketing Committee of the Board, with a committee in each State, was set up to supervise the whole of the marketing arrangements in Australia and for export. Later the Marketing Committee was superseded and the Australian Apple and Pear Marketing Board became the authority to handle and market all apples and pears acquired. The following table gives the total quantity of fruit acquired each year and the amounts paid growers as

advances on the basis of "bare" fruit in the orchard. All packing and marketing costs such as cases, packing, transport, cool storage, selling, etc. were paid for by the Board:—

State.	1940—No. 1 Acquisition.		1941—No. 2 Acquisition.		1942—No. 3 Acquisition.		1943—No. 4 Acquisition.		1944—No. 5 Acquisition.	
	Quantity.	Growers Ad-vances.	Quantity.	Growers Ad-vances.	Quantity.	Growers Ad-vances.	Quantity.	Growers Ad-vances.	Quantity.	Growers Ad-vances.
APPLES.										
	'000. bus.	£'000.	'000. bus.	£'000.	'000. bus.	£'000.	'000. bus.	£'000.	'000. bus.	£'000.
N.S.W. (a) ..	476	59	906	203	576	111	(b)	(b)	(b)	(b)
Vic. ..	1,980	257	2,872	424	1,428	219	(b)	(b)	(b)	(b)
Q'land ..	61	8	204	47	98	23	(b)	(b)	(b)	(b)
S. Aust. ..	551	69	1,929	248	270	36	(b)	(b)	(b)	(b)
W. Aust. ..	1,505	197	1,905	239	1,161	156	2,127	327	1,567	239
Tas. ..	4,922	667	5,967	683	6,354	758	5,738	778	8,027	1,108
Total ..	9,495	1,257	13,783	1,844	9,887	1,303	7,865	1,105	9,594	1,347

PEARS.
(Other than Canning.)

	'000. bus.	£'000.	'000. bus.	£'000.	'000. bus.	£'000.	'000. bus.	£'000.	'000. bus.	£'000.
	N.S.W. (a) ..	137	24	280	52	158	35	(b)	(b)	(b)	(b)
Vic. ..	308	59	1,087	208	597	117	(b)	(b)	(b)	(b)
Q'land ..	0.5	..	18	4	9	2	(b)	(b)	(b)	(b)
S. Aust. ..	95	18	193	34	97	17	(b)	(b)	(b)	(b)
W. Aust. ..	75	13	93	15	93	17	141	25	77	14
Tas. ..	310	57	579	112	359	69	387	86	534	104
Total ..	925.5	171	(e)2,250	425	(f)1,313	257	528	111	611	118

(a) Includes Australian Capital Territory. (b) Acquisition scheme did not apply (c) Excludes 52,115 bushels sold privately by growers. (d) Excludes 110,154 bushels sold privately by growers. (e) Excludes 15,335 bushels sold privately by growers. (f) Excludes 6,861 bushels sold privately by growers.

§ 17. 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.

Following the outbreak of war in the Pacific in December, 1941 and the establishment of Australia as a base for Australian and Allied Services in the South-West Pacific Area it was evident that the production of fresh vegetables under the conditions then existing would be insufficient to meet the additional demand from the Services. Consequently 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 §§ 9, 10 and 11 of this Chapter.

This development was achieved by continuing supplies of vegetables to the civil population from the market gardens already established, by extending production to areas which previously had not grown these crops and by the mechanization of the industry. Farming operations were thus able to be undertaken in many cases on a scale larger than that normally adopted in Australia. In addition, the letting of

contracts at guaranteed prices proved an attraction and the vegetable-growing industry was able to produce the additional quantities necessary to meet the war-time needs of the services as well as those of the civil population.

Details of the area and production of vegetables for the season 1942-43 and 1943-44 are given in the following table. 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.	1942-43.		1943-44.	
	Area.(b)	Production.	Area.(c)	Production.
	Acres.	Tons.	Acres.	Tons.
Beans, French	13,677	13,747	18,376	15,291
Beetroot	2,996	16,621	4,009	21,781
Cabbages	9,038	110,981	12,030	127,175
Carrots	5,639	34,340	13,493	74,379
Cauliflowers	5,217	63,102	5,737	69,527
Cucumbers	1,499	2,850	3,003	5,679
Lettuces	2,835	10,984	3,461	12,536
Parsnips	1,841	12,193	2,207	13,265
Peas, Green	32,710	25,597	51,581	28,849
Potatoes, Sweet	3,006	9,966	3,343	11,723
Pumpkins	27,324	77,758	29,874	66,234
Tomatoes	16,868	71,803	23,731	106,931
Turnips, Swede	12,108	49,307	11,647	40,442
All Other	7,830	..	16,116	..
Total	142,588	..	198,608	..

(a) Excludes potatoes, onions, blue peas and navy beans. (b) Area harvested. (c) Area sown.

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. The number of canneries operating totalled 40 whilst the number of dehydration plants was 33.

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

PRODUCTION OF CANNED VEGETABLES : AUSTRALIA.

Vegetable.	1938-39.	1939-40.	1940-41.	1941-42.	1942-43.	1943-44.
	'000 lb.	'000 lb.	'000 lb.	'000 lb.	'000 lb.	'000 lb.
Asparagus	2,150	2,247	2,474	2,422	2,844	2,752
Beans	2,491	2,987	6,628	16,467	10,508	6,137
Beetroot	(a)	(a)	(a)	(a)	(a)	7,734
Cabbages	(a)	(a)	(a)	(a)	(a)	13,278
Carrots	(a)	(a)	(a)	(a)	(a)	12,789
Cauliflower	198	181	264	406	276	201
Peas	1,861	3,359	4,934	2,579	3,590	9,353
Silver Beet	(a)	(a)	(a)	(a)	(a)	1,794
Tomatoes	1,578	2,573	4,195	5,557	9,019	7,124
Other (c)	(b)1,977	(b)1,581	(b)8,948	(b)21,883	(b)46,331	34,192
Total	10,255	12,928	27,443	49,314	72,568	95,354

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

3. **Production of Dehydrated Vegetables.**—The dehydration of vegetables was not undertaken in Australia until after the outbreak of war in the Pacific toward the close of 1941. The demand for vegetables in this form by Australian and Allied Services made this development a necessity and as a result 33 dehydration plants were erected in all States except Queensland in areas where adequate supplies of suitable vegetables were assured. Twelve of these establishments have ceased to operate, the number operating in March, 1946, being as follows:—New South Wales, 5; Victoria, 7; South Australia, 4; Western Australia, 1; and Tasmania, 4.

In the following table details are given of the quantities of fresh vegetables processed and the output in dehydrated form since the industry was established.

DEHYDRATED VEGETABLES: QUANTITY OF FRESH VEGETABLES USED AND PRODUCTION, AUSTRALIA.

Particulars.	1942-43.	1943-44.	1944-45.
Quantity Used—	Tons.	Tons.	Tons.
Beetroot	(a)	392	1,840
Carrots	(a)	9,336	18,984
Cabbages	(a)	10,181	20,213
Onions	(a)	2,295	4,852
Parsnips	(a)	1,042	782
Potatoes	(a)	18,054	48,979
Quantity Produced—	'000 lb.	'000 lb.	'000 lb.
Beetroot	(b)	70	261
Carrots	280	1,432	2,831
Cabbages	(b)	891	1,745
Onions	275	472	1,027
Parsnips	(b)	266	188
Potatoes	2,092	5,657	14,450
Other	101	..	..
Total	2,748	8,788	20,502

(a) Not available.

(b) Included with "Other".

§ 18. 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 1943-44 was clover, 29,923 cwt.; lucerne, 8,807 cwt.; other grass seed, 13,965 cwt., or a total of 52,695 cwt.

3. **Other Grains from Sorghums.**—In addition to the grass seed referred to in paragraph 2 above, a considerable expansion has occurred in the production of grain from sorghums including millet, etc. Particulars of the area and production are given in the table below.

In addition to the sowing of these areas for grain, considerable expansion has occurred in the area sown to sorghums for hay and green fodder. With the exception of a small area in Western Australia, production of grain is confined to the three eastern States.

SORGHUMS : AREA AND PRODUCTION OF GRAIN, AUSTRALIA.

Year.	Japanese Millet.(a)		Panicum Millet and Setaria.(b)		Sorghum.(b)	
	Area.	Production.	Area.	Production.	Area.	Production.
	Acres.	Tons.	Acres.	Tons.	Acres.	Tons.
1940-41	(c)	(c)	5,883	934	9,852	5,196
1941-42	(c)	(c)	14,010	5,497	25,340	9,696
1942-43	496	149	11,232	3,961	40,630	18,572
1943-44	1,083	460	15,943	8,043	54,868	35,927
1944-45	2,948	964	16,570	4,784	(d)63,102	33,129

(a) Victoria only. (b) Queensland only. (c) Not available. (d) Includes New South Wales.

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. Although the acreage planted increased slightly during the first three war years decreases occurred in the next two years, the acreage for 1943-44 being 34 per cent. less than the annual average for the three years ended 1938-39 and the production of dried leaf 10 per cent. less. The area of 6,616 acres and production of 4,633,000 lb. represented a decrease on 1941-42 of 2,204 acres and of more than 2,400,000 lb.

In all the States where its cultivation has been tried, the soil and climate appear to be suitable for the growth of the plant, and the large import of tobacco in its various forms is an index of the market for a satisfactory product.

In the following table particulars of the area and production of tobacco are given by States for each year since 1934-35, and for the decennium ended 1943-44 :—

TOBACCO : AREA AND PRODUCTION.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Nor. Terr.	Total.
AREA IN ACRES.								
1934-35 ..	560	4,765	3,117	151	313	55	..	8,961
1935-36 ..	934	5,840	3,973	141	426	80	..	11,394
1936-37 ..	851	5,492	3,812	102	1,041	113	..	11,411
1937-38 ..	610	4,736	3,740	90	1,216	159	..	10,551
1938-39 ..	629	2,559	3,653	39	908	130	1	7,919
1939-40 ..	717	2,018	4,402	2	1,019	105	25	8,288
1940-41 ..	988	1,926	4,304	2	1,313	15	..	8,548
1941-42 ..	953	2,232	4,341	..	1,288	6	..	8,820
1942-43 ..	823	1,850	3,749	..	1,347	..	..	7,169
1943-44 ..	657	2,000	2,348	..	1,611	..	..	6,616
Average 10 seasons ended 1943-44	772	3,342	3,684	53	1,048	66	3	8,968
PRODUCTION OF DRIED LEAF. '000 lb.								
1934-35 ..	230	1,501	1,555	23	289	45	..	3,643
1935-36 ..	667	2,879	2,005	31	352	73	..	6,007
1936-37 ..	606	1,754	2,317	24	666	143	..	5,510
1937-38 ..	409	2,336	2,197	14	789	115	..	5,860
1938-39 ..	398	720	2,094	13	767	54	..	4,046
1939-40 ..	524	1,098	2,596	(a)	712	18	9	4,957
1940-41 ..	962	1,197	2,328	..	984	5	..	5,476
1941-42 ..	836	2,226	2,884	..	1,093	1	..	7,040
1942-43 ..	772	1,017	1,843	..	1,337	..	..	4,969
1943-44 ..	515	1,544	1,779	..	795	..	..	4,633
Average 10 seasons ended 1943-44	592	1,627	2,160	10	779	45	1	5,214

(a) No leaf produced.

(iii) *Australian Tobacco Board.* The Australian Tobacco Board was constituted in May, 1941, for the purpose of regulating the marketing of Australian-grown tobacco leaf, which must be submitted to the Board for appraisement.

(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 made included the 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 was adopted and the distribution was spread between the years 1934-1938 as follows:—£5,000 to the Council for Scientific and Industrial Research, £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.

The Council for Scientific and Industrial Research is investigating diseases effecting the tobacco plant, including work on disease-resisting varieties, and is making tests of smoking quality. The Council 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 1943-44 the quantity of stemmed leaf used in tobacco factories in Australia amounted to 24.2 million lb. of which 5.0 million was of local origin and the balance was imported, chiefly from the United States of America.

(vii) *Imports.* The total net imports of tobacco into Australia during the year 1943-44 were valued at £A.4,475,912, including net imports of unmanufactured tobacco valued at £A.5,277,052.

5. *Hops.*—Hop-growing in Australia is practically confined to Tasmania and some of the cooler districts of Victoria, the total area for 1943-44 being 1,295 acres, of which 1,114 acres were in Tasmania, 160 acres in Victoria and a small area of 21 acres in Western Australia. The Tasmanian area, though still small, has increased during the present century, the total for 1901-2 being 599 acres. In Victoria the area, which in 1901-2 was 307 acres, dwindled to 71 acres in 1918-19, then rose to 312 acres in 1925-26 and dropped to 173 in 1939-40. 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.

In the following table details of the production, imports and exports of hops and the quantity of hops used in breweries are shown for the last seven years:—

HOPS : PRODUCTION AND DISPOSALS, AUSTRALIA.

Year.	Production.		Imports.	Exports.	Net Available Supplies.	Quantity used in Breweries.
	Quantity.	Gross Value.				
	Cwt.	£	Cwt.	Cwt.	Cwt.	Cwt.
1938-39	21,450	182,550	1,565	2	23,013	20,991
1939-40	17,790	148,171	10,203	3	27,990	22,063
1940-41	28,815	243,796	7,506	18	36,303	23,413
1941-42	27,068	233,266	418	56	27,430	23,897
1942-43	24,810	219,480	82	499	24,393	21,549
1943-44	26,780	238,162	1,021	401	27,400	21,710
1944-45 (a) ..	23,317	230,400	177	60	23,434	22,093

(a) Subject to revision.

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 1914-19 War there was an acute shortage of flax fibre and expansion of production was encouraged by the Commonwealth Government. Bounties were paid on production during the years 1907 to 1918 and again for each of the five years ended 1935. The amounts distributed as bounty during these periods totalled £2,376 and £2,839 respectively. However, the maximum area, which was sown in 1919-20, was only slightly more than 1,600 acres. The area subsequently 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. Victoria is the chief producing State, but South Australia, Western Australia and Tasmania have also contributed to this 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. Normally this agreement would expire about the end of the 1946-47 season, but arrangements are under consideration for its continuance on a modified scale.

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

FLAX : AREA AND PRODUCTION.

Year.	Victoria.	S. Australia.	W. Australia.	Tasmania.	Total.
AREA (Acres.)					
1938-39.. ..	1,358	..	..	..	1,358
1939-40.. ..	2,116	..	..	..	2,116
1940-41.. ..	12,086	152	996	6,596	19,830
1941-42.. ..	25,527	8,200	6,206	14,643	54,576
1942-43.. ..	26,173	9,818	8,785	11,964	56,740
1943-44.. ..	31,567	9,511	7,642	6,911	55,631
1944-45.. ..	38,459	10,537	8,278	3,803	61,077
PRODUCTION. (Tons of straw.)					
1938-39.. ..	950	..	..	..	950
1939-40.. ..	2,487	..	..	..	2,487
1940-41.. ..	8,622	73	674	7,535	16,904
1941-42.. ..	31,575	10,600	6,926	16,005	65,106
1942-43.. ..	27,529	8,361	6,159	5,462	47,511
1943-44.. ..	40,937	10,450	6,618	4,456	62,461
1944-45.. ..	17,935	3,315	3,907	4,088	28,345

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. It has been estimated that about 30,000 acres are required to produce flax for the peace-time needs of Australia.

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. Some of these mills have since been closed.

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.				Production.			
	N.S.W.	Q'land.	W. Aust.	Total.	N.S.W.	Q'land.	W. Aust.	Total.
	Acres.	Acres.	Acres.	Acres.	Tons.	Tons.	Tons.	Tons.
1938-39..	3	21,220	145	a 22,408	(c)	7,690	27	ad 7,934
1940-41..	6	10,657	34	b 10,747	(c)	5,684	7	e 5,691
1941-42..	12	13,098	20	13,130	6	6,122	10	6,138
1942-43..	4	15,849	25	15,878	4	6,387	10	6,401
1943-44..	..	18,415	25	18,440	..	9,614	1	9,615

(a) Includes 1,040 acres, 217 tons in Northern Territory. (b) Includes 50 acres, production not available, in Northern Territory. (c) Not available. (d) Excludes New South Wales. (e) Excludes New South Wales and Northern Territory.

The gross value of the 1943-44 crop was £351,063.

In addition to the production shown above, considerable quantities are imported annually, chiefly from India, for oil expression purposes. Details of Australia's available supplies in terms of kernels are given for the years 1938-39 and 1940-41 to 1943-44 :—

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

Particulars.	1938-39.	1940-41.	1941-42.	1942-43.	1943-44.
	Tons.	Tons.	Tons.	Tons.	Tons.
Production	5,290	3,794	4,092	4,268	6,410
Imports.. .. .	2,270	6,402	7,480	6,567	4,369
Total	7,560	10,196	11,572	10,835	10,779

8. **Broom Millet.**—Broom millet figures appear in the statistical returns of four of the States. The total area devoted thereto in 1943-44 was 3,274 acres, of which 2,224 acres were in New South Wales, 890 in Victoria, 143 in Queensland and 17 in Western Australia. The total production from these areas was 13,897 bushels of grain and 14,490 cwt. of fibre.

9. **Nurseries.**—In all the States fairly large areas are occupied as nurseries. The acreages under flowers, fruit-trees, etc., in 1943-44 in the various States were as follows :—New South Wales, 430 acres ; Victoria, 618 acres ; Queensland, 97 acres ; South Australia, 102 acres ; Western Australia, 86 acres ; and Tasmania, 255 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 term 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 1½d. 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 3d. 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.

(iii) *Expansion of the Cotton-growing Industry.* The increased demand for raw cotton to meet Australia's war and civil needs stimulated production. Normally Australia produces less than one-third of its requirements, the balance being obtained chiefly from the United States of America and India. 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. The expansion of the industries connected with the spinning and weaving of cotton is referred to in Chapter XXV. "Manufacturing Industry".

The area under cultivation and the production in Queensland since the year 1933 are shown hereunder :—

COTTON : AREA AND PRODUCTION IN QUEENSLAND.

Season Ended September—	Area Sown.	Production of Cotton.				Average Yield per Acre Sown.	
		Unginned.		Ginned.	Ginned- Equiv- alent in Bales. ^a	Unginned.	Ginned.
		Quantity.	Gross Value.					Unginned.	Ginned.
	Acres.	'000 lb.	£	'000 lb.	Bales.	lb.	lb.
1933 ..	68,203	17,718	(b) 282,740	5,546	10,974	260	81
1934 ..	43,397	26,924	(b) 397,263	8,777	17,471	620	202
1935 ..	54,947	20,785	(b) 376,456	7,067	14,515	378	129
1936 ..	62,200	19,199	(b) 330,324	6,654	13,504	309	107
1937 ..	52,692	11,793	(b) 205,025	4,114	8,519	224	78
1938 ..	66,470	13,688	(b) 230,339	4,774	9,654	206	72
1939 ..	41,212	17,528	(b) 301,180	6,183	12,447	424	150
1940 ..	41,262	12,108	204,669	4,128	8,370	295	100
1941 ..	61,365	15,869	304,295	5,631	11,437	259	92
1942 ..	56,433	14,058	320,141	4,925	9,962	249	87
1943 ..	41,389	9,540	212,485	3,346	6,814	230	81
1944 (c) ..	17,424	8,508	186,085	2,946	6,055	488	169
1945 ..	(d) 7,099	(d) 1,820	(e)	651	1,305	(d) 256	(d) 92

(a) Bales of approximately 500 lb. (b) Includes governmental assistance. (c) Includes 7,221 lb. of unginned cotton and the equivalent of ginned cotton, grown in New South Wales. (d) Subject to revision. (e) Not yet available.

11. *Coffee.*—Queensland is the only State in which coffee has been grown to any extent, and the results have not been satisfactory. The area of this crop reached its highest point in the season 1901-2 with 547 acres. Thereafter the acreage fluctuated, but on the whole with a downward tendency, and in 1943-44 only 9 acres were recorded with a production of 8,031 lb.

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

§ 19. Bounties, etc.

1. Bounties.—The bounties paid by the Commonwealth Government during the year ended 30th June, 1944 amounted to £28,605. This amount refers only to bounties paid under the Bounties 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 during the years 1939-40 to 1943-44 are as follows:—

BOUNTIES : AUSTRALIA.

Articles on which Bounty was Paid.	Rate of Bounty Payable.	Date of Expiry of Bounty.	Amount Paid.				
			1939-40	1940-41	1941-42	1942-43	1943-44
			£	£	£	£	£
Iron and Steel Products Bounty Act— Wire Netting manufactured from materials produced and manufactured in Australia	12s. per ton ..	23rd Oct., 1939.	4,451	..	..	..	..
Traction Engines ..	According to capacity, £40-£90 per tractor less 10 per cent. from 9th July, 1930, increased to 16 per cent. from 7th November, 1930, and to 40 per cent. from 11th July, 1931. Restored to original rate from 4th December, 1933	23rd Oct., 1939.	6,052	221	..	..	..
Wire Netting Bounty Acts 1939-1944	9s. 7d. per ton ..	23rd Oct., 1944.	83	567	369	421	447
Tractor Bounty Acts 1939	According to capacity, £32-£72	23rd Oct., 1944.	6,400	6,750	1,108	850	5,652
Motor Industry Bounty Act— Radiator Assembly ..	10s. each ..	6th Dec., 1940.	2,396	1,287	..	..	..
Sulphur Bounty Act 1923— Sulphur from Australian Pyrites and other Sulphide Ores or Concentrates	£2 5s. per ton ..	23rd Oct., 1939.	55,036	..	..	..	..
Wine Export Bounty Act 1939-1944	1s. per gallon from 1st March, 1940	28th Feb., 1947.	146,592	56,547	38,610	15,049	22,506
Raw Cotton Bounty Act 1934— Raw cotton produced in Australia and graded as prescribed	5½d. per lb. to 30th November, 1935, 4½d. to 30th November, 1936, and 4¼d. per lb. to 30th November, 1940, fluctuating according to variations in Liverpool spot price	30th Nov., 1940.	60,391	14,523	..	..	..
Raw Cotton Bounty Act 1940-1941	To 31st December, 1941, 4½d. per lb. To 31st December, 1942, 4¼d. per lb.	} 31st Dec., 1945.	..	35,390	..	..	..
Superphosphate Bounty Act 1941	25s. per ton	38,439	693,136
Cable and Wire Bounty Act 1941— Rubber insulated cable and wire	4d. per lb. of copper wire used	30th June, 1942.	..	..	8,892	3,502	..
Papua and New Guinea Bounties Act— Cocoa Beans ..	1½d. per lb. ..	31st Dec., 1947.	3,595	4,722	4,862	13	..
Bamboos and Rattans (Unmanufactured)	£4 per ton ..	..	..	18	9	..	..
Manila, Sisal and Other Hemp Fibres	£6 ..	..	..	..	..	..	..
Coir Fibre ..	£3 ..	..	239	264	..	..	..
Kapok ..	2d. per lb. ..	..	..	2	17	..	..
Fruit Exported— Oranges, Lemons, Grape Fruit and Mandarins	Varies from 1s. to 2s. per case	31st Dec., 1940.	3,872	1,953	..	..	..
Total ..	..	..	289,107	122,244	872,122	190,413	28,605

(a) Year ended December, 1942.

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 loans made to States to alleviate hardship suffered by primary producers in consequence of drought. The distribution as bounty, relief or subsidy has been made in the following manner:—

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—									
Bounty (a) ..	1931-32	950,546	820,635	64,620	874,630	716,826	2,057	..	3,429,314
Relief ..	1932-33	570,902	442,421	40,744	507,138	436,145	2,342	308	2,000,000
" ..	1933-34	911,094	603,586	76,455	764,543	639,493 (b)	5,024	805	3,053,000
Bounty (a) ..	1934-35	531,593	282,000	45,717	300,637	296,652	2,543	222	1,462,414
Special Relief ..	"	100,000	192,000	12,000	127,000	137,000	5,250	..	573,250
Relief ..	"	590,000	400,000	42,740	503,545	434,527 (b)	33,906	226	2,004,944
Relief ..	1935-36	565,327	441,948	42,835	432,146	392,850 (b)	40,403	360	1,915,869
Assistance ..	1938-39	558,489	307,564	70,824	398,559	421,296 (b)	51,961	..	1,808,693
" ..	1939-40	910,839	415,119	109,805	436,667	497,888 (b)	114,716	1,033	2,486,067
" ..	1940-41	477,819	246,328	47,875	313,661	263,615 (b)	49,292	..	1,498,593
Relief (Drought) ..	"	320,000	250,000	..	200,000	200,000	..	..	970,000
Assistance ..	1941-42	521,513	392,335	29,789	359,614	294,332 (b)	54,133	..	1,651,716
Relief (Drought) ..	"	..	..	15,000	..	..	623	..	15,623
Assistance ..	1942-43	447,593	424,584	40,009	470,817 (d)	804,953 (b)	55,587	..	2,243,543
" ..	1943-44	1,467,345	710,434	159,989	806,042 (d)	1,098,812 (b)	17,207	..	4,289,829
" ..	1944-45	644,034	164,420	231,717	378,621 (d)	1,113,386 (b)	50,561	..	2,582,739
Relief ..	"	475,000	725,000	..	330,000	40,000	..	..	1,570,000
Total ..	..	10,042,094	6,821,374	1,030,122	7,303,670	7,787,775	567,605	2,954	33,555,594
Fruit-growers as—									
Relief (c) ..	1933-34	8,225	36,321	478	5,258	10,918	63,800	..	125,000
" (c) ..	1934-35	12,538	22,299	2,103	13,116	14,713	70,231	..	135,000
Total ..	..	20,763	58,620	2,581	18,374	25,631	134,031	..	260,000
Primary Producers (other than wheat-growers)—Manure subsidy	1932-33	19,903	88,697	32,588	34,930	50,823	17,711	32	244,684
" ..	1934-35	23,000	95,000	21,000	46,000	52,000	13,000	..	250,000
" ..	1935-36	56,211	203,324	40,944	99,610	105,821	28,127	94	534,131
" ..	1936-37	40,058	129,637	25,144	59,136	58,327	14,610	88	327,000
" ..	1937-38	30,048	99,746	18,828	48,000	53,028	12,450	66	262,166
" ..	1938-39	18,290	76,500	19,020	36,400	43,260	12,460	90	206,020
" ..	1939-40	427	17,100	4,320	783	320	250	..	23,200
" ..	1941-42	118,939	255,755	21,600	166,219	197,201	20,103	..	779,817
" ..	1942-43	92,138	174,195	18,923	108,248	131,811	28,595	..	553,910
" ..	1943-44	163,813	405,690	20,600	255,290	374,122	83,637	..	1,303,152
" ..	1944-45	303,506	697,955	41,435	456,968	569,003	145,521	..	2,214,388
Total ..	..	866,333	2,243,599	264,402	1,311,584	1,635,716	376,464	370	6,698,468
Dairying industry	1942-43	277,079	430,100	365,532	49,529	42,275	21,791	..	1,186,306
" ..	1943-44	1,832,317	2,614,289	2,145,747	338,267	285,268	130,232	..	7,340,120
" ..	1944-45	1,495,196	2,716,807	1,878,759	314,606	260,287	146,542	..	6,812,197
Total ..	..	3,604,592	5,761,196	4,390,038	702,402	587,830	298,565	..	15,344,623
Grand Total ..	..	14,533,782	14,884,789	5,687,143	9,336,030	10,036,952	1,376,665	3,324	55,858,685

(a) Rate of Bounty 4½d. per bushel in 1931-32 and 3d. per bushel in 1934-35. (b) Includes special grant to Tasmania. (c) Growers of apples, pears and mandarins. (d) Includes Wheat Acreage Restriction Grant. (e) Includes payment of £1,659,325 recovered in London.

(ii) *Wheat-growers.* The moneys granted for the assistance of wheat-growers in 1932-33 and 1933-34 were paid through the Governments of the States on an acreage basis. In 1934-35, in accordance with the recommendations of the Royal Commission on the wheat industry, assistance took the form of a bounty of 3d. per bushel, supplemented by a further relief payment of 3s. per acre. Further special relief was given to those farmers who were adversely affected by the weather conditions of the 1934-35 season. Altogether, the amount paid during 1934-35 for the benefit of wheat-growers exceeded £4 million. For the year 1935-36 the amount paid by the Commonwealth Government as relief was £1,915,869. No financial assistance was made to wheat-growers by the Commonwealth Government during the years 1936-37 and 1937-38. In 1938-39, however, a sum of £1,808,693, collected through the medium of a flour tax, was allocated for distribution as relief to wheat-growers. From the same source a sum of £1,651,716 was allocated to the States for the same purpose during 1941-42, £1,708,543 in 1942-43, £1,940,481 in 1943-44 and £1,995,775 in 1944-45.

In addition to the above amounts paid from flour tax, compensation was paid to wheat-growers in Western Australia where acreage restrictions were applied during 1942-43, 1943-44 and 1944-45. The amounts so paid were £535,000, £599,348 and £586,964 respectively.

(iii) *Manure Subsidy.* Assistance has been given to primary producers other than wheat-growers in the form of a manure subsidy; 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, but was resumed one year later.

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. Details of the amounts paid are given in the table above.

(iv) *Dairy 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 has 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 and £1,786,000 in 1944-45.

(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.

§ 20. 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 produced chiefly from imported rock phosphates and is sufficient for local requirements. During 1943-44 the quantity of rock phosphate imported represented 88 per cent. of the total imports of fertilizers.

The chief source of Australia's normal supplies of rock phosphate was Nauru and the Gilbert Islands group. The war in the Pacific interrupted supplies from these sources and the bulk of the imports since 1941-42 came from Algeria, Egypt and the Makatea Islands. Sodium nitrate is obtained chiefly from Chile.

The imports of manures during 1938-39 and the four years ended 1943-44 are given in the following table :—

FERTILIZERS : IMPORTS INTO AUSTRALIA.

Australian Currency Values.

Fertilizer.		1938-39.	1940-41.	1941-42.	1942-43.	1943-44.
Ammonium sulphate	cwt.	710,065	274,808	2,771	1,369	27
" "	£	336,872	167,574	4,619	2,610	217
Potash salts	cwt.	223,202	121,531	62,887	45,889	66,590
" "	£	102,794	88,464	44,936	53,734	67,164
Rock phosphate	cwt.	16,008,437	7,501,462	6,219,408	4,503,569	6,042,101
" "	£	1,038,399	386,500	573,683	388,206	605,254
Sodium nitrate	cwt.	203,666	1,297,089	86,539	64,972	673,028
" "	£	103,074	221,450	52,308	36,919	398,538
Other	cwt.	125,551	101,194	382	1,405	68,452
" "	£	12,237	7,581	1,221	2,485	42,785
Total	cwt.	17,270,921	9,296,084	6,371,987	4,617,204	6,850,198
	£	1,593,376	871,569	676,767	483,954	1,113,958

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.		1938-39.	1940-41.	1941-42.	1942-43.	1943-44.
Ammonium sulphate	cwt.	2,097	1,266	640	66	423
" "	£	940	892	460	41	397
Bone-dust	cwt.	5,238	3,612	119	54	4,601
" "	£	2,931	1,633	84	37	5,242
Rock phosphate	cwt.	61	55	..	..	375
" "	£	143	79	..	..	804
Sodium nitrate	cwt.	22	72	12	640	100
" "	£	42	99	36	793	141
Superphosphate	cwt.	37,062	6,191	1,041	426	975
" "	£	6,182	1,505	344	143	565
Other	cwt.	53,197	16,376	13,893	14,973	5,407
" "	£	27,323	9,420	16,013	21,020	8,324
Total	cwt.	97,677	27,572	15,705	16,159	11,881
	£	37,561	13,628	16,937	22,034	15,473

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 1943-44 is given in the following table. Details of the area manured with natural manure (stableyard, etc.) have been omitted; in 1940 the quantity used amounted to 678,598 loads :—

AREA FERTILIZED AND QUANTITY OF FERTILIZERS USED, 1943-44.

State or Territory.	Area Fertilized.			Fertilizers Used.		
	Crops.	Pasture Lands.	Total.	Crops.	Pasture Lands.	Total.
	Acres.	Acres.	Acres.	Tons.	Tons.	Tons.
New South Wales	2,013,262	347,229	2,360,491	69,793	12,407	82,200
Victoria	2,066,274	2,034,698	4,094,972	79,102	84,588	163,690
Queensland	198,404	1,110	199,574	33,599	78	33,677
South Australia	1,926,431	704,950	2,631,381	61,867	24,589	86,456
Western Australia	2,545,471	1,204,701	3,750,172	78,521	36,051	114,572
Tasmania	238,178	124,977	363,155	21,407	3,899	25,306
Australian Capital Territory..	4,321	2,297	6,618	205	85	290
Total	8,986,401	4,419,962	13,406,363	344,494	161,697	506,191

Particulars of the quantity of artificial fertilizers used in each State and Territory during the ten years ended 1943-44 are included 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 dependent upon the use of superphosphate and other fertilizers.

QUANTITY OF ARTIFICIAL FERTILIZERS USED.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Total.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1934-35	101,885	211,657	44,279	157,189	196,741	25,824	..	135	737,710
1935-36	123,472	251,897	40,393	174,593	202,325	27,104	2	166	819,952
1936-37	151,088	306,846	(a)40,393	208,053	224,473	31,364	4	304	962,525
1937-38	178,369	364,781	58,566	227,547	249,640	33,131	..	357	1,111,891
1938-39	186,569	395,163	61,300	235,443	286,384	33,933	..	432	1,193,224
1939-40	156,071	340,633	61,668	223,591	270,178	35,966	..	510	1,099,050
1940-41	157,425	322,214	61,257	206,393	255,230	37,035	..	593	1,040,057
1941-42	122,128	312,663	(b)61,257	196,765	234,446	28,706	..	489	956,454
1942-43	95,060	184,795	24,749	135,116	162,776	24,618	..	379	627,493
1943-44	82,200	163,690	33,677	86,456	114,572	25,306	..	290	506,191

(a) 1935-36 figures.

(b) 1940-41 figures.

As mentioned in § 19 the Commonwealth Government has encouraged the use of artificial fertilizers by subsidizing primary producers, other than wheat-growers, at the rate of 15s. per ton up to 1936-37 when the subsidy was reduced to 10s. per ton. The payment of this subsidy ceased on 30th June 1939, but was re-introduced as from 1st July, 1941 at the rate of 25s. per ton. For the purpose of stabilizing the price of superphosphate the Primary Producers Relief (Superphosphate) Act 1943 was passed.

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 1943-44 was 36, made up as follows :—New South Wales, 6 ;

Victoria, 7; Queensland, 6; South Australia, 6; Western Australia, 5; and Tasmania, 6. The production of superphosphate in Australia during 1943-44 amounted to 543,690 tons, the largest producing States being Victoria, Western Australia and South Australia.

§ 21. Ensilage.

1. **Government Assistance in Production.**—The various 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 number of holdings on which ensilage was made and the quantity made during the seasons 1939-40 to 1943-44 is given in the following table :—

ENSILAGE MADE.

State.	1939-40.		1940-41.		1941-42.		1942-43.		1934-44.	
	Holdings.	Ensilage Made.	Holdings.	Ensilage Made.	Holdings.	Ensilage Made.	Holdings.	Ensilage Made.	Holdings.	Ensilage Made.
	(a) No.	Tons.	(a) No.	Tons.	(a) No.	Tons.	No.	Tons.	No.	Tons.
New South Wales ..	1,743	173,220	1,546	138,407	820	64,145	(b)	71,801	(b)	58,143
Victoria ..	1,292	78,193	648	30,520	(b)	34,109	(b)	32,099	(b)	27,108
Queensland ..	307	18,238	522	26,084	350	27,370	(b)	20,825	(b)	13,021
South Australia ..	177	15,546	132	7,275	110	7,428	(b)	9,847	(b)	5,315
Western Australia ..	322	17,196	292	14,510	257	14,694	(b)	15,016	(b)	9,828
Tasmania ..	185	1,102	42	313	86	417	(b)	967	(b)	866
Australian Capital Territory ..	..	..	..	..	1	80	(b)	473	(b)	496
Australia ..	4,026	303,495	3,182	217,109	(b)	148,243	(b)	151,031	(b)	114,777

(a) Number of holdings on which ensilage was made.

(b) Not available.

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 has declined noticeably. The production in 1943-44 was 114,777 tons and was 188,718 tons less than the 1939-40 record production.

3. **Stocks Held on Farms.**—Details of farm stocks of ensilage, which were collected for the first time during 1942-43, are shown in the following table :—

ENSILAGE : FARM STOCKS.

31st March—	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	A.C.T.	Total.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1943 ..	127,434	32,097	23,264	7,723	11,063	1,646	415	203,642
1944 ..	100,859	24,319	18,676	4,944	6,634	882	890	157,204
1945 ..	54,268	15,226	14,688	2,151	5,591	899	155	92,978

§ 22. Agricultural Colleges and Experimental Farms.

In most of the States agricultural colleges and experimental farms have been established with a view to the promotion of more scientific methods in agriculture, stock-breeding and dairying. In the colleges, and on some of the farms, provision is made for the accommodation of pupils to whom both practical and theoretical instruction is given by experts in various branches of agriculture. Analyses of soils and fertilizers are made, manures are tested, and elementary veterinary science, etc., are taught, while general experimental work is carried on with cereal and other crops, not merely for the purpose of showing that it is practicable to produce certain crops in a given place, but to show also how it is possible to make farming pay in the locality. Opportunities are afforded for practice in general agricultural work, and instruction is given in the conservation of fodder; in cheese and butter making; in the management, breeding and preparation for the market of live stock; in the eradication of pests and weeds; and in carpentering, blacksmithing and other trades.

Expert lecturers visit the various agricultural and dairying centres, and there is a wide distribution of periodical agricultural gazettes and bulletins.

§ 23. Employment in Agriculture.

The following information relating to the number of persons employed was furnished by landholders of one acre and more. The particulars furnished refer to the owner, occupier or manager, and those members of his family and other employees who are permanently engaged throughout the year in the work of the farm. Casual labour, such as harvesters and fruit-pickers, is excluded. In the collection of statistics of this nature difficulty is experienced in correctly determining whether the duties of female employees are more domestic than rural, and on that account it is considered advisable to exclude females from the table. Details for 1942-43 and 1943-44 are not available.

MALES EMPLOYED IN AGRICULTURE.

Year.	N.S.W.	Victoria.	Q'land.(a)	S. Aust.	W. Aust.	Tasmania.	Total.
1935-36 ..	42,204	35,926	29,700	30,096	22,585	12,731	173,242
1936-37 ..	43,648	35,575	31,600	30,273	22,317	12,138	175,551
1937-38 ..	43,279	35,592	(b) 34,000	30,365	22,527	11,929	177,692
1938-39 ..	44,627	35,548	31,600	28,981	19,653	11,676	172,085
1939-40 ..	43,269	35,570	33,800	28,502	18,703	11,507	171,351
1940-41 ..	41,105	34,000	32,000	26,487	17,742	11,701	163,035
1941-42 ..	35,113	(c)33,000	31,000	(c)25,000	15,213	11,318	(c) 150,644

(a) Estimated from returns furnished by Queensland State Government Insurance Office.
 (b) As recorded by State Statistician. (c) Estimated.

Although the area of crops has expanded considerably during the past two decades there has been a decrease in the number employed in agriculture owing to the increasing use of machinery both in the cultivation of the soil and in the harvesting of the crops. For a number of years prior to the economic depression the value of machinery employed in agricultural pursuits steadily increased until it reached nearly £39 million in 1928-29. After 1929-30 value of machinery employed declined each year to £30 million in 1934-35 but thereafter rose again to £41 million in 1940-41. Particulars for later years are not available.

§ 24. Number and Area of Rural Holdings.

1. *General.*—The statistical data included in the Chapters relating to Agriculture, Pastoral and Dairying 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 by each State for the year 1943-44 and for previous years for which information is available.

RURAL HOLDINGS : NUMBER AND AREA.

Year.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Australian Capital Territory.	Total.
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NUMBER OF RURAL HOLDINGS.

1933-34 ..	74,981	75,386	(a)	30,986	22,639	11,731	(a)	(a)
1934-35 ..	75,800	74,473	(a)	31,123	22,874	11,754	186	(a)
1935-36 ..	75,631	73,772	(a)	31,262	22,652	11,857	202	(a)
1936-37 ..	76,239	72,845	(a)	31,321	21,763	11,735	202	(a)
1937-38 ..	75,923	72,792	(a)	31,277	21,682	11,680	202	(a)
1938-39 ..	75,365	72,452	41,503	31,280	21,052	11,680	204	253,536
1939-40 ..	74,909	72,557	42,076	31,244	20,807	11,575	204	253,372
1940-41 ..	74,495	72,382	41,949	30,961	20,347	11,583	203	251,920
1941-42 ..	73,973	72,027	642,500	30,565	20,395	11,500	208	251,168
1942-43 ..	73,579	71,489	42,748	27,934	18,351	11,532	209	245,842
1943-44 ..	73,074	70,961	42,457	27,826	18,345	11,438	202	244,303

TOTAL AREA OF RURAL HOLDINGS.

	'000. acres.	'000. acres.	'000. acres.	'000. acres.	'000. acres.	'000. acres.	'000. acres.	'000. acres.
1933-34 ..	171,641	38,778	(a)	134,847	217,979	6,675	373	(a)
1934-35 ..	171,631	38,861	(a)	137,918	214,455	6,813	369	(a)
1935-36 ..	172,457	39,129	(a)	138,330	218,079	6,931	383	(a)
1936-37 ..	173,880	39,826	(a)	136,978	215,210	6,851	385	(a)
1937-38 ..	174,137	40,388	(a)	142,836	215,911	6,755	382	(a)
1938-39 ..	174,660	40,791	317,782	144,682	211,720	6,778	371	896,784
1939-40 ..	174,315	40,653	338,216	145,979	213,503	6,779	394	919,839
1940-41 ..	173,869	41,334	336,333	144,207	210,107	6,667	394	912,911
1941-42 ..	173,554	41,292	350,000 ^b	145,634	212,198	6,791	397	929,866
1942-43 ..	171,054	41,035	348,866	145,443	208,886	6,525	386	922,195
1943-44 ..	171,878	41,275	348,830	144,526	204,030	6,393	363	917,295

(a) Not available. (b) Estimated.

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 is made in New South Wales but, as pointed out by the Statistician, it should be regarded as an approximation. It is compiled from the description of purpose given by the occupier of the holding at the time of the Census. This tabulation reveals that there were 71,743 holdings so classified in New South Wales during 1940-41. Of this number 9,938 described their main purpose as Agricultural only, 20,897 as Pastoral only, 14,098 Dairying only, 2,558 as Poultry, Pig or Bee Farming, while the main purpose of the remaining 24,252 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 have been omitted. These numbered 2,752 during 1940-41.