

**CHAPTER XXII.**  
**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 last five seasons:—

**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.
1860-1	246,143	387,283	3,353	359,284	24,705	152,860	..	..	1,173,628
1870-1	385,151	692,840	52,210	801,571	54,527	157,410	..	..	2,143,709
1880-1	606,277	1,548,809	113,978	2,087,237	63,902	140,788	..	..	4,560,991
1890-1	852,704	2,031,955	224,993	2,093,515	69,678	157,376	..	..	5,430,221
1900-1	2,446,767	3,114,132	457,397	2,369,680	201,338	224,352	..	..	8,813,666
1910-11	3,386,017	3,952,070	667,113	2,746,334	855,024	286,920	360	..	11,893,838
1920-21	4,465,143	4,489,503	779,497	3,231,083	1,804,987	297,383	296	1,966	15,069,858
1930-31	6,811,247	6,715,660	1,144,216	5,426,075	4,792,017	267,632	1,550	5,419	25,163,816
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	3,436,075	2,819,713	300,005	..	6,779	17,419,717

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 War of 1914-19, 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 falling to under 17½ million acres in 1942-43. Following the outbreak of war in 1939, the area under crop declined with each successive year. This movement was contrary to the experience of World War I when the decline did not occur until the third war-year.

3. **Artificially-sown Grasses.** In all the States there are considerable areas of artificially-sown grasses mainly sown on cultivated land after burning off the scrub. These areas, which are not included in "area of crops", have expanded from 5½ million acres in 1929-30 to more than 9½ million acres in 1940-41; the latter figure excludes Queensland.

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, and the Secretary, Department of Commerce and Agriculture. At the meeting of the Australian Agricultural Council held in September, 1942, it was decided to extend the membership of the Standing Committee to include The Department of War Organization of Industry, Directorate of Man Power, the Commonwealth Statistician and the Commonwealth Prices Commissioner. The Director-General of Agriculture was included as a member in February, 1943.

### § 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 1942-43:—

AREA OF PRINCIPAL CROPS, 1942-43.

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)	3,032,946	2,145,156	334,785	2,009,027	1,753,178	4,128	..	1,125	9,280,345
Oats ..	431,299	428,043	19,103	262,590	342,309	13,159	..	410	1,496,913
Maize ..	103,591	7,131	173,816	..	46	..	..	8	284,592
Barley—									
Maltng ..	5,501	62,413	5,762	260,666	19,657	2,399	..	..	356,398
Other ..	8,796	15,429	2,504	37,314	29,845	329	..	..	94,217
Beans and Peas	3,590	13,408	1,346	19,403	8,312	30,595	..	..	76,654
Rye ..	760	4,414	130	12,639	3,642	262	..	18	21,865
Rice ..	34,232	..	..	..	..	..	..	..	34,232
Hay ..	736,157	788,792	70,025	425,505	253,150	82,062	..	3,424	2,359,115
Green Fodder	728,404	103,598	578,452	285,587	351,509	62,751	..	1,518	2,111,819
Grass and other Seeds ..	7,590	9,108	54,362	9,096	1,843	1,527	..	..	83,526
Orchards and other Fruit- gardens ..	79,363	69,776	29,029	29,478	21,266	31,337	..	135	260,384

(a) Not available.

AREA OF PRINCIPAL CROPS, 1942-43—continued.

Crop.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T. (a)	A.C.T.	Aust.
<b>Vines—</b>									
Productive ..	15,373	41,207	2,553	56,238	8,924	..	..	2	124,297
Unproductive ..	929	1,427	487	1,964	1,202	..	..	1	6,010
Market-gardens	34,881	19,378	9,769	4,268	3,241	1,247	..	22	72,806
<b>Sugar-cane—</b>									
Productive ..	9,732	..	231,256	..	..	..	..	..	240,988
Unproductive ..	9,197	..	78,866	..	..	..	..	..	88,063
Potatoes ..	24,488	51,757	9,885	7,233	6,399	40,383	..	64	140,209
Onions ..	1,096	5,741	1,843	495	400	133	..	8	9,716
Other Root Crops	12,438	8,949	7,623	2,168	1,232	15,214	..	35	47,659
Tobacco ..	623	1,850	3,149	..	1,347	..	..	..	7,169
Broom Millet ..	946	488	140	..	..	..	..	..	1,574
<b>Pumpkins and Melons ..</b>	7,390	3,398	42,075	1,365	1,660	49	..	7	55,944
Hops ..	..	148	..	..	23	1,143	..	..	1,314
Cotton ..	..	..	56,433	..	..	..	..	..	56,433
All other Crops	7,791	34,819	29,409	11,639	10,528	13,287	..	2	107,475
<b>Total Area ..</b>	<b>5,297,313</b>	<b>3,816,430</b>	<b>1,742,802</b>	<b>3,436,675</b>	<b>2,819,713</b>	<b>300,005</b>	<b>..</b>	<b>6,779</b>	<b>17,419,717</b>

(a) 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 1942-43 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, orchards and fruit-gardens, and oats occupy the greatest area.

As pointed out previously wheat is the main crop in Australia, the area thereof for grain only representing 53 per cent. of the total area of crops in 1942-43.

RELATIVE AREAS UNDER CROP, 1942-43.

Crop.	N.S.W.	Victoria.	Q'land.	S. Aust.	W.Aust.	Tas.	N.T. (a)	A.C.T.	Aust.
	%	%	%	%	%	%	%	%	%
Wheat ..	57.26	56.23	19.21	58.46	62.18	1.38	..	16.60	53.28
Hay ..	13.90	20.67	4.02	12.38	8.98	27.35	..	50.51	13.54
Oats ..	8.14	11.22	1.10	7.64	12.14	4.39	..	6.05	8.60
<b>Green</b>									
Fodder..	13.75	2.72	33.19	8.31	12.47	20.92	..	22.39	12.12
Barley ..	0.27	2.04	0.47	8.67	1.76	0.91	..	..	2.59
Sugar-cane	0.36	..	17.79	..	..	..	..	..	1.89
Maize ..	1.95	0.19	9.97	..	..	..	..	0.12	1.64
<b>Orchards and Fruit- gardens ..</b>	1.50	1.83	1.67	0.86	0.75	10.45	..	1.99	1.49
Potatoes ..	0.46	1.35	0.72	0.21	0.23	13.46	..	0.94	0.82
Vineyards	0.31	1.12	0.17	1.69	0.35	..	..	0.04	0.75
All other..	2.10	2.63	11.69	1.78	1.14	21.14	..	1.36	3.28
<b>Total ..</b>	<b>100.00</b>								

(a) Not available.

3. Area of Principal Crops in Australia.—The area of the principal crops during each of the last five seasons, 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.	1939-40.	1940-41.	1941-42.	1942-43.
	'000 acres.	'000 acres.	'000 acres.	'000 acres.	'000 acres.	'000 acres.
Barley (a) .. ..	428	650	716	639	663	356
Maize .. .. .	295	324	312	303	301	285
Oats .. .. .	1,393	1,784	1,682	1,723	1,461	1,497
Rice .. .. .	22	24	24	24	24	34
Wheat .. .. .	14,345	14,346	13,285	12,645	12,004	9,280
Green Fodder .. ..	1,272	1,789	1,854	1,989	1,808	2,112
Hay .. .. .	2,994	3,250	2,999	2,353	2,758	2,359
Beans and Peas .. ..	49	43	50	51	58	77
Onions .. .. .	8	7	7	7	8	10
Potatoes (b) .. ..	130	98	105	123	99	140
Sugar-beet .. .. .	3	4	4	4	3	1
Vineyards .. .. .	118	127	127	130	129	130
Hops .. .. .	1	1	1	1	1	1
Sugar-cane .. .. .	332	357	375	371	352	329
Cotton .. .. .	43	66	41	41	61	56
Tobacco .. .. .	12	8	8	8	9	7
Market-gardens (c) ..	34	66	76	79	96	129
Orchards .. .. .	276	272	271	270	267	260
All Other Crops .. ..	203	282	313	297	348	357
Total .. .. .	21,958	23,498	22,250	21,118	20,450	17,420

(a) Malting only. (b) Excludes Sweet Potatoes. (c) Includes Pumpkins and Melons.

4. Total and Average Production of Principal Crops in Australia.—The following table shows the production of the principal crops for the five years ended 1942-43 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.	1939-40.	1940-41.	1941-42.	1942-43.
Barley (a) .. ..	'000 bus.	7,480	9,704	13,732	6,185	15,713	6,782
Maize .. .. .	" "	7,228	7,057	6,560	9,193	7,436	6,885
Oats .. .. .	" "	16,437	15,555	25,302	10,199	22,302	21,532
Rice .. .. .	" "	2,005	2,775	1,858	2,240	2,192	3,084
Wheat .. .. .	" "	169,398	155,369	210,487	82,233	166,713	155,728
Hay .. .. .	" tons	3,490	3,321	4,158	2,177	3,575	3,116
Beans and Peas .. ..	" bus.	734	495	808	596	(b) (d) 14	(b) (d) 25
Onions .. .. .	" tons	43	18	38	33	34	55
Potatoes (c) .. ..	" "	351	274	323	460	333	484
Sugar (Beet) .. ..	" "	5	1.5	6.3	3.3	2.8	0.7
Grapes .. .. .	" "	381	402	475	430	464	480
Wine .. .. .	" gals.	16,330	14,958	14,775	16,009	15,857	19,793
Raisins and Currants ..	" tons	70	75	95	81	93	91
Hops .. .. .	" lb.	2,127	2,402	1,992	3,248	3,032	2,779
Sugar (Cane) .. ..	" tons	658	823	929	806	746	650
Cotton, Unginned .. ..	" lb.	15,667	13,688	17,550	12,108	15,869	14,058
Tobacco .. .. .	" "	5,336	4,046	4,912	5,476	7,040	4,969
Pumpkins and Melons ..	" tons	60	81	96	138	(d) 87	(d) 144

(a) Malting only. (b) Tons. (c) Excludes Sweet Potatoes. (d) Incomplete.

5. Average Yield per Acre of Principal Crops in Australia.—The following table shows the yield per acre for Australia of the principal crops for the five years ended 1942-43 and for the decennium ended 1938-39.

AVERAGE YIELD PER ACRE OF PRINCIPAL CROPS : AUSTRALIA.

Crop.	Unit of Quantity.	Average,	1938-39.	1938-39.	1939-40.	1940-41.	1941-42.	1942-43.
		Ten years ended						
Barley (a)	Bushel	17.49	14.92	19.19	9.68	23.72	19.03	
Maize	"	24.53	21.77	21.04	25.33	24.67	24.19	
Oats	"	11.80	8.72	15.04	5.92	15.27	14.38	
Rice	"	93.00	117.92	77.02	91.26	92.75	90.11	
Wheat	"	11.81	10.83	15.84	6.50	13.89	16.78	
Hay	Ton	1.17	1.02	1.39	0.93	1.30	1.32	
Onions	"	5.54	2.74	5.60	4.92	4.60	5.63	
Potatoes (b)	"	2.71	2.80	3.09	3.74	3.35	3.45	
Sugar (Beet)	"	1.40	0.35	1.48	0.91	0.97	0.71	
Grapes (c)	"	3.45	3.43	3.98	3.51	3.75	3.86	
Wine (c)	Gallon	..	300	295	316	318	397	
Raisins and Currants (c)	"	..	1.26	1.56	1.27	1.44	1.39	
Hops (c)	lb.	2,003	2,235	1,806	2,862	2,264	2,106	
Sugar (Cane) (c)	Ton	2.76	3.14	3.41	2.95	2.93	2.70	
Cotton, Unginned (c)	lb.	366.06	206	424	293	258	249	
Tobacco	"	462.75	518	584	640	798	693	
Pumpkins and Melons	Ton	2.75	2.65	2.64	3.29	2.45	2.85	

(a) Malting only.

(b) Excludes Sweet Potatoes.

(c) Per acre of productive crops.

6. Gross Value of Agricultural Production in Australia.—The following table shows the gross value of recorded agricultural production at the principal markets in each State for the years 1937-38 to 1942-43 :—

GROSS VALUE OF AGRICULTURAL PRODUCTION : AUSTRALIA.

Crops.	1937-38.	1938-39.	1939-40.	1940-41.	1941-42.	1942-43.
	£'000.	£'000.	£'000.	£'000	£'000.	£'000.
Barley (a)	2,231	1,417	2,429	1,474	2,316	1,124
Maize	1,761	1,503	1,365	2,040	1,632	2,251
Oats	2,537	2,085	2,597	1,523	2,697	2,911
Rice	459	540	413	474	506	759
Wheat	37,000	21,989	38,775	17,145	30,764	33,041
Green Fodder	3,043	2,999	3,039	3,558	3,764	4,205
Hay	13,629	12,794	10,567	8,278	12,988	14,445
Beans and Peas	222	253	377	411	455	607
Onions	255	306	296	456	543	781
Potatoes (b)	2,442	3,649	3,497	2,834	4,312	5,961
Sugar-beet	97	27	99	59	53	14
Grapes	4,865	3,924	4,657	4,618	5,377	5,994
Hops	190	183	148	244	233	219
Sugar-cane	9,065	9,178	11,192	10,655	9,607	9,282
Tobacco	513	360	504	625	822	577
Cotton, Unginned	205	230	301	205	304	320
Market-gardens (c)	2,395	2,473	2,818	2,923	2,941	(d)
Orchards	9,204	9,695	9,212	9,241	10,512	14,253
Other Crops	3,116	3,336	3,498	3,643	4,625	(d)
Total, Gross Value	93,229	76,851	95,784	70,406	94,451	111,230

(a) Malting only.

(b) Excludes Sweet Potatoes.

(c) Includes Pumpkins and Melons.

(d) Not yet available separately.

7. 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 XXVII "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 machinery; consequently the figure stated is inflated to this extent.

### GROSS, FARM AND NET VALUES OF AGRICULTURAL PRODUCTION, 1942-43.

(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 ..	33,892,000	5,644,000	28,248,000	4,013,000	6 687,000	23,548,000	(c)
Victoria (d) ..	28,333,943	3,914,658	24,419,285	4,119,065	1,273,912	19,026,308	900,000
Queensland ..	20,376,000	2,000,000	18,376,000	1,540,000	1,420,000	15,416,000	930,000
South Australia ..	15,044,018	1,923,998	13,120,020	1,504,935	1,298,744	10,316,341	594,493
Western Australia ..	8,232,276	1,167,683	7,064,593	945,649	1,163,279	4,955,665	551,900
Tasmania ..	5,427,080	963,760	4,463,320	761,340	176,070	3,525,910	109,250
<b>Total ..</b>	<b>111,305,317</b>	<b>15,614,099</b>	<b>95,691,218</b>	<b>12,883,989</b>	<b>6,019,005</b>	<b>76,788,224</b>	<b>£3,085,643</b>

(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 1933-34 to 1942-43. In the following table the net value of agricultural production and the net value per head of population are given by State for each year since 1933-34 :—

#### VALUE OF AGRICULTURAL PRODUCTION.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Total.
NET VALUE. (a)							
	£	£	£	£	£	£	£
1933-34 ..	11,724,000	10,077,018	9,703,968	5,909,760	4,598,144	1,679,380	43,692,270
1934-35 ..	12,787,000	8,735,776	9,018,187	6,376,538	4,268,547	1,951,750	43,136,198
1935-36 ..	13,285,000	11,716,768	9,699,000	7,336,655	4,678,390	1,723,180	48,438,993
1936-37 ..	19,364,000	16,356,341	10,796,000	9,057,406	5,921,108	1,708,630	63,113,485
1937-38 ..	14,829,000	14,962,412	11,264,000	9,159,941	6,142,705	2,482,500	58,840,558
1938-39 ..	11,804,000	5,619,765	11,615,000	5,489,228	4,065,616	3,084,971	41,678,580
1939-40 ..	16,350,000	11,907,131	13,696,000	9,458,140	7,064,100	2,433,760	60,909,131
1940-41 ..	9,155,000	7,097,209	13,723,000	6,048,310	3,678,106	1,730,480	41,432,105
1941-42 ..	15,630,000	15,511,086	13,380,000	7,769,642	6,335,815	3,179,810	61,806,353
1942-43 ..	23,548,000	19,026,308	15,416,000	10,316,341	4,955,665	3,525,910	76,788,224
NET VALUE PER HEAD OF MEAN POPULATION.							
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1933-34 ..	4 9 9	5 10 5	10 4 2	10 2 11	10 8 10	7 6 8	6 11 4
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	7 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 5 10	3 13 11	13 5 11	10 1 10	7 15 7	7 3 11	5 17 5
1941-42 ..	5 11 7	7 18 * 9	12 17 9	12 15 11	13 10 5	13 5 1	8 13 2
1942-43 ..	8 6 4	9 13 1	14 15 8	16 16 7	10 6 5	14 12 1	10 13 4

(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 § 18, Bounties, hereafter.

2. Progress of Wheat-growing.—(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 the five years ended 1942-43; the table also includes an estimate for the 1943-44 crop and the average for the decennium ended 1942-43:—

## WHEAT : 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
1939-40 ..	4,381	2,827	362	2,735	2,970	8	2	13,285
1940-41 ..	4,454	2,673	322	2,560	2,625	8	2	12,644
1941-42 ..	3,969	2,757	291	2,326	2,653	6	1	12,003
1942-43 ..	3,033	2,145	335	2,009	1,753	4	1	9,280
1943-44 ..	2,693	1,794	281	1,534	1,552	5	1	7,860
Average for ten seasons ended 1942-43 ..	4,126	2,607	310	2,893	2,750	13	2	12,701
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	155,369
1939-40 ..	76,552	45,054	6,795	41,072	40,861	108	45	210,487
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	5,089	20,691	16,385	122	39	109,559
Average for ten seasons ended 1942-43 ..	52,591	36,247	4,604	32,423	30,224	282	41	156,412

A graph showing the expansion of the area sown to wheat for grain in Australia since 1860 appears on page 803. 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*. 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 the past four decades have shown a continued improvement, and fluctuations in production have become less pronounced.

Australia's wheat production in 1942-43 amounted to 155.7 million bushels representing a record average yield of 16.78 bushels per acre. However, production for that year represents a decline of almost 11 million bushels. The estimates available for 1943-44 indicate a harvest of only 110 million bushels or a return of 13.94 bushels per acre.

(iii) *Decennial Averages, 1861-70 to 1934-43.* 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 average at Melbourne (Williamstown), and may be accepted as fairly representative for Australia.

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

Decennium.	Area.	Production.	Yield per Acre.		Average Wholesale Price.
			Bushels.	s. d.	
1861-70 .. ..	'000 Acres. 831	'000 Bushels. 10,622	12.77	(a)	
1871-80 .. ..	1,646	17,711	10.76	5 1	
1881-90 .. ..	3,253	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	
1934-43 .. ..	12,701	156,412	12.31	(a)	

(a) Not available.

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

**WHEAT : 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.
1936-37 .. ..	13.98	17.90	7.11	9.39	8.37	26.78	17.98	12.29
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(a) ..	17.64	11.01	18.11	13.49	10.56	24.40	19.50	13.94
Average 10 seasons, ended 1942-43	12.75	13.91	14.84	11.21	10.99	21.80	21.53	12.31

(a) Estimated.

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.

3. **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.

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

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
<b>Total ..</b>	<b>50,885</b>	<b>53,496</b>	<b>53,022</b>	<b>50,875</b>	<b>49,172</b>

4. **World Production of Wheat.**—(i) *Average Yield.* The next table gives the average return per acre in the principal wheat-growing countries of the world for the latest available period. These range from a maximum in the Netherlands of 45 bushels per acre to a minimum in Palestine of 6 bushels per acre :—

**WHEAT : YIELD PER ACRE IN VARIOUS COUNTRIES.**

Country.	Average Yield in Bushels per acre.		Country.	Average Yield in Bushels per acre.	
	Average, 1936-1938.	1939.		Average, 1936-1938.	1939.
Netherlands ..	44.90	43.50	Chile ..	16.15	(a) 17.40
Denmark ..	44.68	(a) 52.17	China ..	(e) 15.65	(f) 14.93
Belgium ..	40.50	(b) 42.90	Argentina ..	15.35	8.30
Sweden ..	35.41	38.00	Greece ..	15.21	14.80
Germany ..	35.30	(c) 34.30	Brazil ..	(d) 14.39	(d) 14.39
Switzerland ..	33.92	32.10	U.S.S.R. (Russia)	14.23	(a) 14.85
United Kingdom ..	33.22	33.90	Syria ..	13.97	(a) 16.54
New Zealand ..	32.08	(a) 29.40	U.S.A. ..	13.25	11.30
Eire ..	31.56	31.00	<b>Australia ..</b>	<b>12.24</b>	<b>15.84</b>
Egypt ..	31.47	32.70	Manchukuo ..	11.99	(a) 10.40
Norway ..	30.17	(a) 30.40	Uruguay ..	11.90	(a) 11.39
Finland ..	27.10	26.00	Korea ..	11.83	(a) 12.31
Japan ..	26.92	33.50	Portugal ..	11.52	(a) 14.00
Czechoslovakia ..	26.26	(a) 29.60	Iraq ..	11.36	(a) 12.26
France ..	22.55	23.60	Spain ..	11.28	12.70
Hungary ..	21.76	24.00	India ..	10.95	10.50
Italy ..	21.56	22.90	Mexico ..	9.98	(a) 10.20
Bulgaria ..	21.38	23.40	Canada ..	9.92	17.90
Yugoslavia ..	19.07	19.40	Algeria ..	7.71	10.40
Iran ..	(d) 18.81	(d) 18.81	Columbia ..	(e) 7.48	(f) 6.75
Latvia ..	18.52	(a) 20.26	Tunisia ..	7.47	8.90
Poland ..	17.86	19.10	Union of South Africa ..	7.28	(a) 8.36
Lithuania ..	16.78	18.40	French Morocco ..	6.11	12.20
Rumania ..	16.64	17.20	Palestine ..	5.80	10.00
Estonia ..	16.58	16.20			
Turkey ..	16.31	(a) 16.40			

(a) Year 1938.  
(d) Year 1936.

(b) Includes Luxembourg.  
(e) Subject to revision.

(c) Includes Austria and Sudeten area.  
(f) Year 1937.

(ii) *Production by Countries.* The latest available official statistics of the production of wheat in various countries are given in the following table:—

**WHEAT : TOTAL PRODUCTION IN VARIOUS COUNTRIES.**

Country.	Yield in Bushels ( <sup>000</sup> omitted).		Country.	Yield in Bushels ( <sup>000</sup> omitted).	
	Average, 1936-1938.	1939.		Average, 1936-1938.	1939.
U.S.S.R. (Russia)	1,418,307	1,494,000	Chile .. ..	31,544	(a) 35,174
U.S.A. .. ..	810,433	739,400	Sweden .. ..	25,810	31,500
China (b) ..	706,956	(c) 636,456	Iraq .. ..	21,015	(a) 22,046
India .. ..	373,756	371,000	Syria and Lebanon	18,961	(a) 23,674
France .. ..	284,128	276,000	French Morocco ..	18,767	38,800
Italy .. ..	272,641	294,000	Belgium .. ..	17,278	(f) 17,000
Argentina ..	256,281	147,000	Netherlands ..	15,033	13,300
Canada .. ..	253,884	479,000	Union of South Africa .. ..	14,481	15,000
Germany ..	177,248	(d) 205,200	Denmark .. ..	13,949	14,000
<b>Australia ..</b>	<b>163,470</b>	<b>210,487</b>	Uruguay .. ..	13,702	(a) 15,461
Rumania ..	148,011	164,900	Tunisia .. ..	13,233	18,600
Turkey .. ..	144,970	158,000	Tunisia .. ..	13,233	18,600
Spain .. ..	(e) 121,493	111,800	Portugal .. ..	12,911	18,300
Yugoslavia ..	101,669	105,400	Mexico .. ..	12,539	13,000
Hungary ..	85,893	112,100	Korea .. ..	9,867	12,300
Iran .. ..	(e) 79,352	(e) 79,352	Lithuania .. ..	8,429	9,200
Poland .. ..	76,313	83,400	Eire .. ..	7,408	8,000
Bulgaria ..	67,722	71,200	Finland .. ..	7,055	8,670
United Kingdom ..	61,649	59,700	New Zealand ..	6,262	(a) 5,910
Czechoslovakia ..	57,835	40,000	Latvia .. ..	6,208	6,500
Japan .. ..	46,950	61,000	Switzerland ..	6,118	6,559
Egypt .. ..	45,672	49,000	Brazil .. ..	(e) 5,512	(e) 5,512
Manchukuo ..	33,772	39,000	Columbia .. ..	(b) 3,734	(c) 3,336
Algeria .. ..	32,642	42,600	Palestine .. ..	3,036	5,000
Greece .. ..	32,321	35,300	Estonia .. ..	2,786	3,010

NOTE.—The harvests reported above for 1939 relate to the year 1939 for the Northern, and 1939-40 for the Southern Hemisphere.

(a) Year 1938. (b) Recorded production. Subject to revision. (c) Year 1937. (d) Includes Austria and Sudeten area. (e) Year 1936. (f) Includes Luxemburg.

(iii) *Total World Production.* A complete statement of the world's production of wheat is not possible owing to the failure of certain countries to supply the necessary information. The International Institute of Agriculture, Rome, has, however, compiled figures obtained from the countries reporting and the latest available figures are given in the following table. The output of China has been omitted. Normally this country is a large producer of wheat and is generally ranked with the United States next to the U.S.S.R. (Russia). In 1937, the recorded production exceeded 636 million bushels but this refers to some provinces and does not include the output of all Territories forming the Chinese Republic.

**WHEAT : WORLD'S PRODUCTION.(a)**

Year.	Area.	Production.	Yield per acre.
	<sup>000</sup> Acres.	<sup>000</sup> Bushels.	Bushels.
Average 1909-1913 ..	270,266	3,779,479	13.98
.. 1928-1932 ..	337,761	4,652,000	13.77
1934 .. ..	330,941	4,620,520	13.96
1935 .. ..	339,244	4,698,784	13.85
1936 .. ..	345,347	4,653,590	13.48
1937 .. ..	365,115	5,435,863	14.89
1938 .. ..	379,076	6,007,964	15.85
Average 1934-1938 ..	351,945	5,083,344	14.44

(a) From countries reporting including the U.S.S.R. (Russia) but excluding China.

As a producer of wheat, Australia occupies tenth position on the list of producing countries of the world and, on the average of the five years 1934-38, contributed about 3½ per cent. of the area and 3 per cent. of production. As an exporter of wheat, however, Australia occupies a prominent position, ranking next after Canada and Argentina. During the five years 1934-38, exports of wheat and flour, in terms of wheat, from Australia averaged nearly 18½ per cent. of the world net exports compared with 7½ per cent., the average for the quinquennium 1909-13.

(iv) *World Wheat Supplies, Requirements and Carryover.* The following table of world wheat statistics has been compiled from the latest available data published by the International Institute of Agriculture. It shows details of the world exportable supplies, import requirements, carryover stocks and consumption covering four quinquennial periods and the years 1938 and 1939.

The figures given exclude, where indicated, details in respect of the Soviet Union, China, Iraq and Iran. This omission is due to the insufficiency of data respecting these countries.

## WHEAT : WORLD STATISTICS.

(In million bushels.)

Period.	World Exportable Supplies.(a)	World Import Requirements.	End of Season Stocks.		World Consumption.(b)	World Production.(b)
			Exporting Countries.(a)	World.		
Average five years ended—						
1913-14 ..	(c)	680	(c)	(c)	3,300	3,130
1927-28 ..	960	780	180	620	3,440	3,480
1932-33 ..	1,290	765	525	980	3,770	3,860
1937-38 ..	840	540	300	790	3,760	3,640
Year—						
1938-39 (d) ..	1,138	618	520	1,100	3,993	4,508
1939-40 (d) ..	1,324	610	714	1,319	3,969	4,185

(a) Stocks held by the four major exporting countries, European exporting countries and those afloat.  
 (b) Excludes Soviet Union, China, Iraq and Iran. (c) Not available. (d) Estimated.

5. *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 Sydney, Melbourne and Adelaide) fell from 5s. 1½d. in 1928 to 2s. 4½d. 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. Prices receded during 1938 and by August, 1939, had reached the lowest level recorded in Australia, viz., 2s. 1d. per bushel.

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.	1938.	1939. (a)	1940. (b)	1941. (b)	1942. (b)	1943. (b)
Price per bushel	s. d. 3 4 $\frac{3}{4}$	s. d. 2 4	s. d. 3 11 $\frac{1}{2}$	s. d. 4 2	s. d. 4 2	s. d. 4 3 $\frac{3}{4}$

(a) Average for eight months ended August.

(b) Approximate export price.

6. Exports of Wheat and Flour.—(i) *Quantities.* The following table shows the exports and net exports of wheat and flour from 1938-39 to 1942-43. 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 last five years 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 68,660,000 bushels:—

## WHEAT AND FLOUR : EXPORTS FROM AUSTRALIA.

Year.	Exports.			Net Exports.
	Wheat.	Flour.	Total.	
	'ooo Bushels.	'ooo Eq. Bushels.(a)	'ooo Bushels.	'ooo 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	37,951	84,008	83,996
1941-42 ..	22,312	19,856	42,168	42,008
1942-43 ..	22,544	16,402	38,946	38,927

(a) Wheat equivalent in bushels of wheat.

(ii) *Destination.* (a) *Wheat.* The following table gives the exports of wheat to various countries for each of the five years ended 1942-43, and the average for the five years ended 1938-39.

## WHEAT : EXPORTS FROM AUSTRALIA.

('ooo omitted.)

Country to which Exported.	Average, Five years ended 1938-39.	1938-39.	1939-40.	1940-41.	1941-42.	1942-43.
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
United Kingdom ..	45,195	32,235	29,079	24,104	6,900	8,987
India ..	1,662	6,922	1,100	699	758	6,360
Elire ..	3,276	2,393	460	790	..	..
Union of South Africa ..	602	1,706	1,621	2,046	4,710	1,354
Other British Countries	2,246	3,880	2,360	4,014	5,072	3,882
Belgium ..	756	324	..	..	..	..
China ..	6,151	10,621	3,064	3,519	..	..
Egypt ..	503	389	212	1,105	3,496	..
France ..	939	..	1,183	..	..	..
Germany ..	235	376	..	..	..	..
Italy ..	3,152	..	..	..	..	..
Japan ..	6,471	431	6,371	3,751	268	..
Other Foreign Countries	5,285	3,942	2,143	(a) 6,929	1,108	1,961
Total ..	76,473	63,129	47,593	46,957	22,312	22,544

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

(b) *Flour.* The following table gives the exports of flour to various countries for each of the five years ended 1942-43, 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.	1939-40.	1940-41.	1941-42.	1942-43.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
United Kingdom .. ..	142,912	118,957	189,437	80,418	10,480	23,291
Ceylon .. ..	16,915	18,147	18,034	19,312	27,301	188,409
Hong Kong .. ..	44,966	23,040	15,304	36,446	19,386	..
Malaya (British) .. ..	63,309	66,965	79,348	90,107	67,153	..
Union of South Africa .. ..	306	132	1,745	2,422	7,566	9,712
Other British Countries .. ..	67,069	86,494	95,369	66,523	122,754	86,960
China .. ..	56,460	216,878	51,217	201,670	5,442	..
Egypt .. ..	24,284	17,153	32,842	43,909	50,765	13,949
Manchuria (a) .. ..	74,867	..	13,242	35,877	..	..
Netherlands East Indies .. ..	83,751	96,524	109,161	114,144	70,547	..
Philippine Islands .. ..	32,690	32,722	29,519	18,838	7,472	..
Other Foreign Countries .. ..	45,544	48,053	49,085	62,239	24,816	19,397
<b>Total .. ..</b>	<b>647,073</b>	<b>725,065</b>	<b>684,303</b>	<b>771,905</b>	<b>413,682</b>	<b>341,718</b>

(a) Includes Kwantung Peninsula.

7. *Exports—Principal Countries.*—The following table shows the latest available net quantities of wheat exported from the chief exporting countries in recent years and during the period from 1909 to 1913. In the years before the War of 1914-19 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 the Argentina and Australia coming next in order.

Although the local production of wheat is little more than 3 per cent. of the world's total, the exports from Australia 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
<b>Total .. ..</b>	<b>662,587</b>	<b>100.00</b>	<b>558,306</b>	<b>581,010</b>	<b>557,725</b>	<b>100.00</b>
<b>World's Production ..</b>	<b>3,779,479</b>		<b>5,435,863</b>	<b>6,007,964</b>	<b>5,083,344</b>	
<b>Percentage of Aus- tralian Net Exports on Total Net Exports</b>	<b>7.46</b>		<b>17.85</b>	<b>21.38</b>	<b>18.41</b>	
<b>Percentage of Aus- tralian Production on World's Produc- tion .. ..</b>	<b>2.39</b>		<b>3.46</b>	<b>2.51</b>	<b>3.02</b>	

(a) Includes flour expressed in terms of wheat. (b) The average for 1909-13 is not strictly comparable with the later years, owing to changes of frontiers during 1921.

8. 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.

9. Consumption of Wheat in Australia.—The estimated consumption of wheat for food and the quantity used for seed in Australia during the last five years are shown as follows:—

## AVERAGE HUMAN CONSUMPTION, 1938-39 TO 1942-43.

Flour milled .. .. .	.. .. .	1,259,375 tons
Less net exports of flour .. .. .	591,176 tons	
Less net exports of flour in biscuits	5,805 "	
		596,981 "
		662,394
Change in flour stocks .. .. .	.. .. .	144 "
Net quantity consumed .. .. .	.. .. .	662,538 "
Equivalent in terms of wheat .. .. .	.. .. .	31,802,000 bushels
Net quantity consumed per head of population—		
As flour .. .. .	.. .. .	(a) 187.5 lb.
Equivalent in terms of wheat .. .. .	.. .. .	(a) 4.5 bushels

## AVERAGE USED FOR SEED, 1938-39 TO 1942-43.

Average area sown for grain, hay and green forage ..	11,957,475 acres
Average quantity of seed used .. .. .	11,779,325 bushels
Average quantity of seed used per acre .. .. .	59 lb.
Average quantity per head of population .. .. .	(a) 1.67 bushels

(a) Subject to revision.

In addition to the above, allowance must be made for wheat fed to poultry and other live stock. The quantity so used, which varies according to the movement in prices, is estimated at 13,366,000 bushels or 1.89 bushels per head of population for the five years ended 1942-43. This quantity is used in the form of grain as feed for poultry and other live stock. The use of wheat as a stock fodder is being encouraged and the Commonwealth Government is paying 6d. per bushel as a subsidy for wheat sold for fodder purposes.

Grain used for seed in Victoria, South Australia and Western Australia has been estimated on the basis of data collected from growers. In the other States estimates supplied by the Departments of Agriculture have been used. The average annual quantity used for seed during the last five years was 1.67 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 period dealt with averaged 56,947,000 bushels, or 8.1 bushels per head of population.

10. **Value of the Wheat Crop.**—The estimated value of the wheat crop in each State and in Australia during the seasons 1941-42 and 1942-43, is shown below. The values are on a gross basis at the principal market in each State and are based upon payments actually made to producers. Pending the finalizing of the accounts of the Australian Wheat Board, these values are subject to revision.

**WHEAT : VALUE OF CROP,<sup>(a)</sup> 1941-42 and 1942-43.**

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Australia.
1941-42.	£	£	£	£	£	£	£	£
Aggregate value ..	9,336,250	9,642,119	620,716	5,082,935	6,051,351	26,620	4,394	30,764,385
Value per acre ..	£2/7/1	£3/9/11	£2/2/8	£2/3/9	£2/5/7	£4/3/0	£3/7/11	£2/11/3
1942-43.	£	£	£	£	£	£	£	£
Aggregate value ..	11,232,430	9,057,340	1,014,541	7,496,642	4,219,460	14,660	5,481	33,040,554
Value per acre ..	£3/14/0	£4/4/5	£3/0/7	£3/14/8	£2/8/2	£3/11/0	£4/17/5	£3/11/5

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

11. **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 are collected annually. The following table shows details of the nine principal varieties sown in the four main producing States and the percentage each bears to the total area sown for the year 1940.

**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	Glueclub ..	19.0
Dundee ..	9.1	Dundee ..	8.5	Dundee ..	11.3	Merredin ..	6.8
Nabawa ..	7.4	Free Gallipoli ..	5.8	Sword ..	6.6	Noongar ..	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	Sepoy ..	1.4	Ghurka ..	3.6	Ranee ..	3.3
Pusa No. 4 ..	1.9	Rajah ..	1.4	Bobin ..	3.2	Totadgin ..	2.9
All Others ..	19.3	All Others ..	5.3	All Others ..	25.1	All Others ..	15.6
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, is the leading wheat sown. It is also

the second variety sown in South Australia, while in Victoria it is unimportant, but the area sown to this wheat is increasing. The leading variety sown in Victoria between 1929 and 1934 was Free Gallipoli, but since 1935 it has been supplanted by Ghurka, Ranees and Dundee. In South Australia, Nabawa came into prominence in 1933, but in 1939, though still relatively important, it ceded the leading position to Ranees and now occupies 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 in 1933, in the year following no less than 22.5 per cent. was sown to Bencubbin and in 1940 it retained its leading position with 35.7 per cent.

12. **Stocks of Wheat and Flour.**—Stocks of wheat and flour held by each State at 30th November, 1943, and the total held in Australia on the same date for the previous four years will be found in the following table. Details have been compiled from information collected from millers, merchants, the Railway Departments and other sources.

**WHEAT AND FLOUR : STOCKS AT 30th NOVEMBER 1943.(a)**

State.	Wheat.		Flour.	Total in terms of wheat.(a)
	Bushels.		Tons.	Bushels.
New South Wales .. ..	24,812,000		18,986	25,723,328
Victoria .. ..	37,867,000		35,666	39,578,968
Queensland .. ..	306,000		5,439	567,072
South Australia .. ..	47,105,000		14,264	47,789,672
Western Australia .. ..	38,864,000		5,460	39,126,080
Tasmania .. ..	504,000		1,364	509,472
Total, 30th November, 1943 ..	149,458,000		81,179	153,354,592
„ „ 1942 ..	99,777,096		99,005	104,529,360
„ „ 1941 ..	35,777,004		128,973	41,967,684
„ „ 1940 ..	71,626,710		121,886	77,477,262
„ „ 1939 ..	16,215,827		99,283	20,981,412

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

An increasingly large accumulation of wheat stocks occurred in Australia during 1943. This arose from the scarcity of shipping, while the restriction of markets due to the war and the added disadvantage of a long sea haul were additional factors. The small harvest of 1940-41, however, relieved the storage position, but with a return to normal harvests and the continuance of shipping difficulties the problem of future storage has become more accentuated.

The Australian Wheat Board has planned the storage of wheat in Australia in order to prevent deterioration and to minimize the risk of infestation by weevils and other vermin.

13. **Voluntary Wheat Pools.**—Details of 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.

14. **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. 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, 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.*—(a) *Wheat Acquired.* Particulars of wheat acquired by the Australian Wheat Board up to 1st July, 1944, are shown in the following table :—

**AUSTRALIAN WHEAT BOARD.—WHEAT ACQUIRED TO 1st JULY, 1944.**  
'000 Bushels.

Pool.	Harvest.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Australia.
	Balance.							
1 .. ..	1938-39	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	63,659
5 .. ..	1941-42	41,236	48,157	2,680	27,740	34,077	78	153,968
6 .. ..	1942-43	44,783	40,864	4,403	34,687	17,983	22	142,742
7 .. ..	1943-44	40,965	17,292	4,590	18,143	13,845	55	94,890
Total to 1st July, 1944 .. ..		216,818	166,063	23,215	138,402	123,775	271	668,544

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

**AUSTRALIAN WHEAT BOARD.—DISPOSAL OF WHEAT TO 1st JULY, 1944.**  
'000 Bushels.

Particulars.	To 31st December, 1940.	1st January to 31st December, 1941.	1st January to 31st December, 1942.	1st January to 31st December, 1943.	1st January to 1st July, 1944(a).	Total to 1st July, 1944.
Sold for export as wheat .. ..	91,610	6,862	21,169	20,053	36,218	175,912
Sold for export as flour .. ..	46,917	20,198	9,738	20,159	42,703	139,715
Sold for local consumption as flour .. ..	36,301	31,933	32,639	34,872	17,052	152,797
Sold for all other purposes .. ..	12,002	12,011	14,718	20,919	18,536	78,186

(a) Includes Sales to the British Government not yet shipped.

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 165,851,000 bushels of wheat, and, in addition, has shipped on its own account (i.e., not including Millers' shipments), 1,339,000 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 1st JULY, 1944.**

Particulars.	No. 2 Pool.	No. 4 Pool.	No. 5 Pool.	No. 6 Pool.	No. 7 Pool.
	£	£	£	£	£
Paid to growers .. ..	31,352,742	11,069,035	25,936,780	25,824,715	17,385,560
Rail freight .. ..	3,778,993	1,201,125	3,030,968	2,367,281	312,859
Expenses .. ..	3,558,982	1,379,594	3,972,305	2,592,031	1,626,792
<b>Total Payments</b> .. ..	<b>38,690,717</b>	<b>13,649,754</b>	<b>32,940,062</b>	<b>30,784,027</b>	<b>19,325,211</b>
Value of sales delivered .. ..	37,790,637	12,932,282	33,000,954	13,528,012	3,706,068
Value of flour tax .. ..	900,080	992,614	1,093,343	1,127,283	940,000

(v) *Advances to Growers.*—(a) *Pools Nos. 1 to 5.* The advances made to growers to 1st July, 1944, in each of the first five pools are shown in the following table :—

ADVANCES MADE TO GROWERS TO 1st JULY, 1944.

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.
Advance made to Growers—								
1st Payment (a)—								
Bulk ..	2 0	1,784	2 8.50	27,350	2 10.50	9,330	2 10	22,432
Bagged ..	2 0		2 10.50		3 0			
2nd Payment—								
Bulk ..	0 6	501	0 4	3,257	0 4	1,061	0 3	1,925
Bagged ..	0 8		0 4		0 4			
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			
4th Payment—								
Bulk ..	0 0.158	12	0 1.125	916	0 3	793	0 3	1,925
Bagged ..	0 0.158		0 1.125		0 3			
5th Payment—								
Bulk ..	..	..	0 1.333	1,086	0 0.75	259	..	..
Bagged ..	..	..	0 1.333		0 1.25			
Total—								
Bulk ..	2 7.908	2,427	63 5.958	35,051	3 9.25	12,238	3 8.0	28,848
Bagged ..	2 9.908		63 7.958		3 11.25		3 10.0	

(a) From which rail freight was deducted.

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

(b) *Pools Nos. 6 and 7.* 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 (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 operate under a share farming agreement, either as owners or share farmers, or who farm under family arrangements, received a quota of less than 3,000 bushels.

For the 1942-43 season (No. 6 Pool) the guarantee was 4s. per bushel at country stations 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, a second payment of compensation on non-quota wheat at the rate of 1s. per bushel has 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.

The advances made to growers to 1st July, 1944, and proportions of quota and non-quota wheat received in the 1942-43 and 1943-44 seasons were as follows:—

ADVANCES MADE TO GROWERS TO 1st JULY, 1944.

Particulars.	Amount Paid (Net at Sidings).				Percentage of Total Wheat Received.	
	No. 6 Pool.		No. 7 Pool.		No. 6 Pool.	No. 7 Pool.
	s. d.	£'000.	s. d.	£'000.	%	%
Quota Wheat—						
Bulk .. .. .	3 10	19,572	3 11½	15,683	70	82
Bagged .. .. .	4 0		4 1½			
Non-quota Wheat—						
First Payment—					30	18
Bulk .. .. .	1 10	4,110	1 11½	1,722		
Bagged .. .. .	2 0		2 1½			
Second Payment—						
Bulk .. .. .	1 0	2,142	..	..		
Bagged .. .. .	1 0		..			
Total—Non-quota Wheat—						
Bulk .. .. .	2 10	6,252	1 11½	1,722	30	18
Bagged .. .. .	3 0		2 1½			
Total Wheat .. .. .	..	25,824	..	17,405	100	100

15. 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.

§ 5. Oats.

1. Progress of Cultivation.—(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 53.28 per cent., oats represented only 8.60 per cent. of the area of crops in 1942-43. The acreage and production of oats for the last five years 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 .. .. .	495	439	12	349	453	23	I	1,682
1940-41 .. .. .	237	559	7	473	429	18	..	1,723
1941-42 .. .. .	304	422	8	291	407	27	I	1,460
1942-43 .. .. .	431	428	19	263	343	13	..	1,497
Average 10 seasons ended 1942-43 ..	299	482	9	332	411	25	..	1,558
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
Average 10 seasons ended 1942-43 ..	4,432	5,843	109	2,766	4,273	697	7	18,127

The oat crop showed considerable variation during the past decennium, ranging from 10,199,000 bushels in 1940-41 to 25,302,000 bushels in 1939-40 with an average for the period of 18,127,000 bushels. The record yield of oats was obtained during 1939-40, when 25,301,980 bushels were harvested. The demand for the grain for oatmeal varies from 1½ million bushels to 2 million bushels annually. The cereal is mainly used as feed grain, and its value, particularly in good seasons, does not warrant an extension of area.

The principal oat-growing State is Victoria, which produces on the average almost one-third of the total quantity grown in Australia. Considerable quantities are produced in the other States. In Queensland, however, the area sown to this cereal is very small.

(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 last five seasons, and for the decennium ended 1942-43 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.							
1938-39 .. ..	12.09	4.42	10.77	8.99	10.95	25.97	21.95	8.72
1939-40 .. ..	17.04	18.84	17.23	11.64	11.74	22.91	15.77	15.04
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
Average for 10 seasons ended 1942-43 .. ..	14.70	12.82	12.34	8.73	10.47	27.10	21.44	11.76

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 1932-33, amounting to 15.73 bushels per acre.

2. *World's Production.*—The world's production of oats for the year 1938, as compiled by the International Institute of Agriculture, amounted to 3,704 million bushels. This quantity was harvested from 136 million acres, and represents an average yield of 27.24 bushels per acre. In comparison with this average return per acre, that of Australia for the same period (8.72 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 quinquennium 1928-32 and for each of the six years ended 1938 which is the latest available :—

**OATS : WORLD'S PRODUCTION.**

Year.	Area.	Production.	Average Yield per Acre.
	Million Acres.	Million Bushels.	Bushels.
Average 1928-1932 .. ..	146	3,670	25.13
1933 .. ..	139	3,365	24.09
1934 .. ..	136	3,222	23.69
1935 .. ..	146	3,732	25.56
1936 .. ..	137	3,290	24.01
1937 .. ..	138	3,605	26.12
1938 .. ..	136	3,704	27.24

3. Price of Oats.—The average wholesale prices in the Metropolitan markets for the year 1940-41, the latest available, are given in the following table:—

OATS : AVERAGE WHOLESALE PRICES, 1940-41.

Particulars.	Sydney.	Melbourne.	Brisbane.	Adelaide.	Perth.	Hobart.
	<i>s. d.</i>					
Average price per bushel ...	3 3½	3 2½	4 5½	2 8½	2 7	4 1

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 to 1942-43 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
1939-40 ..	2,553	1,033	266,068	35,850	263,515	34,817
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	57,075	283,068	56,725

(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 during 1942-43 amounted to 455,334 cwt., much of which is consumed locally, the quantity of oats used for oatmeal being 2,334,889 bushels, or about 6 per cent. of the total production. Oversea trade in this and similar products is small; the exports of oatmeal, wheatmeal and rolled oats during 1942-43 amounted to 194,855 cwt. There were no imports during the year.

6. Value of Oat Crop.—The estimated values of the oat crop for the seasons 1941-42 and 1942-43 were as follows:—

OATS : VALUE OF CROP,(a) 1941-42 and 1942-43.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Australia.
	£	£	£	£	£	£	£	£
1941-42.								
Aggregate value ..	566,240	1,052,615	14,411	409,601	471,525	181,700	557	2,696,649
Value per acre ..	£1/17/3	£2/9/11	£1/15/8	£1/8/1	£1/3/2	£6/13/2	£0/15/3	£1/16/11
1942-43.								
Aggregate value ..	1,009,000	940,375	54,196	396,254	447,736	61,920	1,308	2,910,789
Value per acre ..	£2/6/9	£2/3/11	£2/16/9	£1/10/2	£1/6/2	£4/14/1	£3/3/10	£1/18/11

(a) Excludes the value of straw.

§ 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 1942-43 season being 277,407 acres, or 97 per cent. of the total for Australia. Of the balance, Victoria contributed 7,131 acres, Western Australia 46 acres. The climate of Tasmania is unsuitable for the growing of maize for grain. In the States mentioned the crop is grown to a greater or lesser extent for green fodder, particularly in connexion with the dairying industry.

2. *Progress of Cultivation.*—(i) *Area and Production.* Although maize is grown extensively in other countries, the area sown to maize in Australia has averaged only 312,000 acres during the past decennium. Compared with the previous year, the area in 1942-43 decreased by 16,768 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 last five years and the average for the decennium ended 1942-43 are given in the following table:—

**MAIZE : AREA AND PRODUCTION.**

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	N.T.	A.C.T.	Australia.
<b>AREA.</b>								
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1938-39..	122,201	18,485	183,415	37	8	..	..	324,146
1939-40..	115,856	18,963	176,844	39	110	..	..	311,812
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
Average 10 seasons ended 1942-43..	119,503	16,919	175,427	19	30	..	7	311,905

**PRODUCTION ('000 omitted).**

	Bushels.							
1938-39..	2,905	417	3,733	2	..	..	..	7,057
1939-40..	2,833	381	3,345	..	I	..	..	6,560
1940-41..	4,044	703	4,444	I	I	..	..	9,193
1941-42..	3,141	306	3,989	..	..	..	..	7,436
1942-43..	2,815	271	3,798	..	I	..	..	6,885
Average 10 seasons ended 1942-43..	3,214	566	3,646	..	..	..	..	7,426

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 6,885,000 bushels in 1942-43, the average for the decennium ended 1942-43 being 7,426,000 bushels.

(ii) *Average Yield.* The following table gives particulars of the average yields per acre of the maize crops of the States for the seasons 1938-39 to 1942-43 and for the decennium ended 1942-43:—

**MAIZE : AVERAGE YIELD PER ACRE.**

Season.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	N. Terr.	A.C.T.	Aust.
	Bushels.							
1938-39..	23.77	22.54	20.36	41.35	11.25	..	..	21.77
1939-40..	24.45	20.08	18.91	3.54	14.24	..	..	21.04
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
Average for 10 seasons ended 1942-43..	26.90	33.44	20.78	24.93	13.35	..	8.11	23.81

The average for Victoria is generally amongst the highest in the world, being, for the last three years 50 per cent. higher than for the rest of Australia. 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.

(iii) *Production per Acre—Various Countries.* The average for Australia for the past 10 years was 23.81 bushels per acre. During the period 1928-32 the United States of America averaged 25.1 bushels, Argentine Republic 30.7 bushels, Rumania 17.7 bushels, and the U.S.S.R. (Russia) 14.0 bushels per acre.

3. *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.
			Bushels.
	Million Acres.	Million Bushels.	
Average 1928-1932 .. .. .	204	4,449	21.81
1934 .. .. .	201	3,669	18.25
1935 .. .. .	201	4,299	21.39
1936 .. .. .	200	3,700	18.50
1937 .. .. .	196	4,617	23.56
1938 .. .. .	196	4,547	23.20

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.

4. *Price of Maize.*—The average wholesale price of maize in the Sydney or Melbourne market for each of the last five years is given in the following table:—

**MAIZE : AVERAGE PRICE,**

Particulars.	1939-40.		1940-41.		1941-42.		1942-43.		1943-44.	
	s.	d.								
Average price per bushel ..	(a) 4	7½	(a) 5	2	(b) 4	4½	(b) 7	4½	(b) 8	0

(a) Sydney. (b) Melbourne.

5. *Oversea Imports and Exports.*—The imports of maize into Australia during the five years ended 1942-43 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 to 1942-43 are as follows:—

**MAIZE : IMPORTS AND EXPORTS, AUSTRALIA.**

Year.	Imports.		Exports.		Net Imports.	
	Quantity.	Value.(a)	Quantity.	Value.(a)	Quantity.	Value.(a)
	Bushels.	£	Bushels.	£	Bushels.	£
1938-39.. ..	54	55	282,018	41,489	-281,964	-41,434
1939-40.. ..	75,123	13,864	5,013	1,317	70,110	12,547
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

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

6. **Maize Products.**—A small quantity of cornflour is imported annually into Australia, the principal countries of supply being the United Kingdom, Union of South Africa and the United States of America. During the year 1929-30 the imports amounted to 702,062 lb., and represented a value of £7,956, but since then they have been unimportant. Exports from Australia in 1942-43 amounted to 2,129,691 lb., valued at £44,070.

7. **Value of Crops.**—The values of the crops for the seasons 1941-42 and 1942-43 were as follows:—

**MAIZE : VALUE OF CROP, 1941-42 and 1942-43.**

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Australia.
	£	£	£	£	£	£
Aggregate value ..	654,510	119,518	857,996	110	152	1,632,286
Value per acre ..	£5/11/8	£12/9/2	£4/18/4	£6/17/6	£4/0/0	£5/8/4
	1942-43.					
Aggregate value ..	961,710	101,745	1,186,951	..	526	2,250,948
Value per acre ..	£9/5/8	£14/5/4	£6/16/7	..	£11/8/8	£7/18/2

(a) Includes Australian Capital Territory. Value £16; value per acre £2.

### § 7. Barley.

1. **Progress of Cultivation.**—(i) *Area and Production.* Despite wide annual fluctuations the area sown to barley has expanded considerably during the past ten years; the average annual area sown for the decennium ended 1942-43 amounted to 615,000 acres, compared with an average of 356,116 acres for the previous ten years. Victoria was originally the principal barley-growing State, but since 1913-14 South Australia has been the chief producing State, accounting for 66 per cent. of the Australian acreage in 1942-43. Victoria was next in importance with 17 per cent., leaving a small balance of about 17 per cent. distributed among the other States. The totals here given relate to the areas harvested for grain; small areas only 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 last five years and the average for the decennium ended 1942-43 are shown in the following table:—

**BARLEY : AREA AND PRODUCTION.**

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
<b>AREA ('000 Acres).</b>							
1938-39.. ..	14	176	14	457	75	9	745
1939-40.. ..	24	204	13	504	83	8	836
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
Average 10 seasons ended 1942-43 ..	15	140	9	394	51	6	615
<b>PRODUCTION ('000 Bushels).</b>							
1938-39.. ..	218	1,672	246	7,541	946	208	10,831
1939-40.. ..	466	3,738	270	9,960	971	196	15,601
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
Average 10 seasons ended 1942-43 ..	230	2,333	148	7,035	615	172	10,533

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 7,035,000 and 2,333,000 bushels.

(ii) *Malting and Other Barley.* (a) Year 1942-43. Particulars for the season 1942-43 are as follows:—

**BARLEY-MALTING AND OTHER : AREA AND PRODUCTION, 1942-43.**

('000 omitted.)

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Malting barley ..	5	62	6	261	20	3	357
Other barley ..	9	16	2	37	30	..	94
<b>Total ..</b>	<b>14</b>	<b>78</b>	<b>8</b>	<b>298</b>	<b>50</b>	<b>3</b>	<b>451</b>
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
Malting barley ..	80	998	116	5,331	203	54	6,782
Other barley ..	143	276	49	689	330	9	1,496
<b>Total ..</b>	<b>223</b>	<b>1,274</b>	<b>165</b>	<b>6,020</b>	<b>533</b>	<b>63</b>	<b>8,278</b>

Taking Australia as a whole, about 79 per cent. of the area of barley in 1942-43 was sown with malting or English Barley while the remainder consisted of Cape and other varieties. The proportion, however, varied largely in the several States. The disposal of barley during the seasons 1942-43 and 1941-42 (in brackets) were as follows: malt works, 3,613,086 (3,943,669) bushels; flour and other grain mills, 360,300 (278,691) bushels; distilleries, 146,217 (77,940) bushels; exports, 511,382 (1,034,388) bushels; leaving a balance of 3,646,000 (2,669,000) bushels for feed and seed.

(b) *Progress of Cultivation.* The following table sets out the acreage and production of malting and other barley in Australia during the last five seasons and the decennium ended 1942-43:—

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

Season.	'000 Acres.			'000 Bushels.			Average Yield per Acre.		
	Malting.	Other.	Total.	Malting.	Other.	Total.	Malting.	Other.	Total.
1938-39 ..	650	95	745	9,705	1,126	10,831	14.92	11.02	14.54
1939-40 ..	716	120	836	13,732	1,869	15,601	19.19	15.56	18.67
1940-41 ..	639	118	757	6,185	943	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
Average 10 seasons ended 1942-43 ..	523	92	615	9,172	1,361	10,533	17.52	14.80	17.13

During the past ten seasons the area and production of malting barley have approximated six times the corresponding figures for other barley. The average yield per acre differs very little in respect of the two classes, the results for the last ten-yearly period being slightly in favour of the malting variety.

(iii) *Average Yield.* The average yield of barley per acre varies considerably in the different States, being as a rule highest in Tasmania and Victoria, and lowest in Western Australia. Details for each State during the last five seasons, and for the decennium ended 1942-43 are given in the following table :—

**BARLEY : YIELD PER ACRE.**

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1938-39 .. ..	15.34	9.50	17.56	16.50	12.63	23.94	14.54
1939-40 .. ..	19.19	18.30	20.42	19.78	11.74	25.33	18.67
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 .. ..	8.62	16.36	19.90	20.20	7.76	23.04	18.37
Average for 10 seasons ended 1942-43 .. ..	15.59	16.66	16.39	17.85	12.08	26.36	17.13

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

Particulars of the barley acquired, sold, and advances made to growers are given in the following table :—

**BARLEY ACQUIRED, SOLD, ETC., AT JULY, 1944.**

Particulars.	No. 1 Pool (1939-40 Crop).	No. 2 Pool (1940-41 Crop).	No. 3 Pool (1941-42 Crop).	No. 4 Pool(a) (1942-43 Crop).	No. 5 Pool(a) (1943-44 Crop).
Quantity acquired '000 bus.	11,616	4,173	12,715	3,810	3,338
Quantity sold .. ..	11,616	4,143	(b)12,831	3,480	1,096
Total advances made per bushel on 2-row, No. 1 Grade .. ..	<i>s. d.</i> 3 3.49	<i>s. d.</i> 4 3.48	<i>s. d.</i> 3 5.05	<i>s. d.</i> 3 8	<i>s. d.</i> 3 6
	£	£	£	£	£
Total Payments to Growers	1,528,402	852,321	2,025,155	603,736	493,231

(a) Pool not yet finalized.

(b) Includes surplus in outturn.

3. *Comparison with Other Countries.*—In comparison with the barley production of other countries, that of Australia appears extremely small. Particulars for some of the leading countries during 1938 were as follows :—United States of America, 242 million bushels; Germany, 187 million bushels; Turkey, 106 million bushels; and Canada, 98 million bushels. Details of production in the U.S.S.R. (Russia) are not available but in 1935 production approximated 360 million bushels, while China produced 281 million bushels in 1937. Later details are not available.

4. **World's Production.**—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 1928-1932	..	..	..	91.1	1,809	19.85
1934	..	..	..	87.2	1,663	19.07
1935	..	..	..	94.0	1,845	19.63
1936	..	..	..	89.7	1,744	19.44
1937	..	..	..	91.7	1,820	19.85
1938	..	..	..	90.7	1,915	21.11

5. **Prices.**—The average prices in the Melbourne market during each of the last five years are given in the following table :—

**BARLEY : AVERAGE MELBOURNE PRICES PER BUSHEL.**

Particulars.	1938-39.	1939-40.	1940-41.	1941-42.	1942-43.
	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>
Malting barley .. ..	3 5 $\frac{3}{4}$	3 5	4 8 $\frac{1}{2}$	5 0 $\frac{1}{2}$	4 11
Cape barley .. ..	2 11 $\frac{1}{2}$	3 0	3 11 $\frac{1}{2}$	4 3 $\frac{1}{2}$	4 3

6. **Imports and Exports.**—Australian exports of barley during the last five years averaged 1,793,000 bushels, South Australia being the principal exporting State. Particulars of the Australian overseas imports and exports for the last five years 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
1939-40 .. ..	I	85	3,891	520,521	3,890	520,436
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

(a) Australian currency values.

In addition to barley grain, there is also an export of Australian pearl and scotch barley, the total for 1942-43 amounting to 1,665,710 lb., valued at £19,436 consigned mainly to Ceylon and Southern Rhodesia.

7. **Imports and Exports of Malt.**—In the years before the War of 1914-1919 the imports of malt into Australia were fairly extensive, the supply being obtained principally from the United Kingdom. Subsequently, however, imports had practically ceased and the 9,695 bushels imported in 1942-43 was the largest since 1915-16. The production

of malt 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 five years ended 1942-43 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
1939-40 ..	170	123	320,410	111,499	320,240	111,376
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

(a) Australian currency values.

8. Value of Barley Crop.—The estimated value of the barley crop for the seasons 1941-42 and 1942-43 and the value per acre are shown in the following table :—

**BARLEY : VALUE OF CROP,(a) 1941-42 and 1942-43.**

Value.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
1941-42.	£	£	£	£	£	£	£
Total ..	73,940	788,047	23,480	1,604,222	161,367	30,020	2,681,076
Per acre..	£3/11/10	£3/17/2	£3/3/2	£3/7/1	£2/7/2	£5/12/11	£3/8/4
1942-43.							
Total ..	51,430	281,222	26,416	890,164	108,989	16,330	1,374,551
Per acre ..	£3/11/11	£3/12/3	£3/3/11	£2/19/9	£2/4/0	£5/19/9	£3/1/0

(a) Excludes the value of straw.

**§ 8. Rice.**

Experimental rice cultivation was carried on at the Yanco Experimental Farm in New South Wales for a number of years, but it was not until 1924-25 that an attempt was made to grow the crop on a commercial basis. In that year production amounted to 16,240 bushels 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 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. Civilian consumption was prohibited except in the case of Asiatics resident in Australia and the total production was diverted to service needs and for the feeding of natives in South-West Pacific Area.

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. The expansion in 1942-43 was achieved in the Murrumbidgee Irrigation Area, but in 1943-44, an additional 5,000 acres in the Wakool Irrigation Area was anticipated.

During the past five years an annual average of 262,000 centals of cleaned and 10,700 centals 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, trade and price, since 1934-35 are shown in the following table:—

**RICE : AREA, PRODUCTION, TRADE AND PRICE, AUSTRALIA.**

Year.	No. of Growers. (a)	Area.	Production Paddy Rice.	Average Yield.	Imports.		Exports.		Weighted Average Retail Price.
					Un-cleaned.	Cleaned.	Un-cleaned.	Cleaned.	
		Acres.	'000 Bushels.	Bushels.	Centals.	Centals.	Centals.	Centals.	d. per lb.
1934-35 ..	290	21,746	1,888	88.84	67	37,725	28,618	235,872	3.22
1935-36 ..	304	21,715	2,164	99.64	963	41,697	9,820	215,793	3.27
1936-37 ..	320	23,384	2,277	97.36	26	32,605	2,137	320,893	3.07
1937-38 ..	319	23,737	2,260	95.59	9,535	33,315	2,825	308,844	3.09
1938-39 ..	313	23,533	2,775	117.92	29	46,019	3,386	277,851	3.24
1939-40 ..	314	24,120	1,858	77.02	5	29,765	2,554	326,267	3.44
1940-41 ..	329	24,547	2,240	91.26	..	25,722	5,188	223,416	3.47
1941-42 ..	331	23,633	2,192	92.75	660	36,737	5,475	271,995	3.51
1942-43 ..	348	34,232	3,084	90.11	..	1,800	37,085	209,628	(b) 3.51

(a) New South Wales.

(b) Nominal.

The production from several small experimental plots in States other than New South Wales is included in the foregoing table, 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 beans, peas and rye. The total area of the first two mentioned crops for the season 1942-43 was 76,654 acres, giving a yield of 938,485 bushels, or an average of 12.24 bushels per acre, which was less than the average yield for the decennium ended 1942-43, namely 13.29 bushels per acre. Beans and peas are grown chiefly in Tasmania, South Australia and Victoria. 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 1942-43 was 21,865 acres, yielding 171,700 bushels, or an average of 7.85 bushels per acre, as compared with the average of 10.33 bushels for the last ten seasons. Of the total area sown to rye in 1942-43, about 3.5 per cent. was in New South Wales, 57.8 per cent. was located in South Australia, and 20.2 per cent. in Victoria.

**§ 10. Potatoes.**

1. Progress of Cultivation.—(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 and 1939-40. New South Wales occupies third place in acreage and production. The area for these three States accounted for 81.85 per cent. of the total for Australia in 1942-43.

The area and production of potatoes in each State during the last five years and the average for the decennium ended 1942-43 are given hereunder :—

POTATOES : 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 ..	16,866	34,396	10,389	4,290	5,355	26,696	56	98,048
1939-40 ..	19,232	32,177	12,446	4,499	5,676	30,452	52	104,534
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	64	140,209
Average 10 seasons ended 1942-43 ..	20,488	44,089	11,455	4,979	5,017	34,257	46	120,331
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
1939-40 ..	40,531	87,931	28,306	21,251	30,761	114,409	128	323,317
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
Average 10 seasons ended 1942-43 ..	50,320	138,082	20,262	22,300	25,750	103,918	120	360,752

The area sown to potatoes averaged 141,000 acres during the ten years ended 1932-33, but it has declined to an average of 120,000 acres during the past decade. Victoria, with a drop of 20,000 acres, was mainly responsible for this decline, followed by Tasmania with 2,000 acres. A small increase occurred in South Australia and New South Wales, while in Queensland the increase amounted to 1,700 acres or 18 per cent.

The greatest yield during the past decade was 483,561 tons in 1942-43, compared with the record output of 507,153 tons in 1906-7.

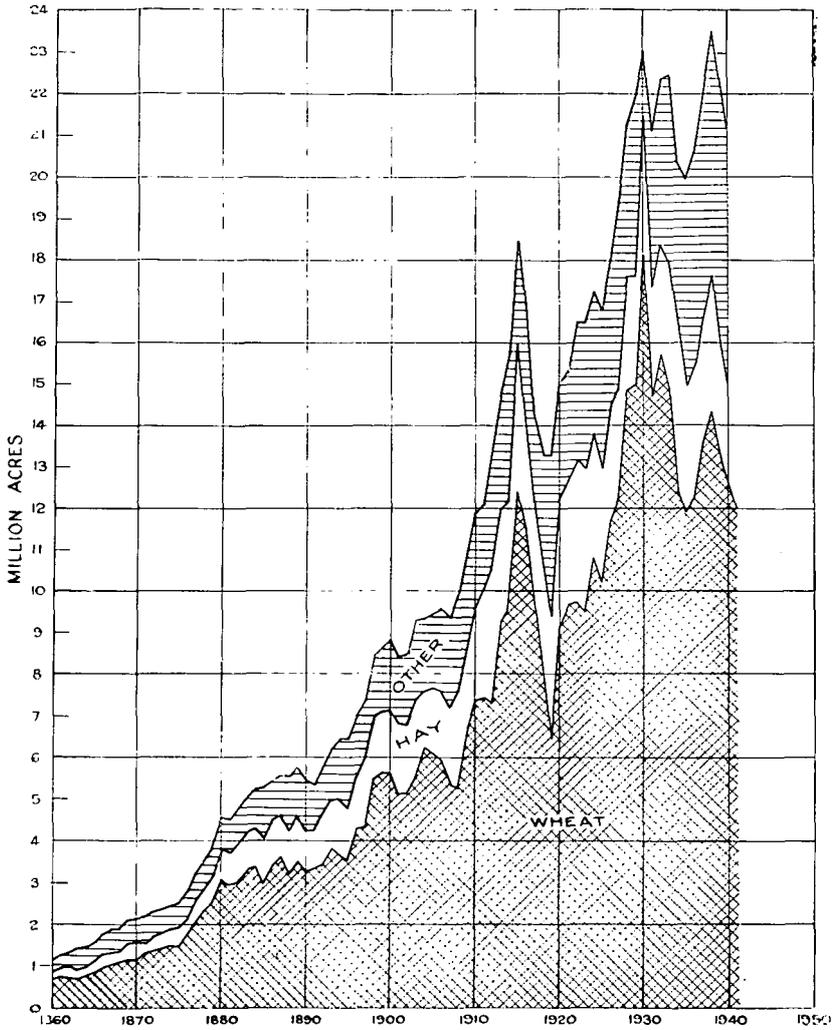
(ii) *Average Yield.* Particulars for each State for the five seasons, and the average for the decennium ended 1942-43, are given hereunder :—

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
1939-40 ..	2.11	2.73	2.27	4.72	5.42	3.76	2.46	3.09
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
Average for 10 seasons ended 1942-43 ..	2.46	3.13	1.77	4.48	5.13	3.03	2.61	3.00

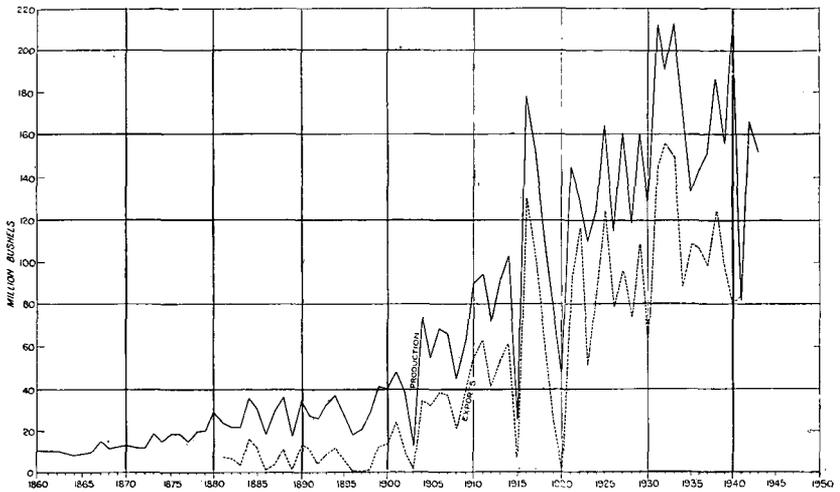
Compared with the average yield per acre obtained in other countries, that returned for Australia is very low; the production in New Zealand, for example, in 1942-43 averaged 5.83 tons per acre from an area of 23,860 acres, as compared with 3.45 tons per acre from 140,209 acres in Australia.

## AREA OF CROPS-- AUSTRALIA, 1860-61 TO 1940-41.



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 1940-41.



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.

(iii) *Relation to Population.* The average annual production of potatoes for the last five seasons was 53 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 9½ cwt. Details for each State for the five seasons ended 1942-43 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
1939-40 ..	15	47	28	36	66	479	10	46
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

(iv) *Consumption.* The consumption in Australia during the last five years averaged about 51 tons per 1,000 of population. These figures include the quantities used for seed. Omitting seed potatoes the consumption per 1,000 of population would be 46 tons or 115 lb. per head. From the figures shown above, therefore, it is apparent that New South Wales, Queensland and South Australia do not produce the quantities necessary for their requirements and must import from Tasmania and Victoria which have a surplus.

2. *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 last five years 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
1939-40 .. ..	1	26	1,971	21,995	1,970	21,969
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

(a) Australian currency values.

Minus sign (-) signifies net imports.

3. *Value of Potato Crop.*—The estimated value of the potato crop of each State for the season 1941-42 and 1942-43 is given in the following table:—

POTATOES : VALUE OF CROP, 1941-42 AND 1942-43.

Value.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Australia.
1941-42.	£	£	£	£	£	£	£	£
Total .. ..	310,520	1,773,849	183,416	326,856	244,440	1,471,990	788	4,311,859
Per acre .. ..	£17/11/2	£53/2/9	£22/10/5	£68/6/9	£52/8/8	£48/0/10	£26/5/4	£43/8/3
1942-43.	£	£	£	£	£	£	£	£
Total .. ..	811,800	2,162,955	387,056	427,258	361,424	1,807,350	2,697	5,960,540
Per Acre .. ..	£33/3/0	£41/15/10	£39/3/1	£59/1/5	£56/9/8	£44/15/1	£42/2/8	£42/10/3

§ 11. Other Root and Tuber Crops.

1. *General.*—Root crops, other than potatoes, are not extensively grown in Australia, the total area of such crops for the season 1942-43 being only 57,375 acres. The most important were onions, mangolds, sugar-beet, turnips and sweet potatoes. Of these, onions and sugar-beet are most largely grown in Victoria, turnips in Tasmania, and mangolds and sweet potatoes in Queensland. The total area of onions in Australia

during the season 1942-43 was 9,716 acres, giving a yield of 54,688 tons, and averaging 5.63 tons per acre. The area in 1942-43 of root crops other than potatoes and onions was 47,659 acres, from which a production of 185,482 tons was obtained, an average of 3.89 tons per acre. The areas and yields here given exclude the production of "market gardens", reference to which is made in § 17 par. 2.

2. Imports and Exports.—Onions is the only root crop, other than potatoes, in which any considerable oversea trade is carried on by Australia. During the last five years 14,165 tons, valued at £A178,415, were imported, principally from the United States of America, New Zealand, Egypt and Japan, while during the same period the exports, which amounted to 7,079 tons, valued at £A81,336, were shipped mainly to the Pacific Islands, Malaya (British), Canada and New Zealand.

### § 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 1942-43 averaged 13.54 per cent. of the total area cropped. 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 of hay of all kinds in the several States during the last five years 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
1939-40 ..	706,599	1,204,810	59,970	531,614	395,639	96,264	3,746	2,998,642
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
Average 10 seasons ended								
1942-43 ..	758,970	1,063,792	70,461	517,330	409,872	83,783	2,724	2,906,932
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
1939-40 ..	965,678	1,820,878	102,750	646,075	475,677	141,404	5,602	4,158,064
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
Average 10 seasons ended								
1942-43 ..	927,035	1,250,170	113,877	582,870	432,406	120,994	3,662	3,431,014

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 1942-43 amounted to 2,906,932 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 23.4 cwt. Particulars for the several States for the seasons 1938-39 to 1942-43 and the average of the ten years ended 1942-43 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
1939-40 .. ..	1.37	1.51	1.71	1.22	1.20	1.47	1.50	1.39
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
Average for 10 seasons ended 1942-43 ..	1.22	1.18	1.62	1.13	1.05	1.44	1.34	1.17

(iii) *Varieties Grown.* Information in regard to the crops cut for hay is available for all States, and details for the last five seasons are given in the following table :—

## HAY : VARIOUS KINDS GROWN.

Varieties.	1938-39.	1939-40.	1940-41.	1941-42.	1942-43.
	Acres.	Acres.	Acres.	Acres.	Acres.
<b>NEW SOUTH WALES—</b>					
Wheaten .. ..	559,437	264,239	354,833	346,261	287,470
Oaten .. ..	413,002	349,266	248,493	289,943	351,985
Barley .. ..	2,225	1,921	1,251	1,513	4,800
Lucerne .. ..	92,598	89,958	109,164	75,855	91,671
Other .. ..	1,663	1,215	1,884	570	231
Total .. ..	1,068,925	706,599	715,625	714,142	736,157
<b>VICTORIA—</b>					
Wheaten .. ..	258,839	95,610	96,852	132,773	67,759
Oaten .. ..	722,528	804,246	464,192	691,486	518,040
Lucerne, etc. ..	123,191	304,954	111,911	183,720	202,993
Total .. ..	1,104,558	1,204,810	672,955	1,007,979	788,792
<b>QUEENSLAND—</b>					
Wheaten .. ..	6,628	7,259	6,502	8,350	10,678
Oaten .. ..	4,901	3,179	2,475	5,710	6,085
Lucerne .. ..	50,228	46,385	49,435	37,010	51,715
Other .. ..	3,975	3,147	5,169	7,120	1,547
Total .. ..	65,732	59,970	63,581	58,190	70,025
<b>SOUTH AUSTRALIA—</b>					
Wheaten .. ..	227,604	197,728	212,284	229,792	152,589
Oaten .. ..	270,425	303,436	171,491	303,558	230,901
Lucerne .. ..	4,805	6,433	2,209	4,251	4,424
Other .. ..	16,475	24,017	17,694	20,023	37,591
Total .. ..	519,309	531,614	403,678	557,624	425,505
<b>WESTERN AUSTRALIA—</b>					
Wheaten .. ..	165,153	135,094	228,736	121,951	100,947
Oaten .. ..	204,610	213,248	149,899	166,772	118,000
Lucerne .. ..	..	..	87	66	239
Other .. ..	38,513	47,297	39,764	36,477	33,964
Total .. ..	408,276	395,639	418,486	325,266	253,150
<b>TASMANIA—</b>					
Wheaten .. ..	979	491	772	133	1,962
Oaten .. ..	64,310	70,097	64,098	73,771	61,542
Barley .. ..	533	310	235	133	492
Other .. ..	14,137	25,366	10,977	18,599	18,066
Total .. ..	79,959	96,264	76,082	92,636	82,062

Oats is generally the predominant hay crop throughout Australia except in Queensland where lucerne is the chief variety grown. For all States the proportions of the areas sown to the principal kinds of hay were 55 per cent. for oaten, 26 per cent. for wheaten, 15 per cent. for lucerne, and 4 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 Great Britain the production of hay from clover, sainfoin, etc., for the year 1938 amounted to 1,893,000 tons from 1,571,000 acres, while from permanent grasses a yield of 3,389,000 tons of hay was obtained from 4,402,000 acres, giving a total of 5,282,000 tons from 5,973,000 acres, or an average of about 18 cwt. per acre. Details later than 1938 are not available.

3. **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 1942-43, 28 tons were imported, while the exports amounted to 5,207 tons, valued at £34,998.

4. **Value of Hay Crop.**—The following table shows the value, and the value per acre, of the hay crop of the several States for the seasons 1941-42 and 1942-43 :—

HAY : VALUE OF CROP, 1941-42 AND 1942-43.

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Australia.
	£	£	£	£	£	£	£	£
1941-42.								
Total Value ..	4,435,010	4,774,072	874,986	1,886,255	693,704	304,330	20,077	12,988,434
Value per acre ..	£6/4/2	£4/14/9	£15/0/9	£3/7/8	£2/2/8	£3/7/3	£8/15/3	£4/14/2
1942-43.								
Total Value ..	6,480,490	4,431,036	1,098,003	1,309,877	703,132	384,850	37,684	14,445,072
Value per acre ..	£8/16/1	£5/12/4	£15/13/7	£3/1/7	£2/13/7	£4/13/10	£11/0/1	£6/2/6

### § 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 last five years 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
1939-40	519,581	91,441	550,716	284,317	380,793	26,130	974	1,853,952
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

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 1942-43 excluding Western Australia may be taken approximately as £4,205,000.

### § 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 329,051 acres of sugar-cane grown for this purpose in Australia for the season 1942-43, there were 310,122 acres, or about 94 per cent., in Queensland. This latter area is made up of 231,256 acres cut for crushing, 11,619 acres cut for plants, and 67,247 acres left to stand-over or young cane on areas not ready for cutting. Sugar-cane growing appears to have been started 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 1942-43 amounting to 19,867 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 Queensland has declined since 1940-41. In 1939-40 the acreage of cane was the highest on record, namely, 353,996 acres. The area of sugar-cane in Australia from 1938-39 and the average for the decennium ended 1942-43 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.	Area cut for plants.	
1938-39 ..	10,458	10,772	163	251,847	84,098	11,254	262,305	94,870	11,417	368,592
1939-40 ..	10,488	10,229	254	262,181	80,934	10,881	272,669	91,163	11,135	374,967
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
Average 10 seasons ended										
1942-43 ..	9,831	9,823	213	242,080	78,613	10,677	251,911	88,436	10,890	351,237

(ii) *Productive and Unproductive Cane.* The areas given in the preceding table do not include the small acreage cut for green fodder which in 1942-43 amounted to 8,906 acres in Queensland. The whole area was not necessarily 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, subsequently declining to 4,691,501 tons in 1942-43. The average

production of cane during the decennium ended 1942-43 was 5,219,895 tons, and the quantity of raw sugar amounted to 749,747 tons. Particulars of the total production of cane and sugar for the last five years and the decennium ended 1942-43 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
1939-40 .. ..	274,548	36,883	6,038,821	891,738	6,313,369	928,621
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
Average 10 seasons ended 1942-43 ..	302,695	40,028	4,917,200	709,719	5,219,895	749,747

The production of raw sugar in Australia in 1942-43 amounted to 649,899 tons manufactured from 4,691,501 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 1942-43 totalled 6,945, and employees in sugar mills which in 1942-43 numbered 4,426. 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 1942-43 were 16.89 tons for New South Wales, and 18.71 tons for Queensland. Similarly, the yields of sugar per acre crushed for the same period were estimated at 2.44 tons and 2.69 tons respectively. Apart from the consideration mentioned above, the yields of cane and sugar per acre crushed for Australia for the ten years ended 1942-43 were 20.72 tons and 2.98 tons respectively, as compared with 17.89 tons and 2.38 tons for the decennium ended 1932-33.

**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
1939-40 .. ..	26.18	3.52	7.44	23.03	3.40	6.77	23.15	3.41	6.80
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
Average 10 seasons ended 1942-43 ..	30.79	4.07	7.56	20.31	2.93	6.93	20.72	2.98	6.96

(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 1942-43 it took 6.96 tons of cane to produce 1 ton of sugar or 14.33 per cent. of its total weight. 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. During the ten years ended 1932-33 it required on the average 7.52 tons of cane to produce one ton of sugar in Australia, whereas the average figure for the decennium ended 1942-43 was reduced to 6.96 tons.

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 the last five years was more than sufficient to supply local requirements, the average production during the period amounting to 251 lb. per head of population. Details for the period 1938-39 to 1942-43 are as follows:—

#### RAW SUGAR : PRODUCTION PER HEAD OF POPULATION.

State.	1938-39.	1939-40.	1940-41.	1941-42.	1942-43.
	lb.	lb.	lb.	lb.	lb.
New South Wales .. ..	37	30	38	38	35
Queensland .. ..	1,731	1,962	1,651	1,510	1,366
Australia .. ..	266	297	256	234	202

(vii) *Consumption.* The average annual consumption of raw sugar during the five years ended 1942-43 was estimated at 451,714 tons, equal to 143.21 lb. of raw sugar or 136.76 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 during the five years in factories 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.	1939-40.	1940-41.	1941-42.	1942-43.
	Tons.	Tons.	Tons.	Tons.	Tons.
Aerated Waters and Cordials	11,810	12,346	13,306	17,982	21,167
Bacon Factories .. ..	267	265	322	335	356
Biscuits and Bakeries— including Cakes and Pastry	18,801	18,728	20,515	22,657	24,881
Breweries .. ..	16,733	17,742	19,669	21,300	19,612
Cereal Foods .. ..	1,287	1,317	1,329	1,484	1,267
Condensed and Concentrated Milk .. ..	6,889	7,918	9,943	2,374	1,728
Confectionery, Ice Cream, &c.	26,926	29,710	30,193	28,806	33,023
Jams, Jellies and Preserved Fruit (a) .. ..	40,537	52,391	59,020	61,058	69,944
Other .. ..	583	459	1,785	(b)33,779	(c)12,562
Total .. ..	123,833	140,876	156,082	189,775	184,540

(a) Including Condiments, Pickles, etc.  
(c) Mainly butter factories.

(b) Mainly butter factories and distilleries.

(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 this 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 only received the full pool price for sugar up to the amount of their previous maximum production. 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. between 1929 and 1939. In 1939, in view of the fact that the volume of Australian exports is now restricted by the International Sugar Agreement, 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 Government permitted the harvesting of the whole crops for 1939 and 1940; but the basic quotas totalling 737,000 tons will be strictly adhered to for subsequent seasons.

2. *Sugar-beet.*—(i) *Area and Production.* 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 last four years and for the decennium ended 1942-43 are shown in the following table :—

SUGAR-BEET : AREA AND PRODUCTION, VICTORIA.

Particulars.		1939-40.	1940-41.	1941-42.	1942-43.	Average ten seasons ended 1942-43.
Area harvested ..	acres	4,235	3,588	2,866	955	3,289
Production ..	tons	42,903	27,031	24,546	5,997	32,265
Average per acre..	„	10.13	7.53	8.56	6.28	9.81
Sugar produced ..	„	6,250	3,279	2,769	678	3,970

The area under sugar beet has declined steadily during the war years. In 1942-43 the area harvested was less than one quarter of the area harvested in 1939-40. Much of this decline is due to the diversion of many areas to the production of vegetables as a war-time measure.

(ii) *Encouragement of Beet-growing.* The irrigation scheme on the Macallister River has provided an assured water supply for the district and has enabled the industry to expand. A fine grade of white sugar is manufactured at Maffra, and considerable quantities of beet pulp and molasses are distributed for stock feed.

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 fruit industry agreed to a reduction of  $\frac{1}{4}$ 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 price of sugar remains 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 is 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 will 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 would normally expire 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. Since the outbreak of war in September, 1939, however, the agreement has virtually lapsed because of the difficulties arising therefrom.

7. Net Returns 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 last five years will be found in the following table :—

**SUGAR : NET RETURNS, AUSTRALIA.**

Year.	Percentage Exported.	Net Value of Exports per Ton.	Average Price per Ton for Whole Crop.	Estimated Value of Crop.
	(a)	(a)	(a)	
	Per cent.	£ s. d.	£ s. d.	£
1938-39 .. ..	55.78	8 4 3	15 3 11	12,806,376
1939-40 .. ..	58.68	10 7 6	15 17 7	15,329,011
1940-41 .. ..	50.43	11 5 6	17 2 11	14,093,668
1941-42 .. ..	26.25	10 18 9	17 18 11	13,770,584
1942-43 .. ..	9.28	10 16 3	18 18 5	11,762,432

(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 1942-43 amounted to £216,581. The value thus obtained represents the net market value of all raw sugar sold, and since 1933 is 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.—Owing to the embargo and the increased production of sugar in Australia excepting for the years 1939-40 and 1941-42, imports have practically ceased. Particulars showing the imports and exports of cane sugar for the last five years 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
1939-40 .. ..	230	6,151	524,432	6,185,992	524,202	6,179,841
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

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 XIX. "Manufacturing Industry". A distillation plant erected at Sarina, near Mackay, was opened during 1927 and produces power alcohol of excellent quality. Other distilleries have been erected since 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 813.

**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 .. .. .	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. and 1942-43, £18 18s. 5d.

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 existing tariff preference on dominion sugar of £Stg.3 15s. per ton.

Similar agreements were negotiated for the disposal of the surplus from the 1940 and 1941 crops. The price for both crops, however, was increased to £Stg.8 17s. 6d. per ton plus the existing preference.

The existing arrangement was continued for the disposal of the 1943 crop, but the price was increased to £Stg.10 plus the existing preference. Shipments of sugar would be made to Empire and Allied consuming countries in accordance with the requirements of the Ministry of Food.

## § 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 the mother

State in the area of this crop. In Queensland and Western Australia also vine-growing has been carried on for many years, but 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 last five years and the average for the decennium ended 1942-43 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
1939-40 ..	16,983	42,594	2,921	58,222	6,457	2	127,179
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
Average 10 seasons ended 1942-43	16,223	41,998	2,692	56,490	7,051	..	124,454

The total area of vines in Australia has shown a substantial expansion since 1860. This development has been interrupted periodically, decreases occurring in 1896, 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.

(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.

(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, owing chiefly to two causes. In the first place Australians are not a wine-drinking people; it is estimated that they consume approximately 2½ million gallons only or 0.3 gallons per head per annum and consequently the local market is restricted. Secondly, the comparatively new and unknown wines of Australia must compete in the markets of the old world with the well-known and long-established brands from other countries. Continued efforts are being made to bring the Australian wines under notice both here and abroad and with the assistance of a Commonwealth bounty on the export of fortified wine of specified strength, the industry has been greatly stimulated. Further development however, has been interrupted by the war. The loss of the United Kingdom market due to the lack of shipping space has placed the wine industry in a most difficult position. In addition, wine is not a priority cargo and until shipping conditions improve, the difficult problem will remain. The attention of growers regarding over-production has been directed by the Australian Wine Board.

Particulars of the Wine Export Bounty are shown in § 18 hereafter. The Wine Export Bounty Act 1930 which provided for payment at the rate of 1s. 9d. per gallon was replaced by a new Act in 1934 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, was provided for under the Wine Export Bounty Act of 1939-1940.

The quantity of wine produced in the several States during the last five seasons together with the average for the decennium ended 1942-43 are 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
1939-40 ..	2,090	1,126	43	11,180	336	14,775
1940-41 ..	3,229	1,208	23	11,067	470	15,997
1941-42 ..	3,112	1,162	32	11,140	410	15,856
1942-43 ..	2,721	1,382	44	15,132	514	19,793
Average 10 seasons ended 1942-43 ..	2,521	1,361	32	12,655	427	16,996

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 last five years 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
1939-40 ..	6,500	19,847	26,347	18,164	17,428	35,592
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

(ii) *Exports.* Before the War, practically all wine exported was sent to the United Kingdom, approximately 200,000 gallons being sent elsewhere. Of the quantity exported in 1942-43, the main countries of destination were :—New Caledonia (251,989 gallons, £60,130); New Zealand (169,419 gallons, £60,361); and Canada (168,212 gallons, £81,587).

Wine was not included among the commodities sold by contract to the Government of the United Kingdom as a war-time emergency. Because of the prior claims of other commodities to shipping space, the export of wine to the United Kingdom has virtually ceased.

Exports for the last five years 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
1939-40 ..	2,564	3,617,240	3,619,804	3,666	930,580	934,246
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

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 last five seasons 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
1939-40 ..	..	3,975	4,107	2,118	1,046	2,523	13,769
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

(ii) *Raisins and Currants*. The quantities of raisins (sultanas and lexias) and currants dried during each of the last six seasons and the decennium ended 1942-43, are given in the following table. The production for the 1943-44 season has been estimated at 102,000 tons which will be the greatest output recorded in any year. The production goal for 1944-45 has been fixed at 97,000 tons.

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	50,889	23,871
1939-40 ..	6,613	1,459	47,323	10,642	14,993	10,447	723	2,978	69,657	25,526
1940-41 ..	0,777	1,102	41,342	6,629	15,517	6,745	487	2,467	64,123	16,943
1941-42 ..	8,023	1,381	47,520	8,738	15,889	8,814	470	2,420	71,809	21,353
1942-43 ..	7,528	1,361	46,439	8,620	15,263	9,253	674	2,329	69,904	21,562
1943-44(b) ..	7,850	1,350	48,950	10,100	19,380	10,500	620	3,250	76,800	25,200
Average 10 seasons ended 1942-43 ..	5,679	1,113	40,114	8,219	13,653	8,544	654	2,205	60,100	20,081

(a) Sultanas and Lexias.

(b) Subject to revision.

4. **Exports of Raisins and Currants.**—The following table gives the overseas exports of raisins and currants during each of the last five years. 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
1939-40 ..	37,285	1,447,353	13,711	487,678	50,996	1,935,031
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

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 average annual production for the decennium ended 1942-43 was 80,000 tons, of which 59,000 tons were exported and about 21,000 tons were available for local requirements. The chief countries importing Australian raisins and currants are the United Kingdom, Canada and New Zealand, the quantities exported thereto in 1942-43 being 36,637, 13,478 and 7,078 tons or 63, 23 and 12 per cent. respectively. Exports to Canada increased from 4,600 tons in 1928-29 to 16,944 tons in 1939-40, decreasing to 13,478 tons in 1942-43.

5. **War-time Contract.** Since the outbreak of War the Government of the United Kingdom has purchased all available surpluses, after provision was made for Canadian and New Zealand requirements, for each season from the Commonwealth Government. Prices ranged from £A.37 per ton f.o.b. for currants to £A.52 per ton f.o.b. for sultanas during the 1943 season representing a substantial increase over pre-war prices.

The sales of dried vine fruits for season 1943 in Australia amounted to 25,204 tons while 65,171 tons were exported overseas, of which the United Kingdom bought 42,810 tons, Canada 15,830 tons and New Zealand 5,770 tons.

**§ 16. Orchards and Fruit-Gardens.**

1. **Progress of Cultivation.**—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 last five years is given in the following table :—

**ORCHARDS AND FRUIT-GARDENS : AREA.**

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Nthn. 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
1939-40..	85,099	70,315	33,014	29,099	22,155	31,074	40	139	270,935
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

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 table gives 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 1942-43 :—

ORCHARDS AND FRUIT-GARDENS : AREA, 1942-43.

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 ..	13,456	24,451	4,054	9,537	13,234	22,843	97	87,672					
Apricots ..	1,883	4,500	230	3,586	499	1,432	7	12,137					
Bananas ..	12,457	..	7,526	..	175	..	..	20,158					
Cherries ..	2,867	1,380	5	1,124	17	113	3	5,509					
Citrus—													
Oranges ..	22,324	4,220	2,889	4,464	2,947	..	..	42,012					
Mandarins ..	3,295								1,702	171	..	..	..
Lemons ..	3,561								478	424	695	..	..
Other ..	863								436	48	144	..	..
Nectarines and													
Peaches ..	8,105	14,308	1,148	1,895	876	85	8	26,425					
Nuts ..	643	582	188	3,203	282	..	2	4,900					
Pineapples ..	199	..	6,974	..	..	..	..	7,173					
Pears ..	3,445	13,160	278	1,882	943	2,481	7	22,196					
Plums and Prunes	4,610	3,449	900	2,159	914	404	7	12,443					
Other Small Fruits	26	632	144	255	7	3,915	..	4,979					
Other Fruits ..	1,629	1,444	2,077	901	362	64	4	6,481					
Total ..	79,363	69,776	29,029	29,478	21,266	31,337	135	260,384					

(iii) *Production.*—(a) *Quantities.* The production in 1942-43 is shown in the next table :—

ORCHARDS AND FRUIT-GARDENS : PRODUCTION, 1942-43.

Fruit.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	A.C.T.	Australia.
Apples .. bushel	628,418	845,184	231,253	789,299	1,513,492	5,742,800	995	9,851,441
Apricots .. "	234,441	422,100	12,662	337,799	51,817	51,830	203	1,110,852
Bananas .. "	1,716,288	..	652,937	..	38,772	..	..	2,407,997
Cherries .. "	137,116	47,081	104	46,896	207	7,100	26	238,530
Citrus—								
Oranges .. "	1,645,411	511,000	194,716	573,017	287,152	..	..	3,211,296
Mandarins .. "	127,637	15,500	112,628	20,133	12,167	..	..	288,065
Lemons .. "	222,698	128,210	53,601	37,920	82,608	..	..	525,037
Other .. "	89,319	30,000	14,184	11,442	10,448	..	..	155,393
Nectarines and								
Peaches ..	652,902	1,190,819	63,915	112,124	55,634	14,881	124	2,000,399
Nuts .. lb.	319,249	228,358	17,123	899,690	51,744	..	71	1,516,235
Pineapples .. dozen	25,899	..	1,942,778	..	..	..	..	1,968,677
Pears .. bushel	353,863	1,581,841	20,780	231,712	129,653	519,300	78	2,837,227
Plums and Prunes	384,111	247,415	60,421	87,389	73,487	74,300	243	927,366
Other Small Fruits cwt.	133	11,797	2,438	5,731	235	356,877	..	377,211

(b) *Gross Values.* The gross value of production for the various classes of fruit for the year 1942-43 is given in the following table:—

## ORCHARDS AND FRUIT-GARDENS : VALUE OF PRODUCTION, 1942-43.

Fruit.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	A.C.T.	Australia.
	£	£	£	£	£	£	£	£
Apples .. ..	552,140	485,981	179,316	466,245	491,935	1,188,200	874	3,364,691
Apricots .. ..	257,860	168,840	17,391	181,014	48,074	16,930	223	690,332
Bananas .. ..	1,515,160	..	546,252	..	69,897	..	..	2,131,309
Cherries .. ..	252,110	56,497	405	75,034	1,121	4,700	48	389,915
Citrus—								
Oranges .. ..	1,441,390	437,000	174,806	388,283	163,916	..	..	2,605,395
Mandarins .. ..	90,560	12,013	105,588	(a)	10,290	..	..	218,451
Lemons .. ..	166,270	96,157	33,475	22,752	33,731	..	..	352,335
Other .. ..	66,320	15,000	10,007	8,009	6,289	..	..	105,625
Nectarines and Peaches	449,020	494,829	46,957	75,794	63,361	3,660	89	1,134,610
Nuts .. ..	17,680	14,111	211	36,397	6,051	..	4	74,454
Pears .. ..	15,610	..	759,112	..	..	..	..	774,722
Pineapples .. ..	243,710	573,417	12,122	116,800	36,660	116,100	..	1,098,863
Plums and Prunes .. ..	312,130	78,559	73,240	58,187	56,338	16,710	54	595,374
Other Small Fruits .. ..	1,360	40,402	..	13,960	2,022	305,920	..	..
Other Fruits .. ..	78,920	39,549	157,945	54,840	20,760	1,420	24	717,131
<b>Total .. ..</b>	<b>5,461,140</b>	<b>2,512,355</b>	<b>2,116,827</b>	<b>1,497,324</b>	<b>1,010,445</b>	<b>1,653,640</b>	<b>1,526</b>	<b>14,253,257</b>

(a) Included with Oranges.

3. *Principal Fruit Crops.*—(i) *Area.* The area in Australia of the principal fruit crops for the year 1913-14 and for each of the last five years 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.
1913-14 ..	56,577	7,778	24,840	13,645	9,657	8,410
1938-39 ..	97,351	22,900	46,955	25,054	21,587	14,119
1939-40 ..	97,173	23,172	46,845	24,719	21,611	13,579
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

(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.
1913-14 ..	5,000	836	1,639	930	951	622
1938-39 ..	11,126	2,494	5,644	2,523	2,300	771
1939-40 ..	9,323	2,522	4,717	2,002	2,290	867
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

(a) Includes prunes.

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

**PRINCIPAL FRUIT CROPS : VALUE OF PRODUCTION, AUSTRALIA.**

Year.	Apples.	Bananas.	Citrus Fruits.	Peaches.	Pears.	Plums.(a)
	£	£	£	£	£	£
1913-14 ..	1,132,427	157,710	719,808	306,433	258,235	135,654
1938-39 ..	3,357,817	1,206,879	1,916,912	737,791	674,887	232,681
1939-40 ..	2,479,710	1,256,421	1,966,786	745,233	667,134	330,087
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	2,615,223	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

(a) Includes prunes.

4. *Imports and Exports of Fruit.*—(i) *General.* The import trade in fresh fruits declined heavily when a Customs duty of 1d. per lb. was imposed in 1920-21 on imported bananas. Under the terms of the agreement reached at Ottawa in 1932, however, 40,000 centals of bananas may be admitted annually from Fiji at the rate of duty of 2s. 6d. per cental. The imports of dried fruits at present 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 1942-43 amounted to £191,129 and £2,276,642 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. Dried apricots 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.
	Cental.	£A	Cental.	£A	Cental.	£A
1938-39 ..	69,883	29,843	2,752,437	2,022,936	2,682,554	1,993,093
1939-40 ..	57,852	36,791	1,222,089	1,166,691	1,164,237	1,129,900
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

(iii) *Exports of Apples, Pears and Citrus Fruits.* The quantity and value of apples, pears and citrus fruits exported during each of the last five years 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.
	Cental.	£	Cental.	£	Cental.	£
1938-39 ..	2,111,139	1,433,440	294,930	264,805	274,229	221,184
1939-40 ..	827,299	741,854	117,523	134,589	232,644	211,546
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

(iv) *Dried Fruits.* The quantity and value of overseas imports and exports of dried fruits, other than raisins and currants, for the last five years are shown below; more than 90 per cent. of the total imports consisted of dates obtained almost entirely from Iraq :—

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

Year.	Imports.		Exports.		Net Imports.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
1938-39 ..	'000 lb.	£A	'000 lb.	£A	'000 lb.	£A
1938-39 ..	11,097	80,752	3,927	117,814	7,170	(b) 37,062
1939-40 ..	11,327	135,107	1,486	58,912	9,841	76,195
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

(a) Excludes raisins and currants referred to separately under Vineyards, § 15 par. 4. (b) Export values exceed imports. (c) Export quantities exceed imports.

(v) *Jams and Jellies.* Jams and jellies were exported in large quantities during the War of 1914-1919 and in 1918-19 the record shipment of 79,277,560 lb., valued at £1,847,970, was dispatched from Australia. Since then the trade had declined, but in 1940-41 and 1941-42 the exports increased by 83 and 65 per cent. respectively over that of 1939-40, but declined sharply to 18,276,000 lb. in 1942-43. Particulars of imports and exports during each of the last five years are as follows :—

## JAMS AND JELLIES : IMPORTS AND EXPORTS, AUSTRALIA.

Year.	Imports.		Exports.		Net Exports.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
1938-39 ..	'000 lb.	£A	'000 lb.	£A	'000 lb.	£A
1938-39 ..	81	3,253	13,872	262,486	13,791	259,233
1939-40 ..	77	3,006	24,446	506,002	24,369	502,996
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

(vi) *Preserved Fruit.* (a) *Imports and Exports.* Details concerning the quantities and values of preserved fruit imported into Australia cannot readily be obtained, owing to the fact that in the Customs returns particulars concerning fruit and vegetables are in certain cases combined. The total value of fruit and vegetables preserved or partly preserved in liquid, or pulped, imported into Australia during 1942-43 was £stg. 5,364, or £6,718 in Australian currency. Oversea exports in 1942-43 were as follows :—Apricots, 231,290 lb., £5,619; peaches, 3,832,573 lb., £79,687; pears, 1,170,956 lb., £25,228; pineapples, 386,740 lb., £8,986; and other, 9,429,280 lb., £202,084; or a total shipment valued at £321,604.

(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 the Defence Services took most of the 1942 and 1943 packs.

5. **Apple and Pear Acquisition.**—The development of the apple and pear industry is dependent upon the expansion of exports ; normally, little more than half of Australia's production is needed to meet the local demand. The interruption to exports due to the war imposed a severe strain on the industry and to meet such conditions the Commonwealth Government introduced the National Security (Apple and Pear Acquisition) Regulations to provide for the acquisition and orderly marketing of the 1940 crop.

In 1941 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. The marketing of each season's crop since the war started has been so controlled, and the disposal of apples and pears for season 1943-44 under the 1944 (No. 5) Acquisition totalled 3,317,333 bushels and 183,129 bushels respectively. Further particulars may be found in Chapter XXVII. "Miscellaneous".

### § 17. Minor Crops.

1. **General.**—In addition to the crops previously dealt with, there are many others which, owing either to their nature, or to the fact that their cultivation has advanced but little beyond the experimental stage, do not occupy so prominent a position. Some of the more important of these are included under the headings—Market-Gardens, Pumpkins and Melons, Nurseries, Grass Seed, Tobacco and Millet. Cotton-growing has received considerable attention in the tropical portions of Queensland, and the prospects of establishing this industry are hopeful. The total area in Australia during the season 1942-43 devoted to crops not dealt with in previous sections was 370,500 acres, the major portion of which consisted of cotton, market-gardens, grass seed, flax, pumpkins and melons, tomatoes and tobacco.

2. **Market-Gardens.**—Under this head are included all areas on which mixed vegetables are grown. Where considerable areas are devoted to the production of one vegetable, such for instance as the potato, the onion, the melon, the tomato, etc., the figures are usually not included with market-gardens, but are shown either under some specific head, or under some general head as "Other Root Crops" or "All Other Crops". The area of market-gardens during each of the last five seasons is given hereunder :—

#### MARKET-GARDENS : 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 ..	7,528	21,059	1,546	1,691	3,292	508	41	35,665
1939-40 ..	7,841	24,414	1,510	1,623	3,754	513	53	39,708
1940-41(a) ..	7,640	22,155	1,384	1,658	3,506	554	58	36,997
1941-42 ..	29,992	15,330	6,846	3,668	2,591	840	11	59,278
1942-43 ..	34,881	19,378	9,769	4,268	3,241	1,247	22	72,806

(a) Includes 42 acres in Northern Territory.

3. **Grass and Other Seed.**—Particulars of the area of 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 1942-43 was 487,477 cwt.

The area under cultivation and the production in Queensland since the year 1932 are shown herunder:—

**COTTON : AREA AND PRODUCTION IN QUEENSLAND.**

Season Ended September.	Area Harvested.	Production of Cotton.			Average Yield per Acre Harvested.	
		Unginned.	Ginned.	Ginned Equivalent in Bales.(a)	Unginned.	Ginned.
	Acres.	lb.	lb.	Bales.	lb.	lb.
1932 ..	29,995	6,270,116	2,018,977	3,989	209	67
1933 ..	68,203	17,718,306	5,545,830	10,974	260	81
1934 ..	43,397	26,924,179	8,777,282	17,471	620	202
1935 ..	54,947	20,785,418	7,007,042	14,515	378	129
1936 ..	62,200	19,198,600	6,653,973	13,504	309	107
1937 ..	52,692	11,792,828	4,113,684	8,519	224	78
1938 ..	66,470	13,687,872	4,773,936	9,654	206	72
1939 ..	41,212	17,527,709	6,182,808	12,447	424	150
1940 ..	41,262	12,108,491	4,127,823	8,370	295	100
1941 ..	61,365	15,869,159	5,416,095	10,803	259	88
1942 ..	56,433	14,057,690	4,797,846	9,596	249	85

(a) Bales of 500 lb.

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 1942-43 only 9 acres were recorded with a production of 6,384 lb.

12. **Other Crops.**—Miscellaneous small crops grown in Australia include rhubarb, artichokes, arrowroot, chicory and flowers.

**§ 18. Bounties.**

1. **Bounties.**—The bounties paid by the Commonwealth Government during the year ended 30th June, 1943, amounted to £741,715. 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 1938-39 to 1942-43 are as follows:—

**BOUNTIES : AUSTRALIA.**

Articles on which Bounty was Paid.	Rate of Bounty Payable.	Date of Expiry of Bounty.	Amount Paid.				
			1938-39.	1939-40.	1940-41.	1941-42.	1942-43.
			£	£	£	£	£
Iron and Steel Products Bounty Act—							
• Wire Netting ..	12s. per ton ..	23rd Oct., 1939.	5,736	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.	17,313	6,052	221	..	..
Wire Netting Bounty Acts 1939 ..	9s. 7d. per ton ..	23rd Oct., 1944.	..	83	567	369	421

in this State compared with 25,527 acres in the previous year. Acreages planted in other states 1942-43 were:—South Australia, 9,818 acres, Western Australia, 8,785 acres, and Tasmania, 11,964 acres.

The linseed flax industry has been the subject of two investigations during recent years, namely, in 1933 and in 1936 (see Official Year Book, No. 32, p. 658).

Bounty was paid on flax and linseed grown in Australia between the years 1907 and 1918 and again for a period of five years ending 28th February, 1935. During these periods the total amounts disbursed as bounty were £2,376 and £2,839 respectively.

As a war-time need, the flax-growing industry was rapidly expanded. Owing to the failure of supplies from European countries, the British Empire is experiencing a shortage of flax necessary for war and civil needs. Arrangements were made to increase the area sown to flax and in 1942-43 the total area sown to flax for fibre in Australia was 56,740 acres, producing 47,511 tons of straw from which fibre as well as linseed is obtained. Fibre and tow produced is being sold to the Government of the United Kingdom at prices already arranged.

8. *Millet*.—Millet figures in the statistical returns of three of the States. The total area devoted thereto in 1942-43 was 1,574 acres, of which 946 acres were in New South Wales, 488 in Victoria, and 140 in Queensland. The particulars here given relate to millet grown for grain and fibre, the quantity for green fodder being dealt with in the section relating thereto.

9. *Nurseries*.—In all the States fairly large areas are occupied as nurseries. Figures in regard to acreages under flowers, fruit-trees, etc., are available for New South Wales, Victoria, South Australia, Western Australia, and Tasmania. During 1942-43 the areas in these States were 490, 770, 149, 145 and 347 acres respectively.

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 ¾d. to 1½d. per lb. according to grade. In addition, the cotton-manufacturing industry received a graduated bounty on all cotton yarn manufactured in Australia which contained 50 per cent. of home-grown cotton. This bounty, however, ceased to operate after 30th June, 1932. The cotton-growing industry was further assisted by the Bounty Act of 1934, which extended the period to 1940 at varying rates of bounty.

The Raw Cotton Bounty Act 1940 provided an extension of assistance for a further period of five years ended 31st December, 1945.

(iii) *Expansion of the Cotton-growing Industry*. The increased demand for raw cotton to meet Australia's war and civil needs has stimulated production. At present Australia is producing less than one-third of its requirements and efforts are being directed to reduce the nation's dependence upon imported raw cotton obtained chiefly from the United States of America and India. Production is to be increased by means of an extension of area and the introduction of irrigation methods. The expansion of the industries connected with the spinning and weaving of cotton is referred to in Chapter XIX. "Manufacturing Industry".

(iv) *Tariff Board Inquiries.* The tobacco industry has been the subject of a number of investigations. The Tariff Board inquired into this 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 5 years 1939 to 1943 excepting the year 1940 when £8,750 was paid.

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 1942-43, the quantity of stemmed leaf used in tobacco factories in Australia amounted to 24.3 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 1942-43 were valued at £A112,329, while the net value of unmanufactured tobacco imported was £A1,280,175.

5. **Pumpkins and Melons.**—The total area of this crop in Australia during 1942-43 was 55,944 acres, of which 7,390 acres were in New South Wales, 3,398 acres in Victoria, 42,075 acres in Queensland, 1,365 acres in South Australia, 1,660 acres in Western Australia, 49 acres in Tasmania and 7 acres in the Australian Capital Territory. The production for Australia amounted to 143,817 tons.

6. **Hops.**—Hop-growing in Australia is practically confined to Tasmania and some of the cooler districts of Victoria, the total area for 1942-43 being 1,314 acres, of which 1,143 acres were in Tasmania, 148 acres in Victoria and a small area of 23 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 50 years ago than at present, the area in 1883-84 being 1,758 acres. During 1942-43 the exports of hops exceeded the imports by 46,628 lb., valued at £A5,464.

7. **Flax.**—For many years flax was grown intermittently in the Gippsland district of Victoria, and attempts were made to introduce its cultivation into Tasmania and New South Wales, but without success. About the end of 1917 the shortage of flax fibre was acute, and endeavours were made by the Commonwealth Government to encourage local cultivation. The acreage in Victoria increased from 419 acres in 1917-18 to 1,611 acres in 1919-20, but fell to 179 acres in 1928-29. As the result of a bounty introduced in 1930 the area increased to 1,216 acres in 1930-31, but this expansion was not maintained during the years following. In 1942-43, however, following another attempt commenced in 1938-39 to re-establish the industry, 26,173 acres were planted

4. Tobacco.—(i) *General.* Tobacco-growing years ago promised to occupy an important place amongst the agricultural industries of Australia. As early as the season 1888-89, the area of this crop amounted to 6,641 acres, of which 4,833 were in New South Wales, 1,685 in Victoria, and 123 in Queensland. This promise was, however, not fulfilled, and after numerous fluctuations, in the course of which the Victorian area rose in 1895 to over 2,000 acres, and that in Queensland to over 1,000 acres, the total area declined considerably.

(ii) *States, Area and Production.* The expansion of the tobacco-growing industry was hoped for as a war-time measure, but for the year 1942-43, the area of 7,169 acres and production of 5,000,000 lb. represented a decrease on the previous year of 1,651 acres and a production of more than 2,000,000 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 1933-34, and for the decennium ended 1942-43 :—

## TOBACCO : AREA AND PRODUCTION.

Year.	N.S.W.	Victoria.	Q'land	S. Aust.	W. Aust.	Tas.	Nor. Terr.	Total.
AREA IN ACRES.								
1933-34 ..	1,187	8,900	2,081	467	291	100	..	13,026
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	3,149	..	1,347	..	..	7,169
Average 10 seasons ended 1942-43	825	4,032	3,657	99	916	76	3	9,608

## PRODUCTION OF DRIED LEAF.

'000 lb.

1933-34 ..	425	1,471	1,025	111	199	60	..	3,294
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 ..	308	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
Average 10 seasons ended 1942-43	583	1,620	2,084	22	719	51	1	5,080

(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 appraisalment.

BOUNTIES: AUSTRALIA—continued.

Articles on which Bounty was Paid.	Rate of Bounty Payable.	Date of Expiry of Bounty.	Amount Paid.				
			1938-39.	1939-40.	1940-41.	1941-42.	1942-43.
			£	£	£	£	£
Tractor Bounty Acts 1939	According to capacity, £32-£72	23rd Oct., 1944.	..	6,400	6,750	1,108	850
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.	87,575	55,036	..	..	..
Sulphur Bounty Acts 1939	Varies according to imported cost of sulphur	23rd Oct., 1944.	..	..	..	..	..
Wine Export Bounty Act 1934— Fortified Wine, containing not less than 34 per cent. of proof spirit, exported from Australia from 1st March, 1935, to 29th February, 1940	1s. 3d. per gallon from 1st March, 1935, to 28th February, 1937, reduced by 1d. per annum as from March, 1937 to 1s. per gallon in 1940	29th Feb., 1940.	167,872	..	..	..	..
Wine Export Bounty Act 1939-1940	1s. per gallon from 1st March, 1940	28th Feb., 1945.	..	146,592	56,547	38,610	15,049
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.	115,012	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 ..						
Primary Producers Relief (Superphosphate) Act 1943	As determined ..	As determined	..	..	..	..	551,302
Cable and Wire Bounty Act 1941— Rubber insulated cable and wire	4d. per lb. of copper wire used	.. ..	..	..	..	8,892	3,502
Papua and New Guinea Bounties Act— Cocoa Beans ..	1½d. per lb. ..	31st Dec., 1947.	2,885	3,595	4,722	4,862	13
Bamboos and Rattans (Umanufactured)	£4 per ton ..	.. ..	27	..	18	9	..
Manila, Sisal and Other Hemp Fibres	£6 .. ..	.. ..	2	..	..	..	..
Coir Fibre ..	£3 .. ..	.. ..	45	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.	9,820	3,872	1,953	..	..
Total ..	.. ..	.. ..	406,287	289,107	122,244	872,122	741,715

(a) Year ended December, 1942.

2. **Other Financial Assistance.**—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 GRANTS TO ASSIST  
PRIMARY PRODUCERS : AUSTRALIA.**

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
Relief ..	1933-34	911,094	603,586	76,455	764,543	639,493	(b)57,024	805	3,053,000
Bounty (a) ..	1934-35	531,593	285,000	45,717	300,687	296,652	2,543	222	1,462,414
Special Relief ..	1934-35	100,000	192,000	12,000	127,000	137,000	5,250	..	573,250
Relief ..	1934-35	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)40,493	360	1,915,869
Relief ..	1938-39	558,489	307,564	70,824	398,559	421,206	(b)51,961	..	1,808,693
Relief ..	1939-40	910,839	415,119	109,805	436,667	497,888	(b)14,716	1,033	2,486,067
Relief ..	1940-41	477,819	246,328	47,878	413,661	263,615	(b)49,292	..	1,498,593
Relief (Drought) ..	1940-41	320,000	250,000	..	200,000	200,000	..	..	970,000
Relief ..	1941-42	521,513	392,335	29,789	359,614	294,332	(b)54,133	..	1,651,716
Relief (Drought) ..	1941-42	..	..	15,000	..	..	623	..	15,623
Relief ..	1942-43	447,593	424,584	40,009	470,817	269,953	(b)55,587	..	1,708,543
Total ..	..	7,455,715	5,221,520	638,416	5,789,007	5,535,577	469,837	2,954	(d)25,113,026
Fruit-growers as—									
Relief (e) ..	1933-34	8,225	36,321	478	5,258	10,918	63,800	..	125,000
Relief (e) ..	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
Manure subsidy ..	1934-35	23,000	95,000	21,000	46,000	52,000	13,000	..	250,000
Manure subsidy ..	1935-36	56,211	203,324	40,944	99,610	105,821	28,127	94	534,131
Manure subsidy ..	1936-37	40,058	129,637	25,144	59,136	58,327	14,610	88	327,000
Manure subsidy ..	1937-38	30,048	99,746	18,828	48,000	53,028	12,450	66	262,166
Manure subsidy ..	1938-39	18,290	76,500	19,020	36,400	43,260	12,460	90	206,020
Manure subsidy ..	1939-40	427	17,100	4,320	783	320	250	..	23,200
Manure subsidy ..	1941-42	118,939	255,755	21,600	166,219	197,201	20,103	..	779,817
Manure subsidy ..	1942-43	98,391	204,541	18,923	120,956	157,200	31,341	..	631,352
Dairying industry	1942-43	277,079	430,100	365,532	49,529	42,275	21,791	..	1,186,306
Total ..	..	682,346	1,600,400	567,899	661,563	760,255	171,843	370	4,444,676
Grand Total ..	..	8 158,824	6,880,540	1,208,896	6,468,944	6,321,463	775,711	3,324	29,817,702

(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 of £535,000 for 1942-43.

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 and £1,708,543 in 1942-43.

The relief granted to fruit-growers was paid to growers of apples, pears and mandarins. 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. During the period 1932-33 to 1942-43, more than £4,444,000 was distributed in this manner. Finally relief amounting to £1,186,306 was paid in 1942-43 to the dairying industry.

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 and payable to manufacturers who were required to adjust their prices so that consumers received the full benefit of the subsidy while the price was stabilized during year 1942-43 (see page 833). The Cable and Wine Bounty Act, introduced in 1941, provided for the payment of a bounty in respect of rubber insulated cable and wire at the rate of 4d. per lb. of copper wire used. The amount paid in 1941-42 was £8,892 and in 1942-43 was £3,502.

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.

## § 19. 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 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 production of prepared fertilizers is sufficient for local requirements. Imports consist chiefly of rock phosphate, which is used in making superphosphate, a valuable fertilizer for cereals. During 1942-43 the value of rock phosphate imported represented 97½ per cent. of the total imports of fertilizers.

Sodium nitrate is obtained chiefly from Chile.

The imports of manures during the latest available five-yearly period are given in the following table:—

#### FERTILIZERS : IMPORTS INTO AUSTRALIA.

*Australian Currency Values.*

Fertilizer.		1938-39.	1939-40.	1940-41.	1941-42.	1942-43.
Ammonium sulphate	cwt.	710,065	281,259	274,808	2,771	(a)
"	£	336,872	144,324	167,574	4,619	(a)
Potash salts	cwt.	223,202	293,683	121,531	62,887	45,889
"	£	102,794	146,168	88,464	44,936	53,734
Rock phosphate	cwt.	16,008,437	13,408,630	7,501,462	6,219,408	4,503,569
"	£	1,038,399	847,807	386,500	573,683	388,206
Sodium nitrate	cwt.	203,666	297,492	1,297,089	86,539	64,972
"	£	103,074	147,107	221,450	52,308	36,919
Other	cwt.	125,551	1,451	101,194	382	2,774
"	£	12,237	1,462	7,581	1,221	5,095
Total	cwt.	17,270,921	14,282,515	9,296,084	6,371,987	4,617,204
	£	1,593,376	1,286,868	871,569	676,767	483,954

(a) Included with "Other".

4. Exports.—The following table shows the exports of fertilizers (practically all of which are manufactured locally) for the years 1938-39 to 1942-43:—

#### FERTILIZERS : EXPORTS FROM AUSTRALIA.

Fertilizer.		1938-39.	1939-40.	1940-41.	1941-42.	1942-43.
Ammonium sulphate	cwt.	2,097	2,918	1,266	640	(a)
"	£	940	1,445	892	460	(a)
Bone-dust	cwt.	5,238	15,771	3,612	119	54
"	£	2,931	7,732	1,633	84	37
Rock phosphate	cwt.	61	87	55	..	..
"	£	143	123	79	..	..
Sodium nitrate	cwt.	22	..	72	12	640
"	£	42	..	99	36	793
Superphosphate	cwt.	37,062	49,643	6,191	1,041	426
"	£	6,182	8,943	1,505	344	143
Other	cwt.	53,197	66,010	16,376	13,893	15,039
"	£	27,323	37,203	9,420	16,013	21,061
Total	cwt.	97,677	134,429	27,572	15,705	16,159
	£	37,561	55,446	13,628	16,937	22,034

(a) Included with "Other".

5. **Quantities Locally Used.**—Information regarding the area fertilized and the quantity used in each State during the year 1942-43 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, 1942-43.**

State or Territory.	Artificial Fertilizers (Superphosphate, Bone-dust, Nitrates, etc.).				Total Area Fertilized.	Total Artificial Fertilizers Used.
	Area of Crops Fertilized.		Pasture Lands Top-dressed.			
	Acres.	Tons.	Acres.	Tons.	Acres.	Tons.
New South Wales .. ..	2,490,668	78,641	399,649	16,419	2,890,317	95,060
Victoria .. ..	2,444,332	90,033	2,140,314	94,762	4,584,646	184,795
Queensland .. ..	147,236	24,644	1,427	106	148,663	24,749
South Australia .. ..	2,624,609	97,582	944,560	37,534	3,569,169	135,116
Western Australia .. ..	2,624,612	114,487	1,614,627	48,289	4,239,239	162,776
Tasmania .. ..	244,708	19,495	124,627	5,123	369,335	24,618
Australian Capital Territory ..	4,689	192	4,142	188	8,831	379
<b>Total .. ..</b>	<b>10,580,854</b>	<b>425,074</b>	<b>5,229,346</b>	<b>202,421</b>	<b>15,810,200</b>	<b>627,493</b>

Particulars of the quantity of artificial fertilizers used in each State and Territory during the past ten years are included in the next table. These details include the quantity used in the top-dressing of pasture lands except where indicated by the footnote. The omission of Queensland, as previously mentioned, does not detract from the value of the table as the area involved is considered to be negligible.

The interruption of the imports of rock phosphate due to war has resulted in a serious diminution in the output of superphosphate. It was necessary to introduce a system of rationing and, from 1st January, 1942, consumers received only 60 per cent. of the quantity of superphosphate purchased by them during 1939-40.

**QUANTITY OF ARTIFICIAL FERTILIZERS USED : AUSTRALIA.**

Year.	N.S.W.	Victoria.	Q'land. (a)	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Total. (b)
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1933-34 .. ..	98,313	217,251	42,517	158,939	203,848	25,844	..	120	746,852
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	(c) 40,393	208,053	224,473	31,364	4	304	962,525
1937-38 .. ..	178,369	364,281	66,859	227,547	249,040	33,131	..	357	1,120,214
1938-39 .. ..	186,569	395,163	61,300	235,443	280,384	33,933	..	432	1,193,224
1939-40 .. ..	156,071	340,633	61,668	223,694	270,478	35,996	..	510	1,090,050
1940-41 .. ..	157,425	322,214	71,870	206,303	255,230	37,035	..	593	1,050,670
1941-42 .. ..	122,128	312,663	(b) 60,000	196,765	234,446	28,706	..	9,783	964,491
1942-43 .. ..	95,060	184,795	24,749	135,116	162,776	24,618	..	379	627,493

(a) Excludes quantity used in top-dressing pasture lands.  
(c) 1935-36.

(b) Incomplete. See Note (a).

As mentioned in § 18 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 during the year 1942-43, the Primary Producers Relief (Superphosphate) Act 1943 was passed. The Minister may after the receipt of a recommendation by the Superphosphate Industry Committee authorize the making of payments to manufacturers of superphosphate to cover increased costs of manufacture.

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 1942-43 was 34, made up as follows:—New South Wales, 6; Victoria, 6; Queensland, 5; South Australia, 6; Western Australia, 5; and Tasmania, 6. The production of superphosphate in Australia during 1942-43 amounted to 461,013 tons, the largest producing States being Victoria, Western Australia and South Australia.

### § 20. 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 1938-39 to 1942-43 is given in the following table:—

ENSILAGE MADE.

State.	1938-39.		1939-40.		1940-41.		1941-42.		1942-43.	
	Holdings.	Ensilage Made.								
	(a)		(a)		(a)		(a)			
	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.	(b)	Tons.
New South Wales ..	1,476	124,496	1,743	173,220	1,546	138,407	820	64,145	(b)	71,801
Victoria ..	549	28,716	1,292	78,193	648	30,520	(b)	34,109	(b)	32,099
Queensland ..	291	17,772	307	18,238	522	26,084	350	27,376	(b)	20,825
South Australia ..	103	6,056	177	15,546	132	7,275	110	7,428	(b)	9,847
Western Australia ..	328	16,156	322	17,196	292	14,510	257	14,694	(b)	15,019
Tasmania ..	12	490	185	1,102	42	313	86	417	(c)	967
Australia ..	2,759	193,686	4,026	303,495	3,182	217,109	(b)	214,816	(b)	2150,558

(a) Number of holdings on which ensilage was made.  
80 tons for Australian Capital Territory (one holding).

(b) Not available.

(c) Excludes  
(d) Excludes 473 tons for Australian Capital Territory.

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 following five seasons, however, showed a falling off, but the reduction was due to the fact that stocks had not been drawn upon to any great extent during the previous seasons. The accumulated stocks proved of great value during the 1914 drought, though far below what 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 has increased during recent years. The production in 1942-43 was 151,031 tons and was 152,464 tons less than the 1939-40 production of 303,495 tons which was the greatest output recorded in any year.

### § 21. Agricultural Colleges and Experimental Farms.

1. **General.**—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.

2. **Agricultural Colleges and Experimental Farms.**—The latest summary regarding agricultural colleges and experimental farms is in respect of the year 1939-40 and will be found in the *Production Bulletin* No. 34, Part II., issued by this Bureau.

### § 22. Employment in Agriculture.

Information relating to the number of persons employed is furnished annually by landholders of one acre and upwards. The particulars furnished refer to the owner, occupier or manager, 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 leave females out of the table. Details for 1942-43 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 machinery values 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.

### § 23. 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 1942-43 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.
<b>NUMBER OF RURAL HOLDINGS.</b>								
	No.	No.	No.	No.	No.	No.	No.	No.
1932-33 ..	74,778	75,392	(a)	30,724	22,066	11,335	(a)	(a)
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	42,410	30,961	20,347	11,583	203	252,381
1941-42 ..	73,973	72,027	42,500	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
<b>TOTAL AREA OF RURAL HOLDINGS.</b>								
	'000. acres.	'000. acres.	'000. acres.	'000. acres.	'000. acres.	'000. acres.	'000. acres.	'000. acres.
1932-33 ..	171,930	37,704	(a)	132,673	227,616	6,595	370	(a)
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	340,000b	144,207	210,107	6,667	394	916,578
1941-42 ..	173,554	41,292	350,000b	145,634	212,198	6,791	397	929,866
1942-43 ..	171,654	41,035	362,866	145,443	208,886	6,525	386	936,195

(a) Not available.

(b) Estimated.

3. **Analysis of Holdings.**—(a) *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.

(b) *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 24,250 holdings were 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.