CHAPTER XXI.

AGRICULTURAL PRODUCTION.

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

§ 1. Introductory.

Preceding issues of the Official Year Book contain 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. (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 under crop 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 under crop 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 under crop 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 under crop in each of the States and Territories of Australia at decennial intervals since 1860 and during each of the last six seasons :—

AREA UNDER CROP.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Nor. Ter.	Fed. Cap. Ter.	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
1928–29	5,442,982	5,505,651	1,044,632	4,660,003	4,259,269	273,152	392	3,476	21,189,557
1929–30	5,500,946	5,579,258	1,046,235	4,966,916	4,566,001	265,317	609	4,439	21,929,721
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
1931–32	5,108,554	5,407,109	1,216,402	5,219,870	3,961,459	247,353	1,030	5,123	21,166,900
1932–33	6,332,716	5,115,745	1,245,638	5,166,656	4,261,047	279,117	1,045	6,525	22,408,489
1933–34	6,283,951	5,266,913	1,313,438	5,078,558	4,215,360	288,390	1,250	6,467	22,454,327

The progress of agriculture was uninterrupted from 1860 until 1915–16, when, as the result of a special war effort to produce wheat, Australia cultivated 18,528,234 acres. This effort, however, was not maintained and four years later the area under crop was down to 13,296,407 acres. When shipping tonnage again became available after the

dislocation due to the war, and it was possible to dispose of the accumulated stocks of wheat the area under crop steadily rose to over 25 million acres in 1930–31, which is the largest area yet planted in Australia. The increase in acreage was almost entirely due to wheat. Coincident with the commencement of the economic depression the area planted with all crops dropped to 21.2 million acres in 1931–32, a decrease of 4 million acres, or 16 per cent., on the previous year. During 1932–33 and 1933–34, however, it has remained constant at 22.4 million acres. Wheat is by far the most extensively grown crop in Australia, representing 71 per cent. of the total area under crop in 1933–34. Consequently changes in the area sown to wheat dominate the changes in the total area planted.

3. **Artificially-sown Grasses.**—In all the States there are considerable areas under artificially-grown grasses mainly sown on uncultivated land after burning off the scrub, and not included in "area under crops." These areas are, however, liable to revert to their natural state, and the information respecting them is too uncertain for formal record.

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 Federal Minister for Commerce, the Federal Minister in charge of Development and the corresponding State Ministers with power to co-opt the services of other Federal and State Ministers as required. The principal functions of the Council are (i) the promotion of the welfare and development of agricultural industries generally; (ii) 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 to undertake the following duties:—(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 themselves, with respect to quarantine measures relating to pests and diseases of plants and animals, and to advise the Commonwealth and State Governments with respect thereto. The personnel of this Committee consists of the permanent heads of the State Departments of Agriculture; members of the Executive Committee of the Council for Scientific and Industrial Research; the Secretary, Department of Commerce; and the Director-General of Health.

§ 3. Distribution, Production, and Value of Crops.

1. **Distribution of Crops.**—The following table gives the areas in the several States under each of the principal crops for the season 1933–34:—

DISTRIBUTION OF CROPS, *1933–34.*

Crop.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Nor. Ter.	Fed. Cap. Ter.	Aus-tralia.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Wheat ..	4,584,092	3,052,931	232,053	3,821,795	3,183,216	24,097	..	3,087	14,901,271
Oats	203,693	525,976	5,207	265,074	342,642	31,199	..	130	1,373,921
Maize ..	117,231	19,538	166,948	18	14	..	..	12	303,761
Barley—									
Malting ..	4,881	84,732	5,728	290,152	17,583	7,402	..	..	410,478
Other ..	5,125	21,607	3,037	17,271	6,951	438	..	52	54,481
Beans and Peas	54	15,364	120	11,901	1,873	41,285	..	..	70,597
Rye ..	4,231	1,114	47	766	379	92	..	50	6,679
Other Cereals ..	20,221	..	..	..	233	82	..	..	20,536
Hay ..	724,538	1,196,259	92,943	507,248	479,768	77,625	..	2,299	3,080,680
Green Forage ..	444,946	121,737	311,462	70,147	146,402	25,689	..	699	1,121,082
Grass and other Seeds ..	..	3,529	5,596	1,999	..	1,010	..	..	12,134
Orchards and other Fruit Gardens ..	90,227	76,945	31,511	28,899	20,658	33,679	..	70	281,989

DISTRIBUTION OF CROPS 1933-34—*continued.*

Crop.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Nor. Ter.	Fed. Cap. Ter.	Australia.
Wines—									
Productive ..	14,203	37,385	1,586	51,042	4,894	..	..	..	109,110
Unproductive	1,040	3,100	377	1,838	806	..	..	..	7,161
Market Gardens	5,664	10,010	833	2,105	3,281	779	..	61	32,733
Sugar Cane—									
Productive ..	10,015	..	228,154	..	..	..	..	..	238,169
Unproductive	6,914	..	83,756	..	..	..	..	..	90,670
Potatoes ..	20,249	60,856	13,727	5,824	4,466	36,518	..	7	141,647
Onions ..	161	6,785	773	417	110	9	..	..	8,255
Other Root Crops	1,429	4,057	1,153	584	291	7,233	..	..	14,747
Tobacco ..	1,187	8,900	5,359	467	291	100	..	..	16,304
Broom Millet ..	3,182	1,112	476	..	..	..	..	..	4,770
Pumpkins and Melons ..	3,228	1,127	13,779	310	549	..	..	..	18,993
Hops ..	..	159	..	1	6	873	..	..	1,039
Cotton—									
Productive ..	..	..	68,203	..	..	..	..	..	68,203
Unproductive	..	..	18,893	..	..	..	..	..	18,893
All other Crops	17,440	3,690	21,717	700	947	280	1,250	..	46,024
Total Area ..	6,283,951	5,266,913	1,313,438	5,078,558	4,215,360	288,390	1,250	6,467	22,454,327

2. **Relative Areas of Crops in States and Territories.**—Taking the principal crops, i.e., those cultivated to the extent of over 100,000 acres, the proportion of each in the various States and Territories on the total area under crop for the season 1933-34 is shown in the next table. In four of the States, viz., New South Wales, Victoria, South Australia, and Western Australia, wheat-growing for grain is by far the most extensive whilst hay is second in extent. In Victoria and Western Australia the oat crop occupies third position, while green forage ranks third in New South Wales, and barley in South Australia. In Queensland the most extensive crops are sugar cane, green forage, wheat and maize, and in Tasmania hay, potatoes, orchards and fruit gardens, and oats occupy the greatest area.

As pointed out previously wheat is the main crop in Australia, the area thereunder for grain and hay representing 71 per cent. of the total area under cultivation in 1933-34.

RELATIVE AREAS UNDER CROP, 1933-34.

Crop.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Nor. Ter.	Fed. Cap. Ter.	Australia.
	%	%	%	%	%	%	%	%	%
Wheat ..	72.95	57.96	17.67	75.25	75.51	8.36	..	47.73	66.36
Hay ..	11.53	22.71	7.08	9.99	11.38	26.92	..	37.10	13.72
Oats ..	3.24	9.99	0.40	5.22	8.13	10.82	..	2.01	6.12
Green Forage..	7.08	2.31	23.71	1.38	3.47	8.91	..	10.81	4.99
Maize ..	1.87	0.37	12.71	..	..	..	..	0.18	1.35
Barley ..	0.16	2.02	0.67	6.05	0.58	2.72	..	0.80	2.07
Orchards and Fruit Gardens	1.44	1.46	2.40	0.57	0.49	11.68	..	1.08	1.26
Sugar Cane	0.27	..	23.75	..	..	..	..	..	1.46
Potatoes ..	0.32	1.16	1.04	0.11	0.11	12.66	..	..	0.63
Vineyards	0.24	0.77	0.15	1.03	0.14	..	..	..	0.52
All other..	0.90	1.25	10.42	0.40	0.19	17.93	100.00	0.29	1.52
Total ..	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

3. **Area under Chief Crops, Australia.**—The area under the chief crops during each of the last six seasons, together with the average for the decennial period 1914–24 is shown hereunder :—

AREA UNDER CHIEF CROPS.—AUSTRALIA.

Crop.	Average, 1914–24.	1928–29.	1929–30.	1930–31.	1931–32.	1932–33.	1933–34.
	1,000 acres.	1,000 acres.	1,000 acres.	1,000 acres.	1,000 acres.	1,000 acres.	1,000 acres.
Barley (*a*)	184	307	389	328	299	400	410
Maize	313	315	298	293	269	228	304
Oats	855	1,046	1,516	1,082	1,085	1,027	1,374
Rice	..	14.1	19.8	19.9	19.6	22	20
Wheat	9,595	14,840	14,977	18,165	14,741	15,766	14,901
Green Forage	733	860	977	845	980	1,087	1,121
Hay	2,990	2,739	2,659	3,323	2,635	2,727	3,081
Beans and Peas	39	48	50	42	42	52	71
Onions	7.8	8.6	8.9	7.4	6	9	8
Potatoes (*b*)	134	138	124	142	145	147	140
Sugar Beet	1	2.1	2.5	3	3	3	3
Vineyards	79	115	115	113	113	114	116
Hops	1.5	1.5	1.4	1.2	1	1	1
Sugar Cane	186	299	307	312	326	307	329
Cotton	12	26	28	36	50	56	87
Tobacco	2	2.2	2.5	3.4	18	26	16
Market Gardens (*c*) ..	42	45	52	54	51	46	51
Orchards	265	277	278	276	273	274	282
All Other Crops	104	106	126	118	110	116	139
Total	15,544	21,190	21,930	25,164	21,167	22,408	22,454

(*a*) Malting only. (*b*) Not including Sweet Potatoes. (*c*) Including Pumpkins and Melons.

4. **Total and Average Production, Chief Crops, Australia.**—The following table shows the production of the chief crops for the six years ended 1933–34 and for the decennium 1914–1924 :—

TOTAL AND AVERAGE PRODUCTION, CHIEF CROPS.—AUSTRALIA.

Crop.	Unit of Quantity.	Average, 1914–24.	1928–29.	1929–30.	1930–31.	1931–32.	1932–33.	1933–34.
Barley (*a*) ..	1,000 bushels	3,440	5,692	6,439	5,674	5,547	7,837	7,014
Maize	„ „	7,690	8,323	7,946	8,026	7,062	5,066	7,494
Oats	„ „	13,124	14,109	14,424	16,658	15,195	16,160	16,922
Rice	„ „	..	1,308	1,829	1,428	1,350	1,901	2,172
Wheat	„ „	110,214	159,679	126,884	213,594	190,612	213,927	177,338
Hay	„ tons	3,627	3,175	2,725	4,150	3,167	3,571	3,583
Beans and Peas ..	„ bushels	632	663	813	737	497	1,000	1,057
Onions ..	„ tons	36	34	50	47	24	49	52
Potatoes (*b*) ..	„ „	349	284	343	365	397	384	328
Sugar (Beet) ..	„ „	1.7	2.1	3.5	5.0	5.4	5.7	5.3
Grapes	„ „	141	393	386	284	324	410	362
Wine	„ gallons	8,276	18,600	16,069	13,078	14,191	16,418	13,996
Raisins and Currants	„ cwt.	410	1,444	1,469	1,016	1,207	1,540	1,370
Hops	„ lb.	2,048	2,342	2,340	1,973	1,810	1,669	1,953
Sugar (Cane) ..	„ tons	238	538	538	536	604	533	666
Cotton, Unginned ..	„ lb.	1,800	12,291	8,024	17,023	15,245	6,270	17,718
Tobacco	„ „	1,705	1,839	1,702	1,594	10,160	9,723	4,348
Pumpkins and Melons	„ tons	49	37	45	59	58	38	54

(*a*) Malting only. (*b*) Not including Sweet Potatoes.

5. **Average Yield per Acre, Chief Crops, Australia.**—Details of the average yield per acre for Australia of the principal crops are shown hereunder for the periods indicated :—

AVERAGE YIELD PER ACRE, CHIEF CROPS.—AUSTRALIA.

Crop.	Unit of Quantity.	Average, 1914–24.	1928–29.	1929–30.	1930–31.	1931–32.	1932–33.	1933–34.
Barley (*a*)	bushel	18.74	18.53	16.56	17.30	18.55	19.60	17.09
Maize	„	24.59	26.41	26.71	27.34	26.21	22.20	24.67
Oats	„	15.34	13.49	9.52	15.39	14.00	15.73	12.32
Rice	„	..	93.02	92.44	71.88	68.91	86.30	107.36
Wheat	„	11.49	10.76	8.47	11.76	12.93	13.57	11.90
Hay	ton	1.21	1.16	1.03	1.25	1.20	1.31	1.16
Beans and Peas ..	bushel	16.18	13.74	16.16	17.45	11.96	19.14	14.97
Onions	ton	4.77	4.03	5.57	6.29	3.67	5.53	6.35
Potatoes (*b*)	„	2.60	2.06	2.76	2.57	2.74	2.61	2.35
Sugar (Beet)	„	1.33	0.99	1.39	1.67	1.70	1.80	1.64
Grapes (*c*)	„	2.30	3.71	3.61	2.67	3.02	3.78	3.31
Wine (*c*)	gallon	257	400	345	281	299	341	296
Raisins and Currants (*c*)	cwt.	18.63	27.52	27.77	19.17	22.88	29.02	25.00
Hops (*c*)	lb.	1,441	1,594	1,708	1,689	1,747	1,753	2,001
Sugar (Cane) (*c*) ..	ton.	2.10	2.42	2.41	2.33	2.50	2.50	2.80
Cotton, Unginned (c) ..	lb.	339	605	535	752	679	209	260
Tobacco	„	812	822	689	475	572	426	291
Pumpkins and Melons ..	ton	3.62	2.79	2.76	2.96	3.13	2.54	2.84

(*a*) Malting only. (*b*) Not including Sweet Potatoes. (*c*) Per acre of productive crops.

6. **Gross Value of Agricultural Production, Australia.**—The following table shows the gross value of recorded agricultural production at the principal markets in each State for the years 1926–27 to 1933–34.

GROSS VALUE OF AGRICULTURAL PRODUCTION.—AUSTRALIA.

Crops.	1926–27.	1927–28.	1928–29.	1929–30.	1930–31.	1931–32.	1932–33.	1933–34.
	£1,000	£1,000	£1,000	£1,000	£1,000	£1,000	£1,000	£1,000
Barley (*a*)	1,109	1,006	1,096	1,059	685	829	911	884
Maize	2,317	2,799	1,665	2,085	1,617	1,193	1,234	1,277
Oats	2,165	2,321	2,137	2,097	1,437	1,448	1,550	1,853
Rice	52	198	234	335	295	297	352	392
Wheat	42,453	31,895	38,303	27,299	25,047	33,728	33,316	27,897
Green Forage	3,912	2,731	2,680	3,167	2,385	2,642	3,046	2,540
Hay	17,252	15,120	14,137	12,721	14,397	8,145	9,520	10,265
Beans and Peas ..	337	333	256	257	199	220	302	234
Onions	221	319	314	193	139	253	218	230
Potatoes (*b*)	3,116	2,327	3,424	2,375	1,690	2,073	1,791	1,905
Sugar Beet	20	54	33	58	82	86	73	91
Grapes	5,590	3,786	4,022	4,145	3,496	3,495	3,918	3,674
Hops	171	258	189	132	157	144	128	142
Sugar Cane	6,568	7,469	7,444	7,476	7,340	7,649	7,098	7,601
Tobacco	123	108	97	92	187	1,115	961	340
Cotton, Unginned ..	190	145	214	186	355	308	125	283
Market Gardens (*c*) ..	2,680	2,374	2,384	2,640	2,259	2,152	1,965	2,029
Orchards	8,198	9,109	8,807	8,469	7,086	7,030	7,414	7,082
Other Crops	1,821	1,976	2,004	2,323	1,647	1,682	1,640	2,013
Total, Gross Value	98,295	84,328	89,440	77,109	70,500	74,489	75,562	70,732

(*a*) Malting only. (*b*) Not including Sweet Potatoes. (*c*) Including Pumpkins and Melons.

7. **Value of Production—Gross and Net.**—In previous issues of the Official Year Book the gross, local and net values of agricultural production were shown for each of the years 1926–27 to 1932–33, computed in accordance with resolutions of the several Conferences of Australian Statisticians. It was apparent, however, that the methods adopted in each State were not in complete harmony and at the Conference held in March, 1935, attention was directed to the elimination of any existing differences in computation. The success achieved at that conference makes it possible to present the value of agricultural production for 1933–34 on a basis of uniformity not hitherto attained. Sufficient time has not elapsed to enable the State Statisticians to carry this revision back to 1925–26 as is intended and consequently it is possible to publish results for one year only. A more detailed reference to the value of production of agriculture and other industries in Australia as well as a brief explanation of the terms used will be found in Chapter XXVIII., § 9.

Attention is directed to the fact that 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 greater than it should be.

GROSS, FARM AND NET VALUE OF AGRICULTURAL PRODUCTION.—AUSTRALIA, 1933–34.

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

State.	Gross Production valued at Principal Markets.	Marketing Costs.	Gross Production valued at Farm.	Seed used, and Fodder for Farm Stock.	Value of other Materials used in process of production.	Net Value of Production. (a)	Depreciation.
	£1,000	£1,000	£1,000	£1,000	£1,000	£1,000	£1,000
New South Wales ..	18,606	4,304	14,302	1,808	770	11,724	887
Victoria	17,664	3,539	14,125	2,755	1,293	10,077	850
Queensland ..	12,303	883	11,420	904	812	9,704	509
South Australia ..	9,767	1,681	8,086	1,284	892	5,910	626
Western Australia	9,511	2,489	7,022	1,403	1,021	4,598	446
Tasmania ..	2,819	710	2,109	306	124	1,679	56
Total ..	70,670	13,606	57,064	8,460	4,912	43,692	3,374

(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. A searching inquiry was made by the Commission and the results of its investigations were submitted in a series of reports. The chief recommendations refer to the application of a home consumption price for flour and the adjustment of farmers' debts, while a scheme for the controlled marketing of wheat was recommended by a majority decision. The Commonwealth Government has taken action to give effect to these recommendations so far as it is involved.

Reference to the financial assistance to the wheat industry will be found in § 18, Bounties hereafter.

2. **Progress of Wheat-growing.**—(i) *Area and Production.* (a) *Seasons* 1929–30 *to* 1934–35. Wheat is the principal crop raised in Australia, and the expansion of this industry since 1860 has been almost continuous, the exceptions being the period of the

Great War and of the economic crisis of 1929–30 and subsequent years. As previously mentioned, any change in the area sown to this cereal dominates the changes in the total area under crop. The area and yield of wheat for grain are given below for each State for the five years ended 1933–34 and are shown from the year 1860 onwards in the graphs hereinafter. The figures in the table include an estimate for the 1934–35 crop, and the averages for the past decennium have also been inserted :—

WHEAT.—AREA AND PRODUCTION.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Fed. Cap. Ter.	Australia.
AREA.								
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1929–30 ..	3,974,064	3,566,135	204,116	3,645,764	3,568,225	16,805	1,455	14,976,564
1930–31 ..	5,134,960	4,600,200	272,316	4,180,513	3,955,763	19,107	2,061	18,164,920
1931–32 ..	3,682,945	3,565,872	248,783	4,071,370	3,158,888	11,722	1,733	14,741,313
1932–33 ..	4,803,943	3,230,955	250,049	4,066,782	3,389,352	20,985	3,438	15,765,504
1933–34 ..	4,584,092	3,052,931	232,053	3,821,795	3,183,216	24,097	3,087	14,901,271
1934–35 (a) ..	3,848,927	2,458,583	221,729	3,188,225	2,763,786	15,800	1,844	12,498,894
Average for ten seasons 1924–34 ..	3,912,645	3,293,330	205,269	3,390,705	3,014,833	19,997	1,515	13,838,294
PRODUCTION.								
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1929–30 ..	34,407,000	25,412,587	4,235,172	23,345,093	39,081,183	375,849	27,738	126,884,622
1930–31 ..	65,877,000	53,814,369	5,107,561	34,871,526	53,504,149	391,490	28,296	213,594,391
1931–32 ..	54,966,000	41,955,856	3,863,894	48,093,102	41,521,245	182,913	29,178	190,612,188
1932–33 ..	78,870,000	47,843,129	2,493,902	42,429,614	41,791,866	433,031	65,439	213,926,981
1933–34 ..	57,057,000	42,613,106	4,361,614	35,373,466	37,305,100	560,665	66,852	177,337,803
1934–35 (a) ..	49,000,000	25,850,528	4,076,181	27,455,600	26,961,090	316,000	40,398	133,699,797
Average for ten seasons 1924–34 ..	50,840,277	40,812,474	3,149,393	32,969,534	35,774,399	433,542	26,300	164,005,919

(a) Final estimate.

The acreage under wheat for grain increased steadily until 1915–16, when, largely as the result of a special war effort, 12,484,512 acres were sown. After that year, however, there was a serious decline, brought about by war conditions and unfavourable seasons, and the area in 1919–20 fell to 6,419,160 acres, or only half that of 1915–16.

From 1920–21 onwards there was a rapid extension of the area under wheat until in response to the urge of Commonwealth and State Governments the maximum area of 18 million acres was sown in 1930–31. The acreage declined to 14¾ million acres in the following year, and after expanding by more than one million acres in 1932–33 declined heavily in the next two years to 12½ million acres.

The season 1933–34 was fairly satisfactory and resulted in average or nearly average yields being obtained in all States. The average for Australia amounted to 11.90 bushels per acre, as compared with 13.57 bushels for the previous year, and 11.85 bushels, the average for the decennium ending 1933–34. The total production of grain for the year amounted to 177.3 million bushels compared with the record harvest of 213.9 million bushels of the previous year.

The annual production of wheat over the fourteen seasons ending with 1933–34 has exceeded 100 million bushels, and during the four seasons ending with that year it has averaged 198 million bushels with an average yield of 12.47 bushels per acre. It is the opinion of agricultural experts that, notwithstanding the vagaries of the weather, the improved methods of agriculture—seed selection, bare fallowing, application of fertilizers, etc.—will assure the wheat crop of Australia against total failure in the future.

Although final figures are not yet available for all States, the data to hand for the year 1934-35 indicate the area sown to wheat for grain in Australia to be about 12,500,000 acres, a decrease of approximately 2,400,000 acres or 16.1 per cent. on that of the previous year. Production is estimated to amount to 134 million bushels, or 10.70 bushels per acre, compared with 177 million bushels or 11.90 bushels per acre for the previous year. Excluding minor fluctuations and the drop on the resumption of normal sowings after the "grow more wheat" campaign in 1930-31, this decline is the second recorded in successive years and is probably an indication of the seriousness of the conditions affecting the wheat industry. There are several factors contributing to this decrease, namely: (i) the continued unremunerative prices to growers; (ii) the accumulation of abnormally large stocks in America; (iii) the restriction of imports by importing European countries; and (iv) the restriction of exports by Australia and other exporting countries in accordance with the Wheat Agreement made in London in August, 1933.

(*b*) *Area, Production and Prices, 1861-70 to 1921-30.* The following table gives 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.

Period.	Area.	Production.	Yield per Acre.	Average Wholesale Price.
	Acres.	Bushels.	Bushels.	s. d.
1861-70	831,457	10,621,697	12.77	(*a*)
1871-80	1,646,383	17,711,312	10.76	5 1
1881-90	3,257,709	26,992,020	8.29	4 7
1891-1900.. ..	4,086,701	29,933,993	7.32	3 8
1901-10	5,711,230	56,058,070	9.82	3 10
1911-20	8,927,974	95,479,866	10.69	5 0
1921-30	11,290,543	135,399,860	11.99	5 8

(*a*) Not available.

(ii) *Average Yield.* In the next table will be found the average yield of wheat per acre in each of the last five seasons, and for the decennium 1924-34 :—

WHEAT.—YIELD PER ACRE.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Fed. Cap. Ter.	Australia.
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1929-30 ..	8.66	7.13	20.75	6.40	10.95	22.37	19.06	8.47
1930-31 ..	12.83	11.70	18.76	8.34	13.53	20.49	13.73	11.76
1931-32 ..	14.92	11.77	15.53	11.81	13.14	15.61	16.84	12.93
1932-33 ..	16.42	14.81	9.97	10.43	12.33	20.64	19.03	13.57
1933-34 ..	12.45	13.96	18.80	9.26	11.72	23.27	21.66	11.90
Average 10 seasons, 1924-34	12.99	12.39	15.34	9.72	11.87	21.68	17.36	11.85

Variations in the average yields are chiefly due to the vagaries of the seasons. Definite improvement has been shown in the averages for the last three decades, the

figures being 11.18, 11.49, and 11.85 bushels per acre respectively, the increase being principally due to the improvement in cultural methods. The best average yields for single seasons were obtained in 1924–25, 15.20 bushels; in 1920–21, 16.08 bushels; and in 1866, 16.35 bushels. In the last mentioned year less than 1,000,000 acres of relatively fertile land were sown.

(iii) *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. During recent years Australia has ranked third on the list of exporting countries, as compared with sixth in the pre-war period 1909–13. For the later years its exports are exceeded by those of Canada and Argentina. The quantity exported is approximately 17¼ per cent. of the total quantity shipped by exporting countries.

3. **Wheat Farms.** Particulars of the number of farms growing wheat for grain on 20 acres and upwards during the past four years are shown in the following table. It should be noted, however, 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.	1930–31.	1931–32.	1932–33.	1933–34.
	No.	No.	No.	No.
New South Wales	16,140	15,192	17,040	16,312
Victoria	17,215	14,846	15,299	14,319
Queensland (*a*)	2,719	2,251	1,927	2,569
South Australia	13,186	13,456	13,434	13,133
Western Australia	9,703	9,808	9,532	9,632
Tasmania	(*a*) 922	195	378	413
Total	59,885	55,748	57,610	56,378

(*a*) Total number of farms growing wheat for grain.

4. **Australian and Foreign Wheat Yields.**—(i) *Average Yield.* The next table gives the average return per acre in the principal wheat-growing countries of the world, ranging from a maximum in Denmark of 42 bushels per acre to a minimum in Tunis of nearly 7 bushels per acre.

WHEAT.—YIELD PER ACRE, VARIOUS COUNTRIES.

Country.	Average Yield in Bushels per acre.		Country.	Average Yield in Bushels per acre.	
	Average, 1930–1932.	1933.		Average, 1930–1932.	1933.
Denmark ..	41.51	44.27	Chili	15.49	16.79
Netherlands ..	40.64	45.36	Manchuria ..	..	15.47
Belgium ..	36.01	40.48	Yugoslavia ..	15.15	18.80
Sweden ..	31.82	36.54	United States of America ..	14.49	11.04
Germany ..	31.09	35.96	Rumania ..	13.86	15.46
United Kingdom ..	30.94	35.78	Spain	13.84	12.38
New Zealand ..	29.63	31.57	Argentina ..	12.91	15.88
Switzerland ..	29.49	35.30	**Australia** ..	**12.70**	**11.90**
Egypt	28.06	28.01			

WHEAT—YIELD PER ACRE, VARIOUS COUNTRIES—*continued.*

Country.	Average Yield in Bushels per acre.		Country.	Average Yield in Bushels per acre.	
	Average 1930–1932.	1933.		Average, 1930–1932.	1933.
Finland ..	25.03	26.92	Syria	11.92	11.12
Japan	24.94	26.75	Peru	11.92	8.96
Czechoslovakia ..	23.95	32.10	Portugal ..	11.82	10.59
Norway ..	23.69	26.85	India	11.01	10.69
Austria	22.57	26.93	Soviet Union ..	10.65	12.42
France	21.00	26.83	Korea	10.53	11.27
Italy	20.34	23.75	Mexico	9.77	10.33
Latvia	19.65	21.77	French Morocco ..	9.63	9.01
Lithuania ..	19.21	16.43	Greece	9.37	16.58
China	..	19.18	Cyprus	8.70	9.32
Bulgaria ..	18.69	17.90	Uruguay ..	8.26	12.35
Hungary ..	18.46	24.56	Union of South Africa ..	7.91	8.13
Estonia ..	17.18	15.77	Algeria ..	7.66	8.01
Brazil	(*b*) 16.90	(*a*) 12.94	Tunis	6.65	5.24
Poland	16.76	19.08			
Canada	16.23	10.85			

(*a*) Year 1928. (*b*) Average 1924–28.

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

WHEAT.—TOTAL PRODUCTION, VARIOUS COUNTRIES.

Country.	Yield in Bushels (,000 omitted).		Country.	Yield in Bushels (,000 omitted).	
	Average, 1930–1932.	1933.		Average, 1930–32.	1933.
Soviet Union ..	929,333	1,018,903	Sweden ..	22,006	29,204
China	..	874,500	Portugal ..	15,191	15,074
United States of America ..	835,922	528,984	Syria	14,479	13,476
Canada	422,982	281,897	Belgium ..	14,143	15,067
India	358,255	352,427	Tunis	13,938	9,186
France	276,256	362,334	Greece	13,448	28,385
Italy	243,955	298,357	Mexico	12,444	12,122
Argentina ..	230,348	286,491	Austria	11,737	14,616
Australia ..	206,044	177,338	Union of South Africa ..	11,643	10,226
Germany ..	159,533	205,922	Denmark ..	10,422	11,546
Spain	155,113	138,277	Lithuania ..	9,695	8,192
Rumania ..	107,204	119,073	Korea	8,634	8,887
Yugoslavia ..	77,521	96,583	Netherlands ..	8,548	15,326
Hungary ..	73,784	96,357	New Zealand ..	8,072	9,036
Poland	71,672	79,884	Uruguay ..	7,957	14,674
Bulgaria ..	56,356	55,454	Brazil	(*a*) 4,759	..
Manchuria ..	..	52,537	Latvia	4,247	6,725
Czechoslovakia ..	48,525	72,896	Switzerland ..	3,958	4,957
Egypt	46,138	39,952	Peru	3,709	2,674
United Kingdom ..	41,224	62,424	Estonia ..	1,819	2,451
Japan	30,589	40,377	Cyprus	1,560	1,638
Algeria	29,109	31,998	Finland ..	1,156	2,460
French Morocco ..	26,352	28,903	Norway ..	687	755
Chile	23,707	35,307			

(*a*) Average 1924–28.

NOTE.—The harvests reported above for 1933 relate to the year 1933 for the Northern, and 1933–34 for the Southern Hemisphere.

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 producing countries reporting with the following results :—

WHEAT.—WORLD'S PRODUCTION.(a)

Year.	Area.	Production.	Yield per acre.
	Acres.	Bushels.	Bushels.
Average 1909–1913 ..	270,266,000	3,779,479,000	13.98
1929	324,640,000	4,305,627,000	13.26
1930	344,630,470	4,882,135,000	14.17
1931	347,076,660	4,623,460,000	13.32
1932	345,322,250	4,587,451,000	13.28
1933	332,127,110	4,816,364,000	14.50
Average, 1929–1933 ..	338,759,298	4,643,007,400	13.71

(a) From countries reporting.

The chief country excluded from the above table is China, which for the year 1933 produced 875 million bushels of wheat from an area of 45½ million acres or an average yield of 19.2 bushels per acre. It is stated by the International Institute, however, that these figures are largely conjectural and can be accepted only as approximate estimates. In addition they do not include all of the territories embraced in the Chinese Republic. By the addition of the production of China the world's total production for the year 1933 would exceed 5,700 million bushels.

The total area harvested in 1933 shows a decrease on the figures for the previous year. This decrease was due principally to the heavy decline in the United States and the contraction of areas in Canada, Australia and the Soviet Union. Importing European countries and Argentina increased their acreages but not sufficiently to offset the decreases already mentioned. In comparison with the average for the period 1925–29 areas sown to wheat throughout the world have increased considerably, the Soviet Union being the chief contributor.

The world's acreage under wheat in 1931 was the highest ever recorded, but the production was somewhat lower than that for the record year of 1930. A succession of bountiful years commencing in 1928 led to very heavy accumulations of stocks, particularly in North America. These accumulations, in conjunction with an increase in the production of European countries and the raising of trade barriers, were largely responsible for a collapse in prices. The average wholesale price of wheat in Melbourne fell from 5s. 2d. per bushel in 1928 to 2s. 5¼d. in 1931, a decrease of 53 per cent. In 1932, however, the price increased to 3s. 1d., but declined again to 2s. 10d. in 1933 and dropped further to 2s. 7½d. in 1934.

The Australian contribution to the world's production during the last five years was not quite 3½ per cent.

5. **Export Price of Wheat.**—The table hereunder shows export prices of Australian wheat during each of the last five years :—

AUSTRALIAN WHEAT.—EXPORT PRICES.

Item.	1930–31.	1931–32.	1932–33.	1933–34.	1934–35.
	s. d.	*s. d.*	*s. d.*	*s. d.*	*s. d.*
Price per bushel	2 5¾	3 0¼	2 11¾	2 10½	3 0¾

The export prices here shown are the averages for the successive years in the principal markets of Australia in Australian currency.

6. **Exports of Wheat and Flour.**—(i) *Quantities.* The table appended shows the exports and net exports of wheat and flour from 1929–30 to 1933–34. 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. There have been two occasions since the beginning of the century when it has been necessary to import wheat and flour to tide over lean seasons. For the season 1902–3 the wheat harvested was as low as 12,378,000 bushels and wheat and flour representing 12,468,000 bushels of wheat were imported. For the season 1914–15 slightly less than 25,000,000 bushels was produced, with the result that an equivalent of 7,279,000 bushels of wheat was imported. During the last five years the exports ranged between 62,745,891 bushels in 1929–30 and 156,722,189 bushels in 1931–32, the net exports for the period averaging 120,269,216 bushels :—

WHEAT AND FLOUR.—EXPORTS, AUSTRALIA.

Year.	Exports.			Net Exports.
	Wheat.	Flour.	Total.	
	Bushels.	Eq. Bushels.(a)	Bushels.	Bushels.
1929–30 ..	40,390,707	22,355,184	62,745,891	62,743,071
1930–31 ..	119,223,290	25,163,664	144,386,954	144,384,366
1931–32 ..	127,401,005	29,321,184	156,722,189	156,720,746
1932–33 ..	119,555,938	30,310,032	149,865,970	149,862,751
1933–34 ..	61,598,528	26,039,616	87,638,144	87,635,144

(a) Equivalent in bushels of wheat.

(ii) *Destination.* The following table gives the exports of wheat to various countries for each of the six years ended 1933–34, together with averages for the pre-war period 1909–13 :—

EXPORTS OF WHEAT.—AUSTRALIA.

Country to which Exported.	Average, 1909–13.	1928–29.	1929–30.	1930–31.	1931–32.	1932–33.	1933–34.
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
United Kingdom ..	30,305,384	20,564,650	21,488,415	39,995,488	49,219,354	50,939,947	45,531,315
Italy	581,309	5,861,552	3,261,455	12,697,635	8,195,049	3,656,230	699,225
Japan	330,131	5,626,298	2,811,142	17,676,232	21,464,248	17,896,367	7,720,102
France	1,681,918	1,967,455	186,682	350,638	163,495	..	..
Union of South Africa	2,992,355	4,143,328	1,540,482	956,317	461,706	19,730	39,472
Belgium	1,218,131	994,923	408,990	2,016,602	1,892,016	826,517	37,180
Egypt	135,377	4,943,383	1,178,230	3,143,433	1,640,116	1,019,218	203,760
Germany ..	286,822	1,001,897	..	193,935	204,084	46,125	..
Netherlands ..	(a)	1,834,132	490,358	2,158,470	2,073,363	527,462	63,353
Other Countries ..	4,465,847	34,958,627	9,024,953	40,034,540	42,087,574	44,624,342	7,304,121
Total ..	41,997,274	81,896,245	40,390,707	119,223,290	127,401,005	119,555,938	61,598,528

(a) Included with other Countries.

Exports of flour from Australia for the periods mentioned are given in the next table :—

EXPORTS OF FLOUR.—AUSTRALIA.

Country to which Exported.	Average, 1909–13.	1928–29.	1929–30.	1930–31.	1931–32.	1932–33.	1933–34.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Egypt	(a)	243,468	125,963	145,694	106,526	28,589	27,766
United Kingdom ..	27,699	57,945	85,364	134,547	191,963	121,995	136,677
Netherlands East Indies	26,099	79,040	82,595	74,765	85,570	73,179	80,623
Malaya (British) ..	15,492	52,176	51,160	41,841	43,664	43,965	50,834
Union of South Africa	30,714	24,558	18,256	9,051	1,230	228	436
Ceylon	3,389	21,705	21,252	21,630	19,441	19,239	18,893
New Zealand ..	3,221	3,556	3,823	5,168	4,833	2,716	1,246
Philippine Islands ..	13,680	8,436	8,707	8,949	11,762	11,484	10.998
Hong Kong ..	2,672	2,972	2,933	5,947	53,557	50,874	27,663
Mauritius ..	2,221	9 395	5,988	4,896	13,231	10,905	14,277
Portuguese East Africa	13,462	5,917	5,410	5,747	6,199	5,896	7,432
Other Countries ..	28,463	54,635	54,282	66,008	72,882	b262,389	b165,647
Total ..	167,112	563,803	465,733	524,243	610,858	631,459	542,492

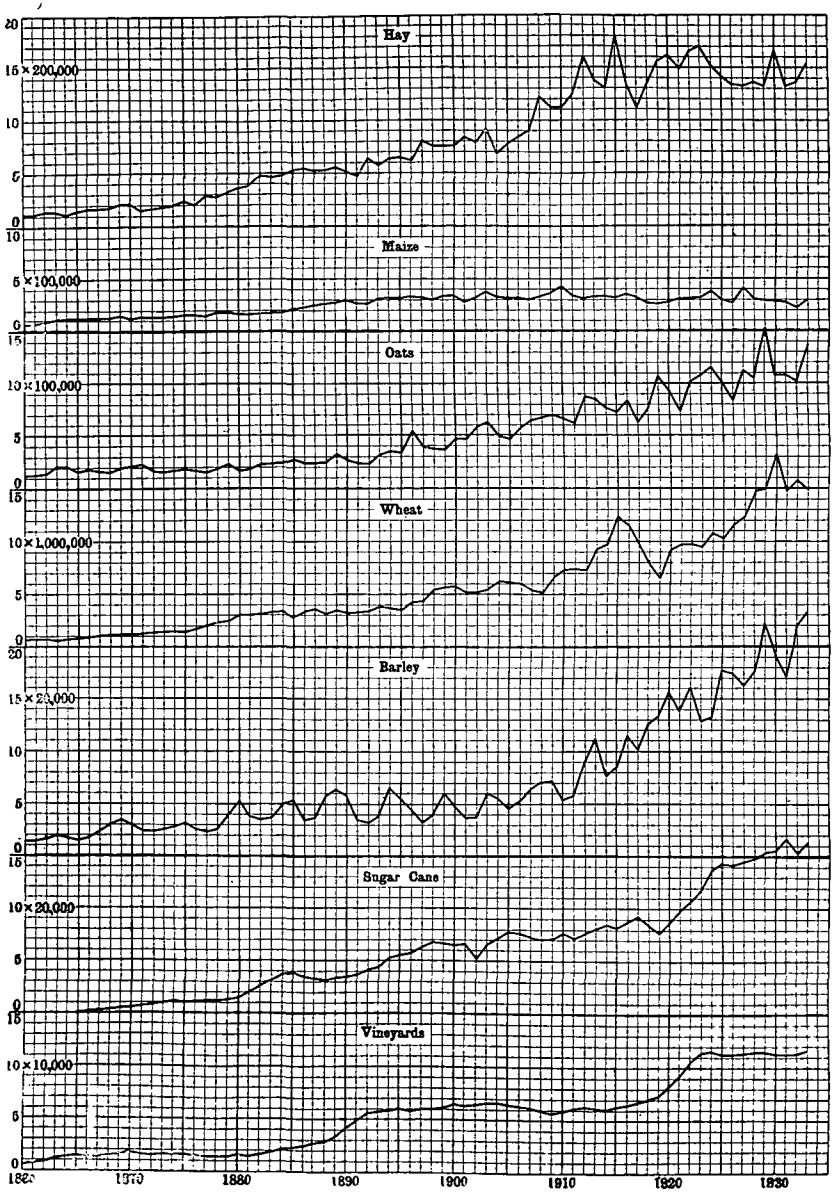
(a) Included with other Countries. (b) Includes China 160,062 tons in 1932–33 and 79,261 tons in 1933–34.

7. **Exports—Principal Countries.**—The following table shows the net quantities of wheat exported from the chief exporting countries for each of the years 1929 to 1933, the average for that period and the average for the period 1909–13. The figures are based mainly on information supplied by the International Institute of Agriculture. Comparison between the periods 1929–33 and 1909–13 shows that the world's supply of wheat in the later years has been principally obtained from North America, Canada supplying 33 per cent., and the United States 13 per cent., as compared with 14 and 15 per cent. respectively for the pre-war period. Russia's exports, which amounted to about 24 per cent. of the total for the period 1909–13 fell to 6 per cent. for the years 1929–33. Under Government stimulus, however, the area sown to wheat in the Soviet Union is increasing rapidly. In 1933 the total amounted to 82 million acres, which produced 1,019 million bushels, an average of 12.42 bushels per acre. While Australian production was only 3½ per cent. of the world's total, the exports accounted for 17.2 per cent. of the quantities exported in the years 1929–33 :—

WHEAT.(a)—NET EXPORTS, PRINCIPAL COUNTRIES.

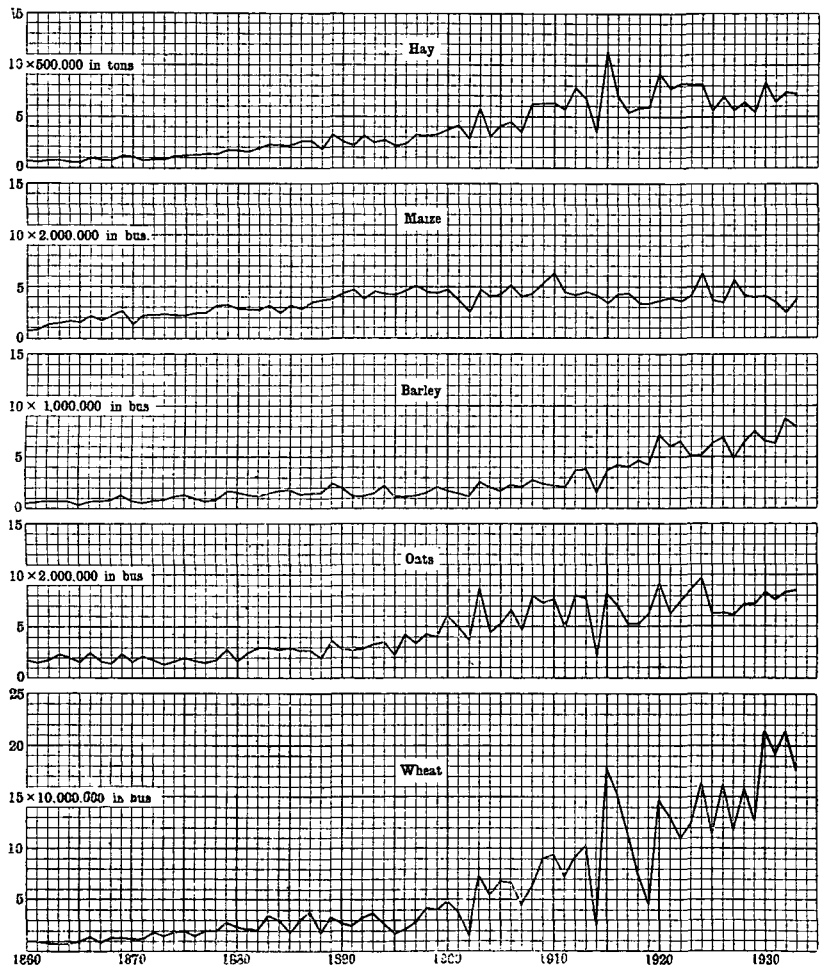
Country.	Average, 1909–13.		1929.	1930.
	Bushels.	Per cent.	Bushels.	Bushels.
Soviet Union (b) ..	157,109,000	23.71	..	93,500,338
Canada	89,919,000	13.57	250,485,790	240,076,983
United States of America	100,864,000	15.22	137,914,928	127,484,281
Argentina	95,041,000	14.34	249,708,054	86,434,936
British India	50,886,000	7.68	..	4,376,075
Australia	49,417,000	7.46	99,150,188	75,115,330
All other Countries ..	119,351,000	18.02	71,425,641	79,082,266
Total	662,587,000	100.00	808,684,601	706,070,209
World's Production ..	3,779,479,000		4,305,627,000	4,882,135,000
Percentage of Australian Net Exports on Total Net Exports ..	7.46		12.26	10.64
Percentage of Australian Production on World's Production ..	2.39		2.95	4.43

AREA UNDER PRINCIPAL CROPS—AUSTRALIA, 1860 TO 1933-34.



EXPLANATION.—The base of each small square represents an interval of one year, while the vertical height represents a number of acres, varying with the nature of the crop in accordance with the scale given on the left of the graph. The height of each curve above its base line denotes, for the crop to which it relates, the total area under cultivation in Australia during the successive seasons.

PRODUCTION OF PRINCIPAL CROPS—AUSTRALIA, 1860 TO 1933-34.



EXPLANATION.—A separate base line is provided for each of the crops dealt with. In each instance the base of a small square represents an interval of one year, the vertical height of such square representing in the case of wheat, 10,000,000 bushels; oats, 2,000,000 bushels; barley, 1,000,000 bushels; maize, 2,000,000 bushels; and hay, 500,000 tons. The height of each curve above its base line denotes the aggregate yield in Australia of the particular crop during the successive seasons.

WHEAT.(a)—NET EXPORTS, PRINCIPAL COUNTRIES—*continued.*

Country.	1931.	1932.	1933.	Average, 1929–33.	
	Bushels.	Bushels.	Bushels.	Bushels.	Per cent.
Soviet Union (b)	93,294,187	16,934,885	28,781,201	46,502,122	6.42
Canada ..	219,380,719	250,412,350	216,329,250	235,337,018	32.52
United States of America ..	109,348,836	74,044,725	18,480,189	93,454,592	12.91
Argentina ..	137,917,662	91,014,145	149,221,042	142,859,168	19.74
British India ..	..	1,500,921	..	1,175,399	0.16
Australia ..	156,306,844	151,065,123	142,424,357	124,812,368	17.24
All other Countries	102,583,269	97,612,626	47,926,935	79,726,148	11.01
Total ..	818,831,517	682,584,775	603,162,974	723,866,814	100.00
World's Production	4,623,460,000	4,587,451,000	4,816,364,000	4,643,007,400	
Percentage of Australian Net Exports on Total Net Exports ..	19.09	22.13	23.61	17.24	
Percentage of Australian Production on World's Production ..	4.12	4.66	3.68	3.43	

(a) Including 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 under the Peace Treaty.

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. The United Kingdom is easily the leading importing country. Under the terms of the Agreement at the Imperial Economic Conference at Ottawa in August, 1932, the Government of the United Kingdom undertook to provide for a duty of 3d. per bushel on foreign wheat imported, and the concession has proved of considerable benefit to Canada and Australia. During recent years the imports of wheat by China and Japan have grown considerably, and a large share in this trade has been supplied by Australia :—

WHEAT.(a)—IMPORTS, PRINCIPAL COUNTRIES.(b)

Country Importing.	Average, 1909–13.		1929.	1930.
	Bushels.	Per cent.	Bushels.	Bushels.
Germany	89,731,507	12.44	79,779,402	45,076,168
Belgium	73,962,974	10.26	44,654,975	44,876,382
France	38,681,717	5.36	52,592,676	39,317,137
Great Britain ..	219,365,265	30.42	232,781,569	224,768,113
Italy	57,156,174	7.93	65,030,081	71,429,187
Netherlands	76,340,387	10.59	30,187,874	33,835,929
Brazil	20,774,307	2.88	35,397,705	39,271,111
China (c)	5,525,863	0.77	47,929,460	21,501,395
Japan	3,713,840	0.52	27,530,853	18,756,906
Egypt	7,914,626	1.10	12,656,077	10,228,090
Union of South Africa ..	6,519,097	0.90	7,634,672	2,798,084
All other Countries ..	121,409,356	16.83	280,693,876	215,629,206
Total	721,095,113	100.00	916,869,220	767,487,708

WHEAT.(a)—IMPORTS, PRINCIPAL COUNTRIES.(b)—*continued.*

Country Importing.	1931.	1932.	1933.	Average, 1929–33.	
	Bushels.	Bushels.	Bushels.	Bushels.	Per cent.
Germany ..	29,833,110	37,934,262	28,466,425	44,227,873	5.46
Belgium ..	54,100,075	46,925,317	42,474,389	46,606,228	5.76
France	87,744,709	78,789,358	32,275,295	58,143,835	7.18
Great Britain ..	249,672,560	218,416,777	234,263,567	231,980,517	28.66
Italy	55,225,990	39,449,749	17,953,567	49,817,715	6.15
Netherlands ..	34,050,398	29,407,321	29,251,108	31,346,526	3.87
Brazil	32,247,550	28,625,653	33,615,404	33,831,485	4.18
China (c) ..	65,067,217	65,270,480	73,725,587	54,698,828	6.76
Japan	26,846,094	28,158,858	19,538,407	24,166,224	2.99
Egypt	8,867,699	4,230,857	271,459	7,250,834	0.90
Union of South Africa ..	3,408,764	1,095,763	80,024	3,003,461	0.37
All other Countries	230,650,968	208,459,058	186,409,810	224,358,584	27.72
Total ..	877,715,134	786,763,453	698,325,042	809,432,110	100.00

(a) Including 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) Including Manchurian ports.

9. **Consumption of Wheat.**—(i) *Australia.* The estimated consumption of wheat for food and the quantity used for seed in Australia during the last five years are shown hereunder :—

AVERAGE HUMAN CONSUMPTION, 1929–30 TO 1933–34.

Flour Milled		1,228,919 tons
Less Net exports of flour	554,909 tons	
Less Net exports of flour in Biscuits	975 ,,	
		555,884 ,,
Net quantity available for home consumption ..		673,035 ,,
Equivalent in terms of wheat		32,305,680 bushels
Net quantity available per head of population—		
As flour		206 lb.
As wheat		4.933 bushels

AVERAGE USED FOR SEED, 1929–30 TO 1933–34.

Average area sown for grain, hay and green forage ..	16,826,046 acres
Average quantity of seed used	16,521,674 bushels
Average quantity of seed used per acre	59 lb.
Average quantity per head of population	2.523 bushels

In addition to the above, allowance must be made for wheat fed to poultry and other live stock. Hitherto the quantity so used has been estimated to range from one half to one bushel per head of population per annum. This amount is now considered to be too low. The revised figures give a total annual consumption of 8.6 million bushels, or 1.32 bushels per head of population. Almost the whole of this quantity is used in

the form of grain as feed for poultry, principally fowls, which numbered 15.2 million during the year 1933–34. The average quantity of flour consumed per annum for the five years under consideration was 206 lb. per head of population, which, expressed in terms of wheat, represents 4.933 bushels. The estimates of quantity of grain used for seed in Victoria, South Australia and Western Australia are based on data collected from growers. In the other States estimates supplied by the Agricultural Departments have been used. The average annual quantity used for the purposes indicated during the last five years was 2.523 bushels per head of population, or 59 lb. per acre sown. The consumption of wheat in Australia for all purposes during the period dealt with averaged, therefore, 57,427,000 bushels, or 8.77 bushels per head of population.

(ii) *Other Countries.* The following table gives the consumption of wheat in some of the principal countries of the world. The figures, which were obtained partly from the Food Research Institute of California, represent the *per capita* consumption of wheat exclusive of the quantity used for seed purposes :—

PER CAPITA CONSUMPTION OF WHEAT, EXCLUDING SEED, FOR PERIOD 1922–1929.

Country.	Used for human consumption.	Fed to Stock.	Total.
	Bushels.	Bushels.	Bushels.
Argentine (*a*)	5.4	0.2	5.6
Australia (*a*)	4.9	1.3	6.2
Canada	4.5	3.3	7.8
New Zealand (*b*)	4.8	1.1	5.9
United Kingdom	4.8	1.0	5.8
United States	4.2	0.6	4.8

(*a*) Average for five years ended 1933–34. (*b*) Average for five years ended 1933.

10. **Value of the Wheat Crop.**—The estimated value of the wheat crop in each State and in Australia during the season 1933–34 is shown below:—

WHEAT.—VALUE OF CROP(*a*), 1933–34.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Fed. Cap. Ter.	Australia.
	£	£	£	£	£	£	£	£
Aggregate value..	8,677,420	6,906,776	748,289	5,466,413	6,002,101	85,700	9,905	27,896,604
Value per acre ..	£1/17/10	£2/5/3	£3/4/6	£1/8/7	£1/17/9	£3/11/2	£3/4/2	£1/17/5

(*a*) Gross value of total crop, including seed used on farm, valued at metropolitan prices but exclusive of value of straw.

11. **Varieties of Wheat Sown.**—Particulars of the varieties of wheat sown and the area thereunder are collected from time to time. The following table shows particulars 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 1933–34.

PRINCIPAL VARIETIES OF WHEAT SOWN—STATES, 1933-34.

New South Wales. (a)		Victoria.		South Australia.		Western Australia.	
Variety.	Percentage.	Variety.	Percentage.	Variety.	Percentage.	Variety.	Percentage.
	%		%		%		%
Nabawa ..	27.5	Free Gallipoli ..	49.0	Nabawa ..	22.5	Nabawa ..	18.4
Ford	12.4	Ranee ..	19.9	Ranee ..	10.6	Gluyas Early ..	16.3
Bobin	10.9	Sepoy ..	5.5	Gallipoli ..	9.8	Merredin ..	12.1
Waratah ..	8.8	Ghurka ..	5.2	Gluyas ..	9.4	Gluclub ..	9.0
Free Gallipoli ..	4.9	Nabawa ..	3.9	Ford ..	6.5	Bencubbin ..	7.1
Yandilla King ..	4.9	Federation ..	2.2	Waratah ..	6.2	Noongar ..	5.8
Ranee	4.0	Major ..	2.2	Late Gluyas ..	4.2	Waratah ..	5.3
Dundee ..	2.7	Rajah ..	2.0	Sword ..	2.6	Bena	4.1
Penny ..	2.0	Nazim ..	1.5	Currawa ..	2.4	Ford ..	3.5
All Other ..	21.9	All Other ..	8.6	All Other ..	25.8	All Other ..	18.4
Total ..	100.0	Total ..	100.0	Total ..	100.0	Total ..	100.0

(a) Refers to the year 1934.

It is interesting to note the changes that have taken place in the leading varieties during recent years. In New South Wales and South Australia Nabawa occupied a very minor place on the list in 1929, but by 1933–34 it had risen to the leading position. On the other hand this variety, while still occupying the leading position in Western Australia, declined from 47 per cent. of the total area in 1929 to 18 per cent. in 1933–34. Free Gallipoli, the leading variety in Victoria, increased its lead from 22 per cent. in 1929 to 49 per cent. in 1933–34. More than 1,000 different varieties of Australian wheat have been catalogued by the Council for Scientific and Industrial Research.

12. **Stocks of Wheat and Flour.**—Stocks of wheat and flour held by each State at 30th November, 1934, and the total held in Australia on the same date for the previous four years will be found in the following table. The figures have been compiled from information collected from millers, merchants, the Railway Departments and other sources, but are exclusive in certain instances of stocks held by farmers :—

STOCKS OF WHEAT AND FLOUR.—AUSTRALIA, 30TH NOVEMBER, 1934.

State.	Wheat.	Flour.	Total in terms of wheat.(a)
	Bushels.	Tons.	Bushels.
New South Wales	11,399,415	39,633	13,301,799
Victoria	12,272,300	38,485	14,119,600
Queensland	900,178	6,546	1,214,386
South Australia	7,606,082	11,405	8,153,522
Western Australia	1,592,616	14,580	2,292,456
Tasmania	250,106	1,736	333,434
Total, 30th November, 1934 ..	34,020,697	112,385	39,415,197
" " 1933 ..	13,864,057	86,638	18,022,655
" " 1932 ..	6,647,325	85,658	10,758,925
" " 1931 ..	12,708,848	80,052	16,551,347
" " 1930 ..	10,106,694	77,066	13,805,879

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

13. **Voluntary Wheat Pools.**—(i) *General.* Voluntary wheat pools operated in the States of Victoria, South Australia and Western Australia during the season 1934–35. In New South Wales the pool was inactive during the year. The system adopted in these States is somewhat similar, and is a co-operative one controlled by trustees, or committees appointed by the growers, the whole of the proceeds, less administrative expenses, being distributed amongst contributors of wheat to the pool. The trading names of these organizations in the various States are as follow :—

New South Wales.—The Wheat Growers' Pooling and Marketing Co. Ltd.
Victoria.—Victorian Wheat-growers' Corporation Ltd.
South Australia.—South Australian Co-operative Wheat Pools Ltd.
Western Australia.—The Trustees of the Wheat Pool of Western Australia.

The marketing of wheat in Queensland was conducted on the compulsory basis by the State Wheat Board, consisting of four elected representatives and the Deputy Director of Marketing who represents the Queensland Government. The tenure is from year to year.

(ii) *Delivery of Wheat to Pools, Costs, etc.* The quantities of wheat received and the estimated average costs per bushel of rail freight and of administrative and other expenses are given hereunder. As the season's operations are not yet complete, the costs shown are subject to revision.

WHEAT RECEIVED BY VOLUNTARY POOLS, 1934–35.

Particulars.	Unit.	Victoria.	Queensland. (*b*)	South Australia.	Western Australia.
Wheat received	Bushel	783,011	3,675,855	876,358	7,163,428
Percentage on Total Marketable Wheat	%	3.0	90.2	3.2	26.6
Estimated average cost of rail freight to seaboard, per bushel	*d.*	4.6	4.75	2.88	4.58
Estimated average cost per bushel of Administration and other expenses ..	*d.*	(*a*)	(*c*) 3.25	(*c*) 4.00	2.65

(*a*) Not yet available. (*b*) Compulsory Pool. (*c*) Approximate.

(iii) *Finance.* The requisite financial accommodation in Victoria and South Australia was furnished by the Commonwealth Bank. In Western Australia funds were made available by financial houses in London. Initial advances made available to growers on the delivery of their wheat at country stations are shown, together with subsequent payments, in the following table :—

WHEAT POOLS ADVANCES(*a*) PER BUSHEL MADE TO OCTOBER, 1935.

Particulars.	Victoria.	South Australia.	Western Australia.
	s. d.	*s. d.*	*s. d.*
1st Payment	1 6	1 9½	1 8
2nd Payment	0 10½	0 4	0 8½
3rd Payment	0 4	0 6½	0 3
Estimated Final Payment	(*b*)	(*b*)	(*b*)

(*a*) Less Rail Freight. (*b*) Not yet available.

In Queensland the Commonwealth Bank provides the financial assistance necessary to make advances on wheat delivered, the State Government guaranteeing the Wheat

Board's accounts with the bank. All wheat not required for consumption on the farm is delivered to the Board, which is the sole marketing agency. The crop in 1934–35 amounted to 4,076,181 bushels, of which 3,675,855 bushels, or 90.2 per cent., was delivered into the pool. Advances were made on No. 1 quality wheat at the rate of 2s. per bushel; other grades bear the dockages assessed at the time of delivery according to quality. The dockages being a deduction from the first advance, subsequent advances are uniform on all grades. A second advance of 6d. per bushel and a third advance of 4d. per bushel have been made, while a final payment approximating 3½d. per bushel is contemplated.

§ 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 66.36 per cent., oats represented only 6.12 per cent. of the area under crop in 1933–34. The acreage and production of oats for the last five years is shown in the table hereunder, and more fully in the graphs herein :—

OATS.—AREA AND PRODUCTION.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Fed. Cap. Ter.	Australia.
AREA.								
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1929–30.. ..	181,354	630,234	2,003	277,923	385,134	39,061	162	1,515,871
1930–31.. ..	176,659	371,024	5,132	218,416	274,874	35,919	77	1,082,101
1931–32.. ..	151,600	439,626	1,364	206,470	267,894	18,412	123	1,085,489
1932–33.. ..	163,809	368,846	3,733	174,244	285,850	30,652	128	1,027,262
1933–34.. ..	203,693	525,976	5,207	265,074	342,642	31,199	130	1,373,921
Average 10 seasons, 1924–34 ..	144,694	447,047	2,614	201,187	294,984	36,707	276	1,127,509
PRODUCTION.								
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1929–30.. ..	2,528,610	5,058,541	38,494	1,564,287	4,058,160	1,175,041	1,053	14,424,186
1930–31.. ..	3,241,980	6,893,827	94,452	2,080,311	3,292,560	1,052,768	2,160	16,658,058
1931–32.. ..	2,526,450	6,450,281	20,352	2,287,844	3,549,636	356,847	3,270	15,194,680
1932–33.. ..	3,513,780	6,363,853	58,729	1,788,712	3,603,447	828,239	2,868	16,159,628
1933–34.. ..	3,178,470	6,778,754	69,534	2,087,772	3,949,905	854,239	3,357	16,922,031
Average 10 seasons, 1924–34 ..	2,482,695	6,128,456	41,922	1,838,908	3,482,807	993,673	4,352	14,972,813

The oat crop showed considerable variation during the past decennium, ranging from 12,084,265 bushels in 1927–28 to 19,393,737 bushels in 1924–25, with an average for the period of 14,972,813 bushels. The demand for the grain for oatmeal is limited to about 2,000,000 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 more than one-third of the total quantity grown in Australia. South Australia, Western Australia and Tasmania also produce considerable quantities in excess of local requirements. Western Australia disposes of its surplus to the East, principally to Malaya (British), whilst the other States export chiefly to New South Wales and Queensland. For Australia as a whole the record yield of oats was obtained during 1924–25, when 19,393,737 bushels were harvested.

(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 1924 to 1934 are given in the table below :—

OATS.—AVERAGE YIELD PER ACRE.

Season.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Fed. Cap. Ter.	Australia.
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1929–30	13.94	8.03	19.22	5.63	10.54	30.08	6.50	9.52
1930–31	18.35	18.58	18.40	9.52	11.98	29.31	28.05	15.39
1931–32	16.67	14.67	14.92	11.08	13.25	19.38	26.59	14.00
1932–33	21.45	17.25	15.73	10.27	12.61	27.02	22.41	15.73
1933–34	15.60	12.89	13.35	7.88	11.53	27.38	25.82	12.32
Average for 10 seasons 1924–34	17.16	13.71	16.04	9.14	11.81	27.07	15.79	13.28

The smallest average yield per acre ever recorded for Australia was that experienced in the abnormally dry season 1914–15, viz., 5.60 bushels, while the largest in the last ten years was that of the season 1924–25, amounting to 16.65 bushels per acre.

2. **World's Production.**—The world's production of oats for the year 1933, as computed by the International Institute of Agriculture, amounted to 3,364 million bushels. This quantity was harvested from 139 million acres, and represents an average yield of 24.20 bushels per acre. The following table shows the world's production and average yield for the last five years, together with the average for the quinquennium 1924–1928 :—

OATS.—WORLD'S PRODUCTION.

Year.	Area.	Production.	Average Yield per Acre.
	Million Acres.	Million Bushels.	Bushels.
Average 1924–28	145	3,677	25.36
1929	150	3,781	25.21
1930	148	3,788	25.59
1931	146	3,262	22.34
1932	141	3,548	25.17
1933	139	3,364	24.20

3. **Prices of Oats.**—The average wholesale prices in the Metropolitan markets for the year 1933–34 are given in the following table :—

OATS.—AVERAGE WHOLESALE PRICES, 1933–34.

Particulars.	Sydney.	Melbourne.	Brisbane.	Adelaide.	Perth.	Hobart.
	s. d.	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*
Average price per bushel ..	2 10½	2 4	3 4	1 11¼	2 0	2 4

4. **Imports and Exports.**—The production of oats in Australia has not yet reached sufficient proportions to admit of a regular export trade. During the year 1927–28 there

was a net import of 460,581 bushels. The quantities and values of oats imported into and exported from Australia during the years 1929–30 to 1933–34 are given hereunder :—

OATS.—IMPORTS AND EXPORTS, AUSTRALIA.

Year.	Imports.		Exports.		Net Exports.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Bushels.	£	Bushels.	£	Bushels.	£
1929–30 ..	8,658	2,181	117,300	24,950	108,642	22,769
1930–31(a) ..	3,293	1,090	171,825	23,957	168,532	22,867
1931–32(a) ..	5,470	1,435	245,700	30,394	240,230	28,959
1932–33(a) ..	4,443	981	245,178	26,311	240,735	25,330
1933–34(a) ..	3,542	772	87,275	12,789	83,733	12,017

(a) Australian currency values.

Imports have been obtained chiefly from New Zealand, while the principal countries to which oats were exported during the years quoted were New Zealand, Malaya (British), Ceylon, India and Mauritius. In 1932–33, however, 95,420 bushels, valued at £7,831, were shipped to the United Kingdom.

5. **Oatmeal, etc.**—The production of oatmeal in Australia during 1933–34 amounted to 270,124 cwt., practically the whole of which is consumed locally, the quantity of oats used for oatmeal being 1,723,890 bushels, or 10 per cent. of the total production. Oversea trade in this and similar products is small ; the imports of oatmeal, wheatmeal and rolled oats during 1933–34 amounted to 25 cwt., and exports to 14,307 cwt.

6. **Value of Oat Crop.**—The estimated value of the oat crop for the season 1933–34 was as follows :—

OATS.—VALUE OF CROP,(a) 1933–34.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Fed. Cap. Ter.	Australia.
	£	£	£	£	£	£	£	£
Aggregate value..	384,050	748,488	11,372	223,770	378,190	106,800	405	1,853,075
Value per acre ..	£1/17/9	£1/8/5	£2/3/8	£0/16/11	£1/2/1	£3/8/6	£3/2/4	£1/7/0

(a) Exclusive of the value of straw.

§ 6. Maize.

1. **States Growing Maize.**—Maize is grown for grain chiefly in New South Wales and Queensland, the area so cropped in these States during the season 1933–34 being 284,179 acres, or 94 per cent. of the total for Australia. Of the balance, Victoria contributed 19,538 acres, Western Australia, 14 acres, and South Australia 18 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 less extent for green forage, particularly in connexion with the dairying industry.

2. **Progress of Cultivation.**—(i) *Area and Production.* Notwithstanding its pre-eminence as the world's most extensively grown cereal, the cultivation of maize has decreased in Australia during the past decennium. Compared with the previous year, the area in 1933–34 increased by 75,000 acres to 303,761 acres, an increase of 33 per cent. The greatest area grown was in 1910–11 when it amounted to 414,914 acres. The average for the decennium 1924–34 was 309,000 acres.

The area and production of maize for grain in each State for the last five years and the average for the decennium 1924–34 are given in the following table. The fluctuations from year to year are shown more fully on the graph herein :—

MAIZE.—AREA AND PRODUCTION.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Nor. Ter.	Fed. Cap. Ter.	Australia.
AREA.								
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1929–30.. ..	108,219	17,640	171,614	..	29	..	..	297,502
1930–31.. ..	105,024	16,227	172,176	..	10	..	13	293,450
1931–32.. ..	106,047	15,714	147,669	7	11	..	..	269,448
1932–33.. ..	113,333	16,425	98,487	5	8	..	2	228,260
1933–34.. ..	117,231	19,538	166,948	18	14	..	12	303,761
Average 10 seasons 1924–34 ..	120,152	18,435	170,403	4	30	8	4	309,036
PRODUCTION.								
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1929–30.. ..	3,035,850	533,719	4,376,412	..	339	..	..	7,946,320
1930–31.. ..	2,766,660	692,896	4,565,850	..	87	..	126	8,025,619
1931–32.. ..	2,669,580	611,902	3,780,597	217	87	..	..	7,062,383
1932–33.. ..	2,935,140	477,145	1,653,853	135	42	..	6	5,066,321
1933–34.. ..	3,133,890	644,033	3,715,764	150	183	..	60	7,494,080
Average 10 seasons 1924–34 ..	3,209,012	674,344	4,330,549	93	357	42	39	8,214,436

The greatest production of maize in Australia was recorded in 1910–11, when it amounted to over 13,000,000 bushels. This figure was considerably in excess of the yields for recent years, except in 1924, when a bountiful harvest in Queensland increased the Australian total to 12,400,000 bushels. The production in 1933–34 amounted to 7,494,080 bushels, and the average for the last decennium was 8,214,436 bushels.

(ii) *Average Yield.* The following table gives particulars of the average yield per acre of the maize crops of the States for the seasons 1929–30 to 1933–34 and for the decennium 1924–1934 :—

MAIZE.—AVERAGE YIELD PER ACRE.

Season.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	N. Ter.	Fed. Cap. Ter.	Australia.
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1929–30	28.05	30.26	25.50	..	11.69	..	..	26.71
1930–31	26.34	42.70	26.52	..	8.70	..	9.69	27.34
1931–32	25.17	38.94	25.60	31.00	7.91	..	..	26.21
1932–33	25.90	29.05	16.79	27.00	5.25	..	3.00	22.20
1933–34	26.73	32.96	22.26	8.33	13.07	..	5.00	24.67
Average for 10 seasons 1924–34	26.71	36.58	25.41	22.63	18.57	5.19	9.21	26.58

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

(iii) *Production per Acre—Various Countries.* The average for Australia for the past 10 years was 26.6 bushels per acre. During the period 1925–29 the United States of America averaged 26.9 bushels, Argentina 31.9 bushels, Rumania 16.9 bushels, and the Soviet Union 16.3 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 according to the data compiled by the International Institute of Agriculture :—

MAIZE.—WORLD'S PRODUCTION.

Year.	Area.	Production.	Average Yield per Acre.
	Million Acres.	Million Bushels.	Bushels.
Average 1924–28	194	4,362	22.48
1929	202	4,484	22.20
1930	203	4,027	19.84
1931	213	4,617	21.67
1932	215	4,936	22.96
1933	211	4,330	20.52

The United States is the most important maize-producing country in the world. Approximately 100,000,000 acres are planted there annually, and more than 2,600 million bushels are reaped, representing about 60 per cent. of the world's production. About 85 per cent. of the total is fed to live stock on farms, 10 per cent. is used for human food, and only a very small fraction, viz., less than one per cent., is exported.

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

MAIZE.—AVERAGE PRICE, SYDNEY.

Particulars.	1929–30.	1930–31.	1931–32.	1932–33.	1933–34.
	s. d.	*s. d.*	*s. d.*	*s. d.*	*s. d.*
Average price per bushel ..	6 0¼	4 1	3 9	4 11	3 6¾

5. **Overseas Imports and Exports.**—The decline in production has necessitated an average annual net import of more than 13,000 bushels during the last five years, the bulk of the supplies being furnished by the Union of South Africa. Details of imports and exports for the years 1929–30 to 1933–34 are as follow :—

MAIZE.—IMPORTS AND EXPORTS, AUSTRALIA.

Year.	Imports.		Exports.		Net Imports.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Bushels.	£	Bushels.	£	Bushels.	£
1929–30.. ..	66,968	13,899	2,339	824	64,629	13,075
1930–31(*a*) ..	3,945	769	1,498	377	2,447	392
1931–32(*a*) ..	229	307	2,586	554	— 2,357	— 247
1932–33(*a*) ..	5,064	878	1,370	377	3,694	501
1933–34(*a*) ..	23	26	3,120	731	— 3,097	— 705

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

6. **Maize Products.**—A small quantity of corn-flour 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 were negligible. Exports from Australia are small, and in 1933–34 amounted to 15,674 lb., valued at £392.

7. **Value of Crop.**—The value of the crop for the season 1933–34 was as follows :—

MAIZE.—VALUE OF CROP, 1933–34.

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	F.C.T.	Australia.
	£	£	£	£	£	£	£
Aggregate value	483,150	112,706	681,223	38	66	9	1,277,192
Value per acre	£4/2/5	£5/15/4	£4/1/7	£2/2/3	£4/14/3	£0/15/0	4/4/1

§ 7. Barley.

1. **Progress of Cultivation.**—(i) *Area and Production.* The area under barley has fluctuated considerably, but with a marked upward tendency during the past ten years. The average annual area sown for the decennium 1924–1934 amounted to 376,734 acres, as compared with an average of 251,509 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 1933–34. Victoria was next in importance with 23 per cent., leaving a small balance of about 11 per cent. distributed among the other States. The figures here given relate to the areas harvested for grain; small areas only are sown for hay, while 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 1924–34 are shown in the following table, while the progress since 1860 is illustrated in the graphs herein :—

BARLEY.—AREA AND PRODUCTION.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
			AREA.				
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1929–30.. ..	7,947	97,678	9,754	305,316	23,649	6,935	*a*451,339
1930–31.. ..	11,526	87,518	8,434	251,957	17,236	6,192	*b*382,887
1931–32.. ..	8,349	66,381	2,223	242,339	14,533	8,377	*c*342,396
1932–33.. ..	7,736	93,555	4,790	314,286	13,772	8,595	*d*442,833
1933–34.. ..	10,006	106,339	8,765	307,423	24,534	7,840	*e*464,959
Average 10 seasons 1924–34 ..	7,507	85,974	6,104	255,046	15,903	6,155	*f*376,734
			PRODUCTION.				
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1929–30.. ..	113,850	2,183,325	205,567	4,656,254	261,870	166,984	*a*7,588,852
1930–31.. ..	188,610	1,983,130	173,563	3,960,929	185,301	168,625	*b*6,660,911
1931–32.. ..	137,430	1,256,678	36,397	4,572,941	164,580	119,725	*c*6,290,672
1932–33.. ..	154,530	1,995,446	101,033	6,070,161	135,243	211,570	*d*8,670,077
1933–34.. ..	165,120	1,888,981	152,480	5,254,280	324,846	172,267	*e*7,959,018
Average 10 seasons 1924–34 ..	122,997	1,755,629	111,459	4,396,829	185,221	137,081	*f*6,710,037

(*a*) Including Federal Capital Territory, 60 acres, 1,002 bushels.
(*b*) " " " " 24 acres, 753 bushels.
(*c*) " " " " 194 acres, 2,921 bushels.
(*d*) " " " " 99 acres, 2,094 bushels.
(*e*) " " " " 52 acres, 1,044 bushels.
(*f*) " " " " 45 acres, 821 bushels.

The States in which the annual production of barley averaged over 1,000,000 bushels for the past decade were South Australia and Victoria, the yields being respectively 4,396,829 and 1,755,629 bushels, the higher return per acre in the latter State tending to diminish the advantage held by South Australia in regard to acreage.

(ii) *Malting and Other Barley.* (*a*) *Year* 1933–34. Particulars for the season 1933–34 are as follow :—

BARLEY, MALTING AND OTHER.—AREA AND PRODUCTION, 1933–34.

Particulars.	N.S.W.	ictoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Malting barley..	4,881	84,732	5,728	290,152	17,583	7,402	410,478
Other Barley ..	5,125	21,607	3,037	17,271	6,951	438	a54,481
Total ..	10,006	106,339	8,765	307,423	24,534	7,840	a464,959
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
Malting barley..	84,570	1,418,613	99,786	4,999,568	249,432	161,800	7,013,769
Other barley ..	80,550	470,368	52,694	254,712	75,414	10,467	a945,249
Total ..	165,120	1,888,981	152,480	5,254,280	324,846	172,267	a7,959,018

(*a*) Including Federal Capital Territory, 52 acres, 1,044 bushels.

Taking Australia as a whole, about 88 per cent. of the area under barley in 1933–34 was sown with malting or English barley while the remainder consists of Cape and other varieties. The proportion, however, varies largely in the several States. The disposal of barley during the season 1933–34 was as follows: malt works, 2,282,940 bushels; distilleries, 69,975 bushels; exports, 2,701,908 bushels; leaving a balance of approximately 2,900,000 bushels for feed, pearling 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 :—

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

Season.	Acres.			Bushels.			Average Yield per Acre.		
	Malting.	Other.	Total.	Malting.	Other.	Total.	Malting.	Other.	Total.
1929 30 ..	388,854	62,485	451,339	6,438,850	1,150,002	7,588,852	16.56	18.40	16.81
1930–31 ..	328,059	54,828	382,887	5,673,940	986,921	6,660,861	17.30	18.00	17.40
1931–32 ..	299,074	43,322	342,396	5,547,141	743,531	6,290,672	18.55	17.16	18.37
193 33 ..	399,731	43,102	442,833	7,837,111	832,966	8,670,077	19.60	19.33	19.58
1933–34 ..	410,478	54,481	464,959	7,013,769	945,249	7,959,018	17.09	17.35	17.12
Average 10 seasons 1924–34..	326,188	50,546	376,734	5,768,099	941,938	6,710,037	17.68	18.64	17.81

During the past ten seasons the area and production of malting barley have represented almost 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 Cape 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 1924–34, 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.
1929–30	14.33	22.35	21.08	15.25	11.07	24.08	16.81
1930–31	16.36	22.66	20.58	15.72	10.75	27.23	17.40
1931–32	16.46	18.93	16.37	18.87	11.32	14.29	18.37
1932–33	19.98	21.33	21.09	19.31	9.82	24.62	19.58
1933–34	16.50	17.76	17.40	17.09	13.34	21.97	17.12
Average for 10 seasons 1924–34	16.39	20.42	18.26	17.24	11.65	22.27	17.81

2. **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 1933 are as follow :—Soviet Union, 346 million bushels ; China, 281 million bushels ; Germany, 153 million bushels ; United States, 150 million bushels ; India, 105 million bushels ; and Canada, 61 million bushels.

3. **World's Production.**—The following table shows the world's acreage under barley, 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 1924–28	83.8	1,602	19.12
1929	97.6	1,979	20.28
1930	93.4	1,894	20.29
1931	89.0	1,616	18.16
1932	90.4	1,802	19.91
1933	87.4	1,780	20.37

4. **Prices.**—The average price in the Melbourne market during each of the last five years is given in the following table :—

BARLEY.—AVERAGE MELBOURNE PRICE PER BUSHEL.

Particulars.	1929–30.	1930–31.	1931–32.	1932–33.	1933–34.
	s. d.	*s. d.*	*s. d.*	*s. d.*	*s. d.*
Malting barley	4 1	2 11	2 11½	2 9	2 8
Cape barley	3 3¾	2 2	2 3	2 4	2 3¾

5. **Imports and Exports.**—Australian exports of barley during the last five years averaged 2,608,870 bushels. The grain was consigned mainly to the United Kingdom and Belgium, South Australia being the principal exporting State. Particulars of the Australian overseas imports and exports for the last five years are contained in the following table :—

BARLEY.—IMPORTS AND EXPORTS, AUSTRALIA.

Year.	Imports.		Exports.		Net Exports.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Bushels.	£	Bushels.	£	Bushels.	£
1929–30	1,760	745	647,542	99,046	645,782	98,301
1930–31(a) ..	110	59	3,328,652	403,919	3,328,542	403,860
1931–32(a) ..	44	16	3,315,110	450,477	3,315,066	450,461
1932–33(a) ..	1,396	470	3,051,138	352,152	3,049,742	351,682
1933–34(a) ..	134	59	2,701,908	305,359	2,701,774	305,300

(a) Australian currency values.

In some years there is an export of Australian pearl and Scotch barley, the total for 1933–34 reaching 61,478 lb., valued at £393, consigned mainly to the Pacific Islands.

6. **Imports and Exports of Malt.**—In pre-war times the imports of malt into Australia were fairly extensive, the supply being obtained principally from the United Kingdom. Since 1914, however, imports have practically ceased, and in 1917–18 and 1920–21 fairly large quantities were exported to the Union of South Africa and Japan. Details of imports and exports for the five years ended 1933–34 are given in the next table :—

MALT.—IMPORTS AND EXPORTS, AUSTRALIA.

Year.	Imports.		Exports.		Net Exports.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Bushels.	£	Bushels.	£	Bushels.	£
1929–30 ..	133	92	8,185	3,467	8,052	3,375
1930–31(a) ..	38	64	4,253	1,730	4,215	1,666
1931–32(a) ..	5	2	3,805	1,392	3,800	1,390
1932–33(a) ..	..	..	9,950	3,358	9,950	3,358
1933–34(a) ..	178	197	24,472	8,259	24,294	8,062

(a) Australian currency values.

7. **Value of Barley Crop.**—The estimated value of the barley crop for the season 1933–34 and the value per acre are shown in the following table :—

BARLEY.—VALUE OF CROP(a), 1933–34.

Value.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Fed. Cap. Ter.	Australia.
	£	£	£	£	£	£	£	£
Total ..	22,650	230,275	25,814	640,107	42,390	23,380	113	984,729
Per acre ..	£2/5/3	£2/3/4	£2/18/10	£2/0/2	£1/14/6	£2/19/7	£2/3/5	£2/2/4

(a) Exclusive of the value of straw.

§ 8. Rice.

Experimental rice cultivation was carried on at the Yanco Experimental Farm 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 the production now exceeds the annual requirements of Australia. During the past four years an annual average of 317,000 bushels of cleaned and uncleaned rice has been exported from Australia, mainly to the United Kingdom, New Zealand, Canada and the Pacific Islands.

Figures relating to area, production, etc., since 1929–30 will be found in the following table :—

RICE.—AREA, PRODUCTION, ETC., AUSTRALIA.

Year.	Area.	Production Paddy Rice.	Average Yield.	Imports.	Exports.	Retail Price.
	Acres.	Bushels.	Bushels.	Bushels.	Bushels.	Pence per lb.
1929–30 ..	19,789	1,829,297	92.44	282,489	30,866	3.65
1930–31 ..	19,860	1,427,524	71.88	117,624	200,760	3.58
1931–32 ..	19,589	1,349,869	68.91	96,101	292,453	3.48
1932–33 ..	22,034	1,901,476	86.30	104,846	260,245	3.24
1933–34 ..	20,226	2,171,544	107.36	98,495	516,437	3.24

The production from several small experimental plots in States other than New South Wales is included in the above figures, 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 under the two first mentioned crops for the season 1933–34 was 70,597 acres, giving a yield of 1,056,857 bushels, or an average of 14.97 bushels per acre, which was less than the average yield for the decennium ended 1933–34, viz., 15.02 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 under rye in Australia during the season 1933–34 was 6.679 acres, yielding 92,444 bushels, giving an average of 13.84 bushels per acre, as compared with the average of 16.40 bushels for the last ten seasons. Nearly 63 per cent. of the rye grown during the season was produced in New South Wales, 17 per cent. in Victoria, and 11 per cent. in South Australia.

§ 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 grown in nearly every district except in the wheat belt. Tasmania comes next in order of importance, followed by New South Wales.

The area and production of potatoes in each State during the last five years and the average for the decennium 1924–34 are given hereunder :—

POTATOES.—AREA AND PRODUCTION.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Fed. Cap. Ter.	Australia.
AREA.								
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1929–30 ..	12,785	58,789	8,116	4,536	6,024	33,722	8	123,980
1930–31 ..	15,304	67,590	10,277	4,998	6,306	37,229	12	141,716
1931–32 ..	17,522	69,929	10,374	5,996	4,892	36,390	8	145,111
1932–33 ..	20,739	69,783	9,743	6,454	4,971	35,769	11	*a*147,485
1933–34 ..	20,089	60,856	11,936	5,824	4,462	36,518	7	139,692
Average 10 seasons 1924–34..	19,086	66,386	9,725	4,637	5,128	36,463	14	*b*141,443
PRODUCTION.								
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1929–30 ..	23,907	171,747	13,214	14,990	27,546	91,137	..	342,541
1930–31 ..	32,283	173,341	18,489	18,991	26,318	95,289	13	364,724
1931–32 ..	33,709	206,489	17,189	24,062	20,253	95,389	11	397,102
1932–33 ..	42,403	182,471	14,017	24,814	22,309	98,232	25	384,271
1933–34 ..	43,532	142,132	20,123	19,501	21,204	81,274	9	327,775
Average 10 seasons 1924–34	40,305	170,937	15,708	17,233	20,685	94,020	33	358,921

(*a*) Includes Northern Territory, 15 acres.
(*b*) „ „ „ 4 acres.

The acreages grown during the last ten years were fairly uniform, except in 1927–28, when the area was increased to 163,231, chiefly owing to larger plantings in Victoria and Tasmania. The production in 1933–34 amounted to 327,775 tons, as compared with an average of 358,921 tons for the last ten years and 348,640 tons for the previous decennial period. The record production of 507,153 tons was obtained in 1906–7.

(ii) *Average Production.* Particulars for each State for the five seasons ended 1933–34 and for the last decennium are given hereunder :—

POTATOES.—PRODUCTION YIELD PER ACRE.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Fed. Cap. Ter.	Australia.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1929–30	1.87	2.92	1.63	3.30	4.57	2.70	1.13	2.76
1930–31	2.11	2.56	1.80	3.80	4.17	2.56	1.08	2.57
1931–32	1.92	2.95	1.66	4.01	4.14	2.62	1.37	2.74
1932–33	2.04	2.61	1.44	3.84	4.49	2.77	2.27	2.61
1933–34	2.17	2.34	1.69	3.35	4.75	2.23	1.29	2.35
Average for 10 seasons 1924–34	2.11	2.57	1.62	3.72	4.03	2.58	2.31	2.54

The comparatively low yield per acre compared with that of many other countries is due in large measure to the neglect of rotation, and the insufficient use of manures. The production in New Zealand, for example, in 1933–34 averaged 5.24 tons per acre from an area of 25,028 acres, as compared with 2.35 tons per acre from 139,692 acres in Australia.

(iii) *Relation to Population.* The average annual production of potatoes per head of the population of Australia for the last five seasons was approximately 122 lb. 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 8¼ cwt. Details for each State for the five seasons ended 1933–34 are as follow :—

POTATOES.—PRODUCTION PER 1,000 OF POPULATION.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Fed. Cap. Ter.	Australia.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1929–30 ..	10	97	14	26	66	416	..	53
1930–31 ..	13	97	20	33	63	432	2	56
1931–32 ..	13	115	18	41	48	427	1	61
1932–33 ..	16	101	15	43	51	431	3	58
1933–34 ..	17	78	21	34	48	355	1	49

(iv) *Consumption.* Oversea trade in potatoes is comparatively small, and the consumption in Australia during the last five years averaged about 55 tons per 1,000 of population, or about 122 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. Figures 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.	Quantity.	Value.	Quantity.	Value.
	Tons.	£	Tons.	£	Tons.	£
1929–30	52	736	1,173	16,974	1,121	16,238
1930–31(*a*)	7	144	1,917	13,948	1,910	13,804
1931–32(*a*)	33	418	1,612	13,662	1,579	13,244
1932–33(*a*)	47	753	1,859	12,484	1,812	11,731
1933–34(*a*)	29	348	1,940	12,639	1,911	12,291

(*a*) Australian currency values.

3. **Value of Potato Crop.**—The estimated value of the potato crop of each State for the season 1933–34 is given in the following table :—

POTATOES.—VALUE OF CROP, 1933–34.

Value.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Fed. Cap. Ter.	Australia.
	£	£	£	£	£	£	£	£
Total	209,860	753,300	125,769	137,738	131,833	546,500	43	1,905,043
Per acre ..	£10/8/11	£12/7/6	£10/10/8	£23/13/0	£29/10/11	£14/19/4	£6/2/10	£13/12/9

§ 11. Other Root and Tuber Crops.

1. **General.**—Root crops, other than potatoes, are not extensively grown in Australia, the total area under such crops for the season 1933–34 being only 24,957 acres. The most important were onions, mangolds, sugar beet, turnips, and sweet potatoes. Of these, onions, sugar beet and mangolds are most largely grown in Victoria, turnips in Tasmania, and sweet potatoes in Queensland. The total area under onions in Australia during the season 1933–34 was 8,255 acres, giving a yield of 52,421 tons, and averaging

6.35 tons per acre. The area in 1933–34 under root crops other than potatoes and onions was 16,702 acres, from which a production of 132.018 tons was obtained, or an average of 7.90 tons per acre. The areas and yields here given are exclusive of the production of "market gardens," reference to which is made in § 17.2.

2. **Imports and Exports.**—The only root crop, other than potatoes, in which any considerable oversea trade is carried on by Australia is that of onions. During the last five years 6,638 tons, valued at £48,998, were imported, principally from Japan, the United States of America, and New Zealand, while during the same period the exports which amounted to 14,143 tons, valued at £82,314, were shipped mainly to New Zealand, the Pacific Islands, the Philippine Islands, and Canada.

§ 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 1933–34 averaged nearly 14 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 wheat, oats and lucerne. The area under hay of all kinds in the several States during the last five years is given hereunder. The progress from 1860 onwards may be traced from the graph accompanying this chapter.

HAY.—AREA AND PRODUCTION.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	N. Ter.	Fed. Cap. Ter.	Australia.
AREA.									
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1929–30 ..	698,395	865,015	49,745	544,438	418,698	80,153	..	2,217	2,658,661
1930–31 ..	896,770	1,277,398	52,228	612,935	398,411	83,268	..	2,453	3,323,463
1931–32 ..	612,150	955,839	59,601	539,076	381,447	84,307	..	2,260	2,634,680
1932–33 ..	645,609	1,044,523	64,076	461,332	417,435	92,668	..	1,765	2,727,408
1933–34 ..	724,538	1,196,259	92,943	507,248	479,768	77,625	..	2,299	3,080,680
Average 10 seasons 1924–34..	707,797	1,046,782	64,148	527,071	401,491	86,281	1	1,811	2,835,382
PRODUCTION.									
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1929–30 ..	686,962	963,089	79,583	445,579	428,328	119,800	..	1,933	2,725,274
1930–31 ..	1,191,696	1,605,900	87,146	641,273	491,595	128,957	..	3,094	4,149,661
1931–32 ..	811,243	1,069,276	91,275	647,058	453,353	92,595	..	2,659	3,167,459
1932–33 ..	908,931	1,386,028	82,104	565,589	485,368	141,138	..	1,889	3,571,047
1933–34 ..	920,480	1,353,796	144,250	539,846	512,439	109,397	..	2,540	3,582,748
Average 10 seasons 1924–34..	895,718	1,245,640	94,929	571,950	443,693	122,347	3	2,127	3,376,407

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 under hay is liable to fluctuate considerably. The area under hay in Australia during the season 1915–16, 3,597,771 acres, was the largest on record, whilst the average during the last decennium amounted to 2,835,382 acres.

(ii) *Average Production.* During the last ten years Tasmania and Queensland show the highest average production per acre, although the area sown in these States is the smallest. For the same period the lowest yield for Australia as a whole was that of 21 cwt. per acre in 1929–30, while the highest was that of 27 cwt. in 1924–25, followed

closely by 26 cwt. obtained in 1932–33. The average for the decennium was 24 cwt. Particulars for the several States for the seasons 1929–30 to 1933–34 and the average for the last ten years are given hereunder :—

HAY.—PRODUCTION PER ACRE.

Season.	N.S.W.	Vic.	Q'land.	S. Aust.	W.Aust.	Tas.	N. Ter.	Fed. Cap. Ter.	Australia.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1929–30	0.98	1.11	1.60	0.82	1.02	1.49	..	0.87	1.03
1930–31	1.33	1.26	1.67	1.05	1.23	1.55	..	1.26	1.25
1931–32	1.33	1.12	1.53	1.20	1.19	1.10	..	1.18	1.20
1932–33	1.41	1.33	1.28	1.23	1.16	1.52	..	1.07	1.31
1933–34	1.27	1.13	1.55	1.06	1.07	1.41	..	0.92	1.16
Average for 10 seasons 1924–1934 ..	1.27	1.19	1.48	1.09	1.11	1.42	3.00	1.17	1.19

(iii) *Varieties Grown.* Information in regard to the crops cut for hay is available for all States excepting Tasmania. It is known, however, that oaten hay constitutes the most important variety grown in the island State.

Details for the last five seasons are given in the following table :—

HAY.—VARIETIES GROWN.

Varieties.	1929–30.	1930–31.	1931–32.	1932–33.	1933–34.
NEW SOUTH WALES—	Acres.	Acres.	Acres.	Acres.	Acres.
Wheaten	381,071	520,993	292,234	290,556	324,129
Oaten	226,025	278,865	222,212	248,222	275,493
Barley	1,294	1,081	740	955	933
Lucerne	89,385	95,181	96,396	105,246	123,280
Other	620	650	568	630	703
Total	698,395	896,770	612,150	645,609	724,538
VICTORIA—					
Wheaten	165,564	188,360	139,683	89,549	155,688
Oaten	675,256	1,049,019	781,932	860,854	945,855
Lucerne, etc.	24,195	40,019	34,224	94,120	94,716
Total	865,015	1,277,398	955,839	1,044,523	1,196,259
QUEENSLAND—					
Wheaten	3,811	10,645	5,282	5,498	6,058
Oaten	2,608	4,280	1,617	2,724	4,280
Lucerne	40,013	34,845	47,547	52,925	77,473
Other	3,313	2,458	5,155	2,929	5,132
Total	49,745	52,228	59,601	64,076	92,943
SOUTH AUSTRALIA—					
Wheaten	318,239	321,295	250,285	205,372	246,999
Oaten	212,956	275,526	273,375	243,015	247,879
Lucerne	5,447	6,390	5,660	3,704	3,572
Other	7,796	9,724	9,756	9,241	8,798
Total	544,438	612,935	539,076	461,332	507,248
WESTERN AUSTRALIA—					
Wheaten	209,893	192,345	197,982	173,327	216,688
Oaten	198,529	192,243	167,326	224,006	238,718
Lucerne	293	234	190	106	179
Other	9,983	13,589	15,949	19,996	24,183
Total	418,698	398,411	381,447	417,435	479,786

Wheat is most largely used for hay in New South Wales and South Australia, oats in Victoria, Western Australia and Tasmania, and lucerne in Queensland. For all States the proportions of the principal kinds of hay produced average about 58.0 per cent. for oaten, 30.8 per cent. for wheaten, 7.8 per cent. for lucerne, and 3.4 per cent. for other hay.

2. **Comparison with Other Countries.**—As already noted, 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 1933 amounted to 2,175,000 tons from 1,653,000 acres, while from permanent grasses a yield of 4,407,000 tons of hay was obtained from 4,783,000 acres, giving a total of 6,582,000 tons from 6,436,000 acres, or an average of little more than 20 cwt. per acre.

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 in such circumstances figure largely amongst the imports and exports of Australia. During 1933–34, 155 tons were imported, while the exports amounted to 2,206 tons, valued at £12,511, the principal purchases being made by Malaya (British), India, Ceylon, and Hong Kong.

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 season 1933–34 :—

HAY.—VALUE OF CROP, 1933–34.

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Fed. Cap. Ter.	Australia.
	£	£	£	£	£	£	£	£
Total Value ..	3,439,990	3,318,804	608,165	1,053,284	1,397,692	437,600	9,687	10,265,222
Value per acre ..	£4/14/11	£2/15/6	£6/10/10	£2/1/6	£2/18/3	£5/12/9	£4/4/3	£3/6/8

§ 13. Green Forage.

1. **Nature and Extent.**—A considerable area is devoted to the production of green forage, mainly in connexion with the dairying industry. The total area so cropped is considerably swollen in adverse seasons by the inclusion of wheat or other cereal crops deemed unsuitable for the production of either grain or hay. Under normal conditions, the principal crops cut for green forage are maize, wheat, sorghum, oats, barley, rye, rape, and lucerne, while small quantities of sugar-cane also are so used. Particulars concerning the area under green forage in the several States during each of the last five years are given in the following table :—

GREEN FORAGE.—AREA.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Fed. Cap. Ter.	Australia.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1929–30	356,903	169,253	208,624	86,500	132,505	23,245	465	977,495
1930–31	310,341	126,347	217,282	59,956	107,384	23,438	662	845,410
1931–32	367,346	119,006	309,957	58,604	101,370	23,024	724	980,031
1932–33	405,206	107,732	392,762	46,232	115,785	18,522	953	1,087,192
1933–34	444,946	121,737	311,462	70,147	146,402	25,689	699	1,121,082

2. **Value of Green Forage Crops.**—The value of these crops is variously estimated in the several States, and the Australian total for the season 1933–34 may be taken approximately as £2,540,448, or about £2 5s. 4d. per acre.

§ 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 328,839 acres under sugar-cane in Australia for the season 1933–34, there were 311,910 acres, or about 95 per cent., in Queensland. 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 under this crop. The area under cane in New South Wales reached its maximum in 1895–96 with a total of 32,927 acres. Thenceforward, with slight variations, it gradually fell to 10,490 acres in 1918–19, but from that year it expanded until 1924–25, when about 20,000 acres were planted. Later, however, the area declined, and in 1933–34 only 16,929 acres were under cultivation. In Queensland, although fluctuations in area are manifest, the general trend has been upwards, the acreage under cane for the season 1933–34 being the highest on record, viz., 311,910 acres. The area under sugar-cane in Australia from 1929–30 and the average for the past decennium are given in the following table, and particulars for earlier years may be seen from the accompanying graphs :—

SUGAR-CANE.—AREA.

Season.	New South Wales.		Queensland.		Australia.		
	Productive.	Unproductive.	Productive.	Unproductive.	Productive.	Unproductive.	Total.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1929–30	7,967	7,458	214,880	76,780	222,847	84,238	307,085
1930–31	7,617	8,007	222,044	74,026	229,661	82,033	311,694
1931–32	8,272	7,647	233,304	76,514	241,576	84,161	325,737
1932–33	7,796	8,349	205,046	86,090	212,842	94,439	307,281
1933–34	10,015	6,914	228,154	83,756	238,169	90,670	328,839
Average 10 seasons 1924–34 ..	8,358	8,642	206,949	77,897	215,307	86,539	301,846

(ii) *Productive and Unproductive Cane.* The areas given in the preceding table do not include the small acreage cut for green forage. 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. The season in which the highest acreage is recorded may not show the greatest area of productive cane cut for crushing, as was evidenced in 1933–34, when, although the total acreage was greater, the area cut was less than in the year 1931–32.

(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 4,898,040 tons in 1933–34. The average production of cane during the decennium ended 1933–34 was 3,958,493 tons. On two occasions the yield of sugar has exceeded 600,000 tons, viz., 1933–34 and 1931–32, when the production amounted to 666,145 tons and 603,735

tons respectively. The decennial average was 528,402 tons of sugar. Particulars relative to the total production of cane and sugar for the last five years are as follow. The averages for the past ten seasons are also included for comparison :—

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.
1929–30	174,110	19,568	3,581,265	518,516	3,755,375	538,084
1930–31	160,209	18,841	3,528,660	516,783	3,688,869	535,624
1931–32	179,153	22,459	4,034,300	581,276	4,213,453	603,735
1932–33	156,818	18,567	3,546,370	514,027	3,703,188	532,594
1933–34	230,918	27,586	4,667,122	638,559	4,898,040	666,145
Average 10 seasons 1924–34	204,512	23,300	3,753,981	505,102	3,958,493	528,402

The production of raw sugar in Australia in 1933–34 amounted to 666,145 tons manufactured from 4,898,040 tons of cane, and is the greatest quantity produced in Australia in any year. This marked increase was due to unusually favourable weather conditions throughout the sugar districts during the growing season. In 1923–24 the area cultivated in Queensland was 219,965 acres and the number of farms growing cane was 6,233, whereas in 1933–34 311,910 acres were under cultivation and the number of growers had risen to 7,386, or an increase of 1,153 farms in ten years. Official data are not available regarding the total number engaged in the sugar industry in Queensland, other than the number of persons employed in sugar mills which in 1933–34 totalled 5,441. 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.

Final figures for the 1934–35 season are not yet complete, but it is believed that the production of raw sugar amounted to 640,000 tons from 4,557,398 tons of cane crushed. Early indications point to a slightly reduced crop in 1935–36, and it is anticipated that the production will amount to about 602,000 tons of raw sugar.

(iv) *Average Production of Cane and Sugar.* Owing to climatic variation, comparison between the average yield of cane per productive acre in Queensland and New South Wales cannot be accurately made except on an annual basis. In New South Wales between 20 and 24 months are required for the crop to mature, but in Queensland 12 to 14 months is sufficient. After making due allowance on this score, therefore, the average annual yield of cane per productive acre for the decennium ending 1933–34 was for New South Wales, 13.35 tons, and 16.74 tons for Queensland. Similarly, the production of sugar per acre for the same period is estimated at 1.52 tons and 2.25 tons respectively. Leaving aside the consideration mentioned above, the yield of cane and sugar per acre crushed for Australia for the ten years ended 1933–34 was 18.39 tons and 2.45 tons respectively, as compared with 17.28 tons and 2.10 tons for the decennium ended 1923–24.

(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, and for the decennium ended 1933–34 averaged 7.49 tons, the average production of sugar being 13.35 per cent. of the weight of cane crushed. 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 in recent years, and in 1930–31 only 6.83 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 1923–24 it required on the average 8.23 tons of cane to produce one ton of sugar in Australia, whereas the average figure for the last decennium was reduced to 7.49 tons.

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.
1929–30	21.85	2.46	8.90	16.67	2.41	6.91	16.85	2.41	6.98
1930–31	21.03	2.47	8.50	15.89	2.33	6.83	16.06	2.33	6.89
1931–32	21.66	2.72	7.98	17.29	2.49	6.94	17.44	2.50	6.98
1932–33	20.12	2.38	8.45	17.30	2.51	6.90	17.40	2.50	6.95
1933–34	23.06	2.75	8.37	20.46	2.80	7.31	20.57	2.80	7.35
Average 10 seasons 1924–34 ..	24.47	2.79	8.77	18.14	2.44	7.43	18.39	2.45	7.49

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 197 lb. per head of population. Details for the period 1929–30 to 1933–34 are as follow :—

RAW SUGAR.—PRODUCTION PER HEAD OF POPULATION.

State.	1929–30.	1930–31.	1931–32.	1932–33.	1933–34.
	lb.	lb.	lb.	lb.	lb.
New South Wales ..	18	19	20	16	24
Queensland	1,248	1,221	1,351	1,221	1,505
Australia	188	185	207	181	224

(vii) *Consumption.* The average annual consumption of raw sugar during the three years ended 1933–34 is estimated at 339,215 tons, equal to 115 lb. of raw sugar or 110 lb. of refined sugar per head of population. Sugar contained in jam, preserved fruit, milk, etc., exported during the period has been excluded in arriving at the figures quoted. The quantity of sugar used during the last five years in factories is shown in the following table, the figures including, where necessary, estimates of consumption based on the sugar contents 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.	1929–30.	1930–31.	1931–32.	1932–33.	1933–34.
	Tons.	Tons.	Tons.	Tons.	Tons.
Aerated Waters and Cordials	8,958	6,316	5,665	5,639	5,779
Bacon Factories	113	102	96	50	60
Bakeries—including Cakes and Pastry	8,815	7,267	5,920	5,789	8,110
Biscuits	5,385	4,359	4,207	5,158	5,710
Breweries	13,836	10,939	9,170	9,117	10,023
Condensed and Concentrated Milk	7,503	6,133	6,731	6,796	6,620
Confectionery	23,166	16,940	16,277	18,101	17,685
Jams, Jellies and Preserved Fruit	29,186	22,786	26,329	28,667	26,108
Jelly Crystals	1,177	896	556	541	649
Total	98,139	75,738	74,951	79,858	80,744

2. **Sugar-beet.**—(i) *Area and Production.* Victoria is the only State at present growing beets for sugar, and particulars in regard to acreage and production for the last four years and for the decennium 1914–24 are incorporated in the table below :—

SUGAR-BEET.—AREA AND PRODUCTION, VICTORIA.

Particulars.		Average 10 seasons 1914–24.	1930–31.	1931–32.	1932–33.	1933–34.
Area harvested ..	acres	1,282	3,045	3,173	3,155	3,234
Production ..	tons	14,247	38,291	43,209	36,740	50,625
Average per acre ..	,,	11.11	12.58	13.62	11.65	15.65
Sugar produced ..	,,	1,714	5,095	5,428	5,701	5,303

Seasonal conditions being particularly favourable during 1933–34 the production amounted to 50,625 tons of beet, from which 5,303 tons of sugar were obtained. The quantity of beet required to produce one ton of sugar was 9.55 tons, as compared with 6.46 tons for the previous year. The average production of beets per acre was 15.65 tons, and the average for the ten years ended 1933–34 was 11.48 tons.

(ii) *Encouragement of Beet-growing.* The irrigation scheme on the Macalister River has provided an assured water supply for the district and thereby 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.**—An account of the various Acts in connexion with sugar bounties and sugar excise tariffs will be found on pages 394 to 396 of Year Book No. 6. In 1912 the *Sugar Excise Repeal Act* and the *Sugar Bounty Abolition Act* were passed by the Federal Parliament, conditionally on the Queensland Parliament approving of legislation prohibiting the employment of coloured labour in connexion with the industry. The *State Sugar Cultivation Act*, the *Sugar Growers Act*, and the *Sugar Growers' Employees Act* of 1913 having been approved, the 1912 Commonwealth Acts, which repeal all previous enactments in regard to excise on sugar and bounty on cane, came into force by proclamation in July, 1913.

4. **Sugar Purchase by Commonwealth Government.**—The steps taken by the Commonwealth Government in connexion with this matter were alluded to in previous issues of the Official Year Book. (See No. 18, p. 720.)

5. **Sugar Agreement—Embargo on Imports, etc.**—By agreement between the Commonwealth and Queensland Governments in 1925, it was arranged that the embargo on the importation of foreign sugar which was first introduced in September, 1915, should be extended for three years from 1st September, 1925. The price payable for the 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 present agreement follow largely on those previously in force, particularly as regards the embargo on imports and fixation of prices. The assistance to the fruit industry was increased from an average of £180,000 per annum to £315,000 by way of grant from the sugar industry. The agreement was signed on 1st June, 1931, and was to remain in force for a period of five years from 1st September, 1931. In 1932, however, conferences arranged between the Commonwealth Government and representatives of the industry agreed to a reduction of ½d. 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, has been announced. No alteration is proposed regarding the wholesale or retail price of sugar, but an increase of £16,000 has been granted to the fruit industry.

6. **Net Return for Sugar Crop.**—Final calculations by the Sugar Board regarding the disposal of the crop, net value of exports and the average price for the crop will be found in the following table :—

SUGAR.—NET RETURN, ETC., FOR CROP, AUSTRALIA.

Year.	Percentage Exported. (a)	Net Value of Exports per Ton. (a)	Average Price per Ton for Whole Crop. (a)	Estimated Value of Crop.
	Per cent.	£ s. d.	£ s. d.	£
1929–30	37.71	9 17 0	20 8 2	11,359,760
1930–31	39.23	8 5 0	19 12 11	10,458,998
1931–32	49.84	9 7 0	18 2 11	11,909,407
1932–33	36.80	8 5 9	18 17 9	10,394,925
1933–34	47.89	8 0 6	16 6 3	10,640,318
1934–35	50.56	7 11 3	15 13 9	10,791,092

(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. 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 following approximate proportions, viz., 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.

7. **Imports and Exports of Sugar.**—Owing to the embargo and the increased production of sugar in Australia the imports have practically ceased. Particulars concerning the imports and exports of cane sugar for the last five years are as follow :—

SUGAR.—IMPORTS AND EXPORTS, AUSTRALIA.

Year.	Imports.		Exports.		Net Exports.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Tons.	£	Tons.	£	Tons.	£
1929–30 ..	12	192	181,745	2,217,176	181,733	2,216,984
1930–31(a) ..	..	1	199,161	1,805,897	199,161	1,805,896
1931–32(a) ..	..	6	287,920	2,514,724	287,920	2,514,718
1932–33(a) ..	13	265	187,061	1,490,036	187,048	1,489,771
1933–34(a) ..	3	48	307,980	2,295,203	307,977	2,295,155

(a) Australian currency values.

The export value quoted in the above table represents the value f.o.b. at which the sugar is sold overseas.

8. **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 quantity produced and the proportions used for distilling, fuel, manure and other purposes will be found in Chapter XXV. —Manufacturing. A distillation plant erected at the Plane Creek Central Sugar Mill, Mackay, was opened during 1927 and produces power alcohol of excellent quality.

A building material known as "megass board" can be made from the residuum of crushed fibre after the removal of the sugar content from the sugar cane, and the possibility of the manufacture of artificial silk from the same material has also been considered. Up to the present, however, there is no record of commercial production of these commodities.

9. **Sugar Prices.**—The prices of sugar in Australia from 1915 to 1936 are shown in the following table. During recent years the prices were fixed in accordance with the agreement referred to on page 736.

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

(a) The price of raw sugar for the years 1925 to 1935 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.; in 1926–27, £24 10s. 10d.; in 1927–28, £22 0s. 4d.; in 1928–29, £20 17s. 11d.; in 1929–30, £20 8s. 2d.; in 1930–31, £19 12s. 11d.; in 1931–32, £18 2s. 11d.; in 1932–33, £18 17s. 9d.; in 1933–34, £16 6s. 3d.; and in 1934–35, £15 13s. 9d.

§ 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 under 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 under this crop. In Queensland and Western Australia also, vine growing has been carried on for many years, but little progress has been made. In Tasmania the climate is not favourable to the growth of grapes. The purposes for which grapes are grown in Australia are three in number, viz. :—(*a*) for wine-making, (*b*) for table use, and (*c*) for drying. The total area under vines in the several States

during each of the last five years and the average for the past decennium are given in the following table, while particulars from 1860 onwards may be gathered from the graph accompanying this chapter :—

VINEYARDS.—AREA.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1929–30.. ..	15,589	40,594	1,749	52,329	4,964	There are no vineyards in Tasmania.	115,225
1930–31.. ..	15,363	38,720	1,687	52,234	4,966		112,970
1931–32.. ..	15,360	38,215	1,749	52,498	5,139		112,961
1932–33.. ..	15,444	39,144	1,868	52,479	5,511		114,446
1933–34.. ..	15,243	40,485	1,963	52,880	5,700		116,271
Average 10 seasons 1924–34 ..	15,056	40,350	1,748	51,603	5,206		113,963

The total area under vines in Australia has shown a substantial expansion since 1860. This development has been interrupted from time to time, decreases occurring in 1896, the years between 1904 and 1910, and in 1914. Since the last named 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 somewhat but increased again during the past two years to the record area of 116,271 acres in 1933–34.

(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 5 million gallons or 0.8 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 made to bring the Australian wines under notice, and with the assistance of a Commonwealth bounty on the export of fortified wine of specified strength, the industry has been greatly stimulated. 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, when will it be 1s. per gallon.

At the Imperial Economic Conference at Ottawa in 1932, the margin of preference granted by the Government of the United Kingdom was 2s. per gallon on Australian wines not exceeding 27 degrees of proof spirit. Hitherto the duties imposed were as follow :—Empire wines not exceeding 27 degrees, 2s. per gallon, foreign wines not exceeding 25 degrees, 3s. per gallon, a margin of preference of 1s. per gallon. The margin of 2 degrees in the strength of Empire wines is also considered a measure of preference. The bulk of the wine exported from Australia contains more than 27 degrees of proof spirit, and, under the duties in force in the United Kingdom in 1932, Australian wines of a strength exceeding 27 but under 42 degrees enjoy a preference of 4s. per gallon. New or additional preferences are also hoped for from certain Crown Colonies and Protectorates.

The quantity of wine produced in the several States during the last five seasons together with the average for the past decennium is given in the table hereunder :—

WINE.—PRODUCTION.

Season.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Australia.
	Gallons.	Gallons.	Gallons.	Gallons.	Gallons.		Gallons.
1929–30 ..	1,933,709	1,363,575	48,174	12,406,017	317,637	No production of wine in Tasmania.	16,069,112
1930–31 ..	1,335,882	1,254,615	48,899	10,131,034	307,788		13,078,218
1931–32 ..	1,589,707	1,530,061	41,456	10,664,546	364,752		14,190,522
1932–33 ..	2,075,737	1,610,649	35,301	12,260,971	435,003		16,417,661
1933–34 ..	1,813,034	1,691,391	31,796	10,032,012	427,458		13,995,691
Average 10 seasons 1924–34	1,656,261	1,648,490	38,688	12,288,113	332,532		15,964,084

2. **Imports and Exports of Wine.**—(i) *Imports.* The principal countries of origin of wine imported into Australia are 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, AUSTRALIA.

Year.	Quantity.			Value.(a)		
	Sparkling.	Other.	Total.	Sparkling.	Other.	Total.
	Gallons.	Gallons.	Gallons.	£	£	£
1929–30 ..	16,833	64,286	81,119	42,434	36,242	78,676
1930–31 ..	2,314	13,166	15,480	6,095	7,068	13,163
1931–32 ..	325	8,098	8,423	1,026	5,224	6,250
1932–33 ..	2,402	12,411	14,813	8,042	12,015	20,057
1933–34 ..	5,469	18,772	24,241	16,612	16,137	32,749

(a) Australian currency values.

(ii) *Exports.* Practically all of the wine exported from Australia is sent to the United Kingdom ; less than 200,000 gallons are sent to other countries. New Zealand absorbs the major portion of this quantity although exports to Canada have increased under the Canadian Australian Trade Treaty. The amendment to the liquor laws of the United States enabled Australia to export 61,917 gallons valued at £18,529 to that country in 1933–34. Exports for the last five years are given in the following table :—

WINE.—EXPORTS, AUSTRALIA.

Year.	Quantity.			Value.(a)		
	Sparkling.	Other.	Total.	Sparkling.	Other.	Total.
	Gallons.	Gallons.	Gallons.	£	£	£
1929–30 ..	2,884	2,181,253	2,184,137	4,439	551,682	556,121
1930–31 ..	2,224	2,205,983	2,208.207	3,684	506,368	510,052
1931–32 ..	4,123	3,471,462	3,475,585	6,705	901,837	908,542
1932–33 ..	1,656	3,096,114	3,097,770	2,392	788,409	790,801
1933–34 ..	5,289	3,063,449	3,068,738	6,683	796,705	803,388

(a) Australian currency values.

3. **Other Viticultural Products.**—(i) *Table Grapes.* Grapes for table use are grown in all the States except Tasmania, but 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 follow :—

TABLE GRAPES.—PRODUCTION.

Season.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Australia.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1929–30	4,216	3,845	1,642	752	2,900	13,355
1930–31	3,680	3,799	2,067	891	2,835	13,272
1931–32	3,542	3,807	1,961	670	3,053	13,033
1932–33	5,401	4,008	2,165	957	2,679	15,210
1933–34	4,469	3,837	2,050	695	2,602	13,653

(ii) *Raisins and Currants.* The quantities of raisins (sultanas and lexias) and currants dried during each of the last five seasons are given in the following table :—

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.
1929–30 ..	4,170	542	39,183	8,911	10,562	8,094	652	1,332	54,567	18,879
1930–31 ..	2,364	425	22,377	7,834	7,825	7,588	651	1,738	33,217	17,585
1931–32 ..	3,043	497	29,702	7,832	9,234	7,820	797	1,428	42,776	17,577
1932–33 ..	4,909	670	42,568	7,814	12,434	6,390	704	1,536	60,615	16,410
1933–34 ..	3,922	721	33,962	7,476	12,480	8,018	595	1,323	50,959	17,538
Average 10 seasons 1924–34	2,713	463	29,527	7,123	8,647	6,369	613	1,221	41,500	15,176

(a) Sultanas and Lexias.

4. **Imports and Exports of Raisins and Currants.**—The following table gives the oversea imports and exports of raisins and currants during each of the last five years :—

RAISINS AND CURRANTS.—IMPORTS AND EXPORTS, AUSTRALIA.

Year.	Oversea Imports.		Oversea Exports.		Net Exports.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	RAISINS.					
	tons.	£	tons.	£	tons.	£
1929–30 ..	83	4,777	35,413	1,486,580	35,330	1,481,803
1930–31(b) ..	(a)	24	39,803	1,606,735	39,803	1,606,711
1931–32(b) ..	(a)	80	29,454	1,353,987	29,454	1,353,907
1932–33(b) ..	2	276	35,439	1,728,581	35,437	1,728,305
1933–34(b) ..	5	570	46,825	1,867,134	46,820	1,866,564
	CURRANTS.					
1929–30 ..	(a)	17	14,867	621,192	14,867	621,175
1930–31(b) ..	(a)	1	14,381	578,037	14,381	578,036
1931–32(b) ..	(a)	30	13,505	597,698	13,505	597,668
1932–33(b) ..	(a)	35	11,134	450,502	11,134	450,467
1933–34(b) ..	..	..	15,659	632,978	15,659	632,978

(a) Quantity negligible. (b) Australian currency values.

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 1933–34 exceeded 56,600 tons, of which 13,500 tons satisfied local requirements, leaving a surplus averaging 43,100 tons available for export. The production has nearly reached 78,000 tons and under favourable conditions may exceed 80,000 tons from the existing acreages. The chief countries importing Australian raisins and currants are the United Kingdom, Canada and New Zealand, which took 72 per cent., 21 per cent. and 5 per cent. respectively of the average quantity exported during the last five years. Exports to Canada have increased from 4,600 tons in 1928–29 to 14,500 tons in 1933–34. Under the terms of the agreement reached at the Imperial Economic Conference at Ottawa in 1932, the tariff in the United Kingdom on dried fruits imported from foreign countries was increased from 7s. per cwt. to 10s. 6d. per cwt. As already stated, the United Kingdom absorbs 72 per cent. of Australia's exports, and the preference given will therefore prove of considerable benefit to the Australian grower. The existence of the Anglo-Grecian Trade Treaty, however, precludes any immediate prospect of an advance in the present rate of preference—2s. per cwt.—being secured on Australian currants imported into Great Britain.

5. **Marketing of Raisins and Currants.**—Particulars of the measures taken to ensure the orderly marketing of Australian raisins and currants will be found in Chapter XXVIII., § 11, par. 3.

6. **Prices of Australian Sultanas and Currants.**—The average prices of Australian sultanas and currants both locally and in Great Britain during the last five years will be found in the following table. Those for Great Britain are shown in British and Australian currency values and represent average prices realized on sales recorded each year by the London agency of the Commonwealth Dried Fruits Control Board :—

SULTANAS AND CURRANTS.—PRICES.

Year.	Average Wholesale Price per lb.—Australia.		Average Price per lb.—Great Britain.			
			In British Currency.		In Australian Currency.	
	Sultanas.	Currants.	Sultanas.	Currants.	Sultanas.	Currants.
	d.	*d.*	*d.*	*d.*	*d.*	*d.*
1929–30 ..	7	7½	4½	3¾	4½	3¾
1930–31 ..	7	7	6¼	4½	7	5
1931–32 ..	7½	7	5¼	4	7	5
1932–33 ..	8¼	7½	3¾	3¾	4½	4½
1933–34 ..	8½	7	4	3¾	5	4½

§ 16. Orchards and Fruit Gardens.

1. **Progress of Cultivation.** — The greatest area under orchards and fruit gardens was attained in 1933–34 when 281,989 acres were planted. Since 1921–22, when the next highest figure of 281,149 acres was recorded, the area fluctuated

with the changing demand for fruit. The total area under orchards and fruit gardens in the several States is given in the following table :—

ORCHARDS AND FRUIT GARDENS.—AREA.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Fed. Cap. Ter.	Australia.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1929-30 ..	77,532	80,820	38,412	30,073	18,855	32,159	53	277,904
1930-31 ..	78,176	79,490	37,102	29,630	19,333	32,561	55	276,347
1931-32 ..	79,890	76,834	34,974	29,077	19,530	32,403	48	272,756
1932-33 ..	83,909	77,173	30,578	29,109	20,026	32,774	58	273,627
1933-34 ..	90,227	76,945	31,511	28,899	20,658	33,679	70	281,989

2. **Varieties of Crops.**—(i) *General.* The varieties grown differ in various parts of the States, ranging from such fruits as the pineapple, paw-paw, mango, and guava of the tropics to the strawberry, the raspberry, and the currant of the colder parts of the temperate zone. The principal varieties grown in Victoria are the apple, peach, pear, orange, plum, and apricot. In New South Wales citrus fruits (oranges, lemons, etc.) occupy the leading position, although apples, peaches, plums, pears, cherries and bananas are extensively grown. In Queensland, the banana, the pineapple, the apple, the orange, the peach, the plum, and the coco-nut are the varieties most largely cultivated. In South Australia, in addition to the apple, orange, apricot, plum, peach, and pear, the almond and the olive are extensively grown. In Western Australia, the apple, orange, pear, plum, peach, apricot and fig are the chief varieties. In Tasmania, the apple occupies nearly four-fifths of the fruit-growing area, but small fruits, such as the currant, raspberry, and gooseberry are extensively grown, while the balance of the area is taken up with the pear, apricot, plum, and cherry. The following tables give the acreage—bearing and non-bearing—under the principal kinds of fruit, and the quantity and value of fruit produced. Although statistics of area are not collected annually in Victoria, the acreage under each class of fruit is based on the triennial collection of the number of trees, subject to annual variations in the total area under orchards and fruit gardens.

(ii) *Area.* The table hereunder shows the total acreage for 1933-34:—

ORCHARDS AND FRUIT GARDENS.—AREA, 1933-34.

Fruit.	New South Wales.	Victoria. (a)	Queensland.	South Australia.	Western Australia.	Tasmania.	Federal Capital Territory.	Australia.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Apples ..	15,494	31,539	5,199	10,502	12,297	26,736	45	101,812
Apricots ..	1,777	4,081	151	3,043	679	1,476	3	11,210
Bananas ..	17,438	..	10,926	..	76	..	..	28,440
Cherries ..	3,734	1,322	4	763	..	84	2	5,909
Citrus—								
Oranges ..	22,372	} 5,814	3,424	4,896	{ 2,970	..	..	} 46,342
Mandarins ..	6,696				170	..	..	
Lemons ..	2,807	1,884	146	431	496	..	..	5,764
Other ..	523	..	..	59	36	..	..	618
Nectarines and Peaches ..	6,973	11,879	1,806	1,903	985	69	4	23,619
Nuts	651	529	..	1,317	241	..	4	2,742
Pineapples ..	156	..	5,889	..	12	..	..	6,057
Pears	3,763	10,654	270	1,910	1,021	2,129	4	19,751
Plums	5,844	4,643	1,364	2,730	985	638	6	16,210
Small fruits ..	15	861	147	368	78	2,478	..	3,947
Other fruits ..	1,984	3,739	2,185	977	612	69	2	9,568
Total ..	90,227	76,945	31,511	28,899	20,658	33,679	70	281,989

(a) Estimated.

(iii) *Production—(a) Quantities.* The production in 1933–34 is shown in the next table :—

ORCHARDS AND FRUIT GARDENS.—PRODUCTION, 1933–34.

Fruit.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Federal Capital Territory.	Australia.
Apples .. bushel	838,020	2,418,430	298,372	1,002,124	990,049	4,953,000	293	10,500,288
Apricots .. "	171,633	368,676	7,145	396,993	50,553	120,000	158	1,115,158
Bananas .. "	1,106,603	..	1,520,629	..	9,056	..	..	2,636,288
Cherries .. "	95,114	42,347	241	40,031	..	6,000	14	183,747
Citrus—								
Oranges .. "	2,198,127	636,839	} 294,396	582,602	{ 275,716	..	.. }	4,522,110
Mandarins .. "	499,543	21,622			{ 13,265	..	.. }	
Lemons .. "	260,262	208,104	13,932	49,028	58,162	..	..	589,488
Other .. "	40,089	442	..	5,275	2,120	..	..	47,926
Nectarines and Peaches .. "	505,178	985,031	108,413	178,753	67,333	4,300	31	1,849,039
Nuts .. .. lb.	224,840	194,180	..	764,624	93,194	..	80	1,276,918
Pineapples .. dozen	41,500	..	1,355,300	..	..	..	..	1,396,800
Pears .. bushel	358,479	1,005,775	21,542	211,458	94,500	222,300	64	1,914,118
Plums .. "	322,750	267,036	80,391	150,539	67,307	55,000	79	943,102
Small Fruits .. cwt.	210	23,723	2,174	6,458	649	106,108	..	139,322

(b) *Values.* The value of production for the various classes of fruit for the year 1933–34 is given in the following table :—

ORCHARDS AND FRUIT GARDENS.—VALUE OF PRODUCTION, 1933–34.

Fruit.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Federal Capital Territory.	Australia.
	£	£	£	£	£	£	£	£
Apples	290,370	423,225	96,814	186,728	376,769	875,100	101	2,249,108
Apricots	76,080	69,127	4,771	105,815	24,223	19,500	71	299,586
Bananas	538,900	..	470,776	..	4,136	..	..	1,013,812
Cherries	62,460	31,760	156	24,019	..	3,000		121,404
Citrus—								
Oranges	616,780	211,707	} 119,905	160,985	{ 110,031	..	. }	1,333,333
Mandarins	100,970	7,207			{ 5,748	..	.. }	
Lemons	77,300	67,634	13,845	11,644	19,872	..	..	190,295
Other	15,050	110	..	1,055	924	..	..	17,139
Nectarines and Peaches	167,790	198,093	37,068	45,854	37,460	1,080	10	487,355
Nuts	8,150	6,020	..	24,822	3,495	..	3	42,490
Pineapples	9,250	..	203,743	..	186	..	..	213,179
Pears	117,180	213,727	9,716	43,297	35,634	46,300	21	465,875
Plums	112,150	39,764	26,546	27,535	29,275	8,250	29	243,549
Small Fruits	930	37,310	9,484	10,520	3,099	125,300	..	186,643
Other Fruits	62,050	74,802	47,990	14,035	18,337	1,270	10	218,494
Total	2,255,410	1,380,486	1,040,814	656,309	669,189	1,079,800	254	7,082,262

3. **Principal Fruit Crops.**—(i) *Area.* The area in Australia under 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.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1913–14 ..	56,577	7,778	24,840	13,645	9,657	8,410
1929–30 ..	97,488	22,705	55,013	23,247	20,934	17,412
1930–31 ..	97,898	22,999	54,222	22,694	20,668	17,113
1931–32 ..	99,150	21,941	53,052	22,760	20,042	16,443
1932–33 ..	100,309	21,893	52,407	22,321	19,922	16,418
1933–34 ..	101,812	28,440	52,724	22,392	19,751	16,210

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

PRINCIPAL FRUIT CROPS.—PRODUCTION, AUSTRALIA.

Year.	Apples.	Bananas.	Citrus Fruits.	Peaches.	Pears.	Plums.
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1913–14 ..	5,000,178	835,868	1,638,961	930,144	951,277	621,525
1929–30 ..	9,505,312	2,382,877	4,034,717	1,998,632	2,065,048	937,110
1930–31 ..	7,678,103	2,627,317	4,688,848	1,725,039	1,549,233	959,213
1931–32 ..	9,227,736	2,728,982	5,220,772	1,191,166	1,641,228	579,293
1932–33 ..	10,798,538	2,256,520	4,920,419	2,090,584	2,152,887	1,183,700
1933–34 ..	10,500,288	2,636,288	5,159,524	1,762,923	1,914,118	943,102

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

PRINCIPAL FRUIT CROPS.—VALUE OF PRODUCTION, AUSTRALIA.

Year.	Apples.	Bananas.	Citrus Fruits.	Peaches.	Pears.	Plums.
	£	£	£	£	£	£
1913–14 ..	1,132,427	157,710	719,808	306,433	258,235	135,654
1929–30 ..	2,437,095	1,069,039	2,323,256	594,133	472,985	307,086
1930–31 ..	2,267,769	1,105,226	1,490,373	484,904	377,800	297,687
1931–32 ..	2,320,629	899,401	1,650,315	446,211	428,707	223,959
1932–33 ..	2,266,713	907,820	1,528,067	699,296	504,634	327,172
1933–34 ..	2,249,108	1,013,812	1,540,767	455,021	465,875	243,549

4. **Imports and Exports of Fruit.**—(i) *General.* A considerable export trade in both fresh and dried fruits is carried on by Australia with overseas countries. The import trade in fresh fruits declined heavily during recent years, owing to the imposition of a Customs duty of 1d. per lb. on imported bananas, which had previously been the chief variety of fresh fruit imported into Australia. 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. The export trade in fresh and dried fruits has expanded greatly during recent years, the value of the shipments in 1933–34 amounting to £2,011,731 and £2,651,685 respectively. Apples constitute the bulk of the fresh fruit exported, although the exports of citrus fruits and pears are fairly considerable, and experiments are being conducted in regard to the dispatch of other fruits. 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.* Information with regard to the Australian oversea trade in fresh fruits is given hereunder :—

FRESH FRUITS.—IMPORTS AND EXPORTS, AUSTRALIA.

Year.	Imports.		Exports.		Net Exports.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	lb.	£	lb.	£	lb.	£
1929–30 ..	7,838,000	93,110	196,000,600	1,862,603	188,162,600	1,769,493
1930–31 (*a*)	4,015,400	26,930	168,035,900	1,588,128	164,020,500	1,561,198
1931–32 (*a*)	3,007,000	18,115	225,466,700	2,085,597	222,459,700	2,067,482
1932–33 (*a*)	5,186,400	34,462	275,080,400	2,417,982	269,894,000	2,383,520
1933–34 (*a*)	6,219,200	33,592	240,290,800	2,011,731	234,071,600	1,978,139

(*a*) Australian currency values.

(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, AUSTRALIA.

Year.	Apples.		Pears.		Citrus Fruits.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Cental.	£	Cental.	£	Cental.	£
1929-30 ..	1,737,872	1,576,275	127,897	136,353	39,271	58,481
1930-31 ..	1,329,563	1,235,583	160,684	150,069	117,000	110,414
1931-32 ..	1,879,653	1,701,569	127,708	130,744	181,450	170,573
1932-33 ..	2,273,724	1,951,994	283,397	262,134	136,183	123,809
1933-34 ..	2,058,965	1,654,241	171,753	163,585	132,666	132,363

(iv) *Dried Fruits.* The quantity and value of oversea imports and exports of dried fruits, other than raisins and currants, for the last five years are shown below; about 93 per cent. of the total imports consisted of dates obtained chiefly from Iraq :—

DRIED FRUITS(*a*).—IMPORTS AND EXPORTS, AUSTRALIA.

Year.	Imports.		Exports.		Net Imports.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	lb.	£	lb.	£	lb.	£
1929-30..	11,579,470	134,244	1,780,189	62,060	9,799,281	72,184
1930-31(*b*)	4,423,939	40,766	2,083,242	65,168	2,340,697	— 24,402
1931-32(*b*)	9,988,817	74,002	727,186	14,220	9,261,631	59,782
1932-33(*b*)	9,415,551	62,281	2,093,159	51,764	7,322,392	10,517
1933-34(*b*)	8,302,384	71,594	5,674,846	151,573	2,627,538	— 79,979

(*a*) Excluding raisins and currants referred to separately under Vineyards, § 15, 4. (*b*) Australian currency values.

NOTE.—The minus sign (—) signifies net exports.

(v) *Jams and Jellies.* Jams and jellies were exported in large quantities during the war years, and in 1918-19 the record shipment of 79,277,560 lb., valued at £1,847,970, was dispatched from Australia. Since that year, however, the trade has dwindled, the value of the exports in 1933-34 amounting to only £55,958. Particulars relative to imports and exports during each of the last five years are as follow :—

JAMS AND JELLIES.—IMPORTS AND EXPORTS, AUSTRALIA.

Year.	Imports.		Exports.		Net Exports.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	lb.	£	lb.	£	lb.	£
1929-30..	300,805	10,811	1,535,720	44,398	1,234,915	33,587
1930-31(*a*)	6,423	471	1,445,520	40,916	1,439,097	40,445
1931-32(*a*)	2,099	182	1,674,862	44,630	1,672,763	44,448
1932-33(*a*)	24,492	1,180	1,886,344	47,682	1,861,852	46,502
1933-34(*a*)	16,159	909	2,245,262	55,958	2,229,103	55,049

(*a*) Australian currency values.

(vi) *Preserved Fruit.* 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 1933–34 was £22,138. Overseas exports in 1933–34 were as follow :—Apricots, 6,994,730 lb., £111,566 ; peaches, 29,937,073 lb., £437,042 ; pears, 16,711,677 lb., £282,233 ; pineapples, 4,493,298 lb., £83,673 ; and other 1,634,162 lb., £34,698 ; or a total shipment valued at £949,212.

§ 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 1933–34 devoted to crops not dealt with in previous sections was 219,403 acres, the major portion of which consisted of cotton, market gardens 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 under 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.	Fed. Cap. Ter.	Australia.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1929–30	8,380	21,210	862	1,658	3,075	530	10	35,725
1930–31	7,448	20,197	903	1,663	3,025	600	13	33,849
1931–32	6,655	19,786	778	1,726	3,123	660	33	32,761
1932–33	6,047	18,249	992	1,896	3,807	804	55	31,850
1933–34	5,664	20,010	833	2,105	3,281	779	61	32,733

3. **Grass Seed.**—The area under this crop during 1933–34, exclusive of New South Wales and Western Australia, for which States complete figures as to area are not available, was 12,134 acres, of which 3,529 acres were in Victoria, 1,010 acres in Tasmania, 5,596 acres in Queensland, and 1,999 acres in South Australia. The production for 1933–34 for these States was 166,895 bushels. In addition to the areas planted above, 10,293 acres were sown to canary seed in Queensland and 61 acres in New South Wales during 1933–34, returning a total yield of 88,593 bushels, valued at £54,131.

4. **Tobacco.**—Tobacco growing some years ago promised to occupy an important place amongst the agricultural industries of Australia. Thus, as early as the season 1888–89, the area under 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.

In all the States in which 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. The net imports of tobacco into Australia during the year 1933–34 were valued at £718,378, while the net quantity of unmanufactured tobacco imported was 11,619,961 lb. valued at £849,023. The area under this crop in 1933–34 amounted to 16,304 acres which produced more than 4.3 million lb. Victoria with 8,900 acres and Queensland with 5,359 acres were the chief producing States.

It has been proved that suitable leaf can be grown, and research is in progress with a view to improvement in the quality and aroma of the product and the combating of disease. The sowing of seed free from blue mould, together with improved methods of cultivation will, it is believed, materially reduce the loss occasioned by this parasitic disease. The extensive local demand, which amounts to approximately 18 million lb. annually, coupled with the protection afforded by the tariff has resulted in a large increase in the area planted. Under an agreement between the Commonwealth Government and the Australian Tobacco Manufacturers, the latter undertook to purchase 7.2 million lb. of suitable local leaf during the season 1931–32 at an average price of 2s. 3d. per lb. Actually, more than 10.5 million lb. was purchased at an average price of 2s. 1½d. per lb. No further agreement has been entered into since that year.

The following table furnishes details of the average area, production, etc., in quinquennial periods from 1901 to 1930, and annually from 1929–30 to 1933–34 :—

TOBACCO.—AREA, PRODUCTION, ETC., AUSTRALIA.

Period.	Area.	Production.	Value.	Number of Producers Registered.
	Acres.	lb.	£	No.
1901–05	1,412	1,172,976	(a)	387
1906–10	1,678	1,419,040	41,581	518
1911–15	2,496	2,106,160	65,615	479
1916–20	1,648	1,449,616	104,978	487
1921–25	2,677	1,962,576	158,748	925
1926–30	2,478	1,632,243	121,589	666
1929–30	2,470	1,702,400	92,055	647
1930–31	3,354	1,593,872	186,984	693
1931–32	17,738	10,160,192	1,114,737	2,774
1932–33	26,272	9,723,056	960,565	5,527
1933–34	16,304	4,348,964	339,663	3,565

(a) Not available.

In 1929 a Select Committee was appointed by the House of Representatives to report on the tobacco industry in Australia. The report of the Committee was submitted on 1st July, 1930, and among the recommendations made was one for the formation of a Tobacco Investigation Committee. This Committee was formed, and was financed jointly by the Commonwealth Government and the British Australian Tobacco Company, the Company undertaking to contribute up to £3,000 on the £ for £ basis. In 1933 another Committee was appointed. The recommendation of this Committee, which reported on 16th November, 1933, that the sum of £20,000 should be provided annually for five years to assist the States to continue economic and scientific investigations was adopted, and this amount has been included in the Budget for each year since 1933–34. £5,000 was allotted to the Council for Scientific and Industrial Research, and the balance was distributed among the States to provide additional services, £3,750 being allocated to each of the States of New South Wales, Victoria and Queensland, and £1,250 each to

South Australia, Western Australia and Tasmania. The Council for Scientific and Industrial Research is investigating diseases affecting the tobacco plant, including work on disease resisting varieties, and is making tests of smoking quality. The States are carrying out field investigations on disease resistance, selection, yield and quality improvement, and are conducting instructional, demonstrational and field experimental work.

5. **Pumpkins and Melons.**—The total area under this crop in Australia during 1933–34 was 18,993 acres, of which 3,228 acres were in New South Wales, 1,127 acres in Victoria, 13,779 acres in Queensland, 310 acres in South Australia, and 549 acres in Western Australia. The production for Australia amounted to 53,927 tons.

6. **Hops.**—Hop growing in Australia is practically confined to Tasmania and some of the cooler districts of Victoria, the total area for the season 1933–34 being 1,039 acres, of which 873 acres were in Tasmania and 159 acres in Victoria. Small areas were also recorded in South Australia, 1 acre, and in Western Australia, 6 acres. The Tasmanian area, though still small, has increased during the past 32 years, the total for the season 1901–2 being only 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 159 in 1933–34. 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 the year 1933–34 the exports of hops exceeded the imports by 178,952 lb., valued at £11,201. The value of the production in Australia in 1933–34 amounted to £141,799.

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 the year 1917 the shortage of flax fibre in the world had become 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 declined to 509 acres in 1932–33. The area expanded to 769 acres in 1933–34.

An investigation into the linseed-flax industry was conducted by the Development Branch of the Prime Minister's Department and a report was presented in 1933. From the evidence obtained in the course of the investigation it was concluded that, on account of the limited local demand and the inability to develop an export trade, any aggresive policy of expansion was to be avoided. It was found also that the growing of flax solely for seed was not likely to become an important industry.

Bounty was payable on flax and linseed grown in Australia for a period of five years ending 28th February, 1935. During this period the total amount disbursed as bounty was £2,777.

8. **Millet.**—Millet figures in the statistical returns of three of the States. The total area devoted thereto in 1933–34 was 4,770 acres, of which 3,182 acres were in New South Wales, 1,112 in Victoria, and 476 in Queensland. The particulars here given relate to millet grown for grain and fibre, the quantity for green forage being dealt with in the section relating thereto.

9. **Nurseries.**—In all the States fairly large areas are occupied as nurseries, but figures in regard to acreages under flowers, fruit trees, etc., are available only for New South Wales, Victoria, South Australia, and Western Australia. During 1933–34 the areas in those States were 718, 1,229, 168, and 151 acres respectively.

10. **Cotton.**—The cultivation of cotton was begun in Queensland 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 till 1838, when only 37 acres were planted. Later on the industry was resuscitated,

and manufacturing on a small scale was undertaken on two separate occasions at Ispwich, but low prices over a term of years checked development. 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 1⅞d. 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 area 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 of 1½d. per lb. on the better grades and ¾d. on the lower grades of seed cotton grown in Australia. In addition to this direct assistance to the growers the Government subsidized the cotton-manufacturing industry by granting a graduated bounty, varying from ½d. to 1s. per lb., 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 Raw Cotton Bounty Act of 1934, which repealed the previous Acts, provided, *inter alia*, that a bounty of 5¼d. per lb., fluctuating according to variations in the Liverpool price, shall be payable on raw cotton produced in Australia from Australian grown seed. The amount of raw cotton for the purpose of the bounty was limited to the requirements of Australia plus 20 per cent. With the change over to the bounty system, a cotton pool was formed in Queensland under the *Primary Products Pools Act*, and a Cotton Board was elected to control the handling, financing, and marketing of all cotton grown in the State. The number of growers were:—1930, 1,461; 1931, 1,988; 1932, 1,989; and 1933, 3,857.

The area under cultivation and the production in Queensland since the year 1924 are shown hereunder:—

COTTON.—AREA AND PRODUCTION, QUEENSLAND.

Year.	Area(a).	Yield of Unginned Cotton.
	Acres.	lb.
1924	50,186	16,416,170
1925	40,062	19,537,274
1926	18,743	9,059,907
1927	14,975	7,060,756
1928	20,316	12,290,910
1929	15,003	8,024,502
1930	22,652	17,022,897
1931	22,452	15,244,644
1932	29,995	6,270,116
1933	68,203	17,718,306
1934	43,397	26,924,179

(a) Area picked.

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 under 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 1933–34 only 7 acres were recorded with a production of 5,580 lb.

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

§ 18. Bounties.

1. **Bounties.**—The bounties paid by the Commonwealth Government during the year ended 30th June, 1935, amounted to £372,507. 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. For purposes of convenience particulars regarding bounties in operation in Australia on all commodities during the years 1930–31 to 1934–35 have been included in the following table :—

BOUNTIES.—AUSTRALIA.

Articles on which Bounty was Paid.	Rate of Bounty Payable(a).	Date of Expiry of Bounty.	Amount Paid.				
			1930–31.	1931–32.	1932–33.	1933–34.	1934–35.
Iron and Steel Products Bounty Act—			£	£	£	£	£
*Fencing Wire ..	£2 12s. per ton (d) ..	(e) 6th Nov., 1930	39,913	..	..	..	..
*Galvanized Sheets ..	£2 12s. per ton (b) ..	(e) 27th Mar., 1931	79,429	..	..	..	..
*Wire Netting ..	£3 8s. per ton (c) ..	..	22,696	6,334	8,947	9,838	10,644
Traction Engines .. * Manufactured from Materials produced and manufactured in Australia	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% from 11th July, 1931. Restored to original rate from 4th December, 1933	..	1,974	1,058	894	5,152	6,192
Sulphur Bounty Act— Sulphur from Australian Pyrites and other Sulphide Ores or Concentrates	£2 5s. per ton ..	..	48,520	30,962	46,245	47,955	50,831
Flax and Linseed Bounties Act 1930	Rates vary according to year	28th Feb., 1935	..	1,561	412	205	599
Wine Export Bounty Act 1934–35— Fortified Wine, containing not less than 34 per centum 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 from 1938 to 1s. per gallon in 1940.	29th Feb., 1940	165,009	201,268	178,491	183,981	184,330

(a) All bounties are subject to 20 per cent. reduction from 20th July, 1931, excepting that paid on gold, wine and wheat. (b) Amount of Bounty raised to £3 12s. per ton on 1st January, 1928; to £4 10s. per ton from 1st January, 1930; and reduced to £3 10s. on 21st June, 1930; and to £3 3s. on 10th July, 1930. Bounty ceased on 27th March, 1931, owing to increase in Customs duty. (c) Amount of Bounty reduced to £2 14s. per ton on 10th July, 1930; and to £2 5s. 6d. per ton on 7th November, 1930; and to 12s. per ton from 11th July, 1931. (d) Amount of Bounty reduced to £2 6s. on 10th July, 1930. Bounty ceased on 6th November, 1933 owing to increase in Customs duty. (e) Date Bounty ceased.

BOUNTIES.—AUSTRALIA—*continued.*

Articles on which Bounty was paid.	Rate of Bounty Payable. (*c*)	Date of Expiry of Bounty.	Amount Paid.				
			1930–31.	1931–32.	1932–33.	1933–34.	1934–35.
			£	£	£	£	£
Cotton Bounty Act—							
Seed Cotton grown in Australia and delivered and graded as prescribed	Varies on Higher Grades from 1½d. per lb. up to 1932, to ¾d. per lb. in 1936 Varies on Lower Grades from ¾d. per lb. up to 1932, to ½d. per lb. in 1936	30th Sept., 1936	100,848	64,206	56,182	87,268	21,729
Cotton Yarn manufactured in Australia	Varies according to count and year	(*e*) 30th June, 1932	57,085	94,395	36,985	2,287	..
Raw Cotton Bounty Act—							
Raw cotton produced in Australia and graded as prescribed	5½d. per lb. fluctuating according to variations in Liverpool price	30th Nov., 1939	..	..	..	..	96,752
Papua and New Guinea Bounties Act—							
Cocoa and Coffee Beans (*a*) produced in these Territories imported into Australia for home consumption	1½d. per lb. ..	31st Dec., 1936	(*b*) 946	(*b*) 830	(*b*) 632	(*b*) 844	1,430
Sisal Hemp ..	£6 per ton ..	„ „	40	..	..	..	..
Gold Bounty Act—							
Gold produced in Australia as prescribed	Varies according to production (*d*).	(*e*) 30th Sept., 1932	..	80,904	96,112	1,216	..
Wheat Bounty Act—(*g*)							
Wheat harvested in Australia during the period 1st October, 1931, and 31st March, 1932, and sold or delivered for sale between 1st October, 1931, and 31st October, 1932, as prescribed	4½d. per bushel ..	31st Oct., 1932	..	3,296,464	132,807 (*f*)	(*f*)	..
Total	.. .. ..	..	516,460	3,777,982	557,707	338,746	372,507

(*a*) Other goods are scheduled in the Act, *see* Note (*b*). (*b*) Including £1 9s. 3d., being amount of bounty paid on 234 lb. of spices in 1930–31; 12s. 7d. on 126 lb. in 1931–32; 17s. 2d. on 172 lb. in 1932–33; and £13 on 2,007 lb. of kapok in 1933–34. (*c*) All Bounties are subject to 20 per cent. reduction from 20th July, 1931, excepting that paid on gold, wine and wheat. (*d*) Rate of Bounty on gold produced for six months ending June, 1931, was 2.623s. and for six months ending December, 1931, 3.269s. per fine ounce; for the nine months ending September, 1932, the rate was 4.056s. per fine ounce. (*e*) Date Bounty ceased. (*f*) For details of other financial assistance see next table. (*g*) Includes Administrative expenses amounting to £14,087.

2. **Other Financial Assistance.**—In addition to the payment of bounties, other than wheat, financial assistance has been granted by the Commonwealth Government for the relief of wheat-growers, fruit-growers and other primary producers. This assistance has been distributed as bounty, relief or subsidy in the following manner :—

AMOUNTS PAID BY THE COMMONWEALTH GOVERNMENT TO ASSIST PRIMARY PRODUCERS.—AUSTRALIA.

Amounts paid to—	Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Fed. Cap. Ter.	Total.
		£	£	£	£	£	£	£	£
Wheat-growers as—									
Bounty (*a*) ..	1931–32	950,503	820,635	64,620	874,630	716,826	2,057	..	3,429,271
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	(*e*) 57,024	805	3,053,000
Bounty (*a*) (*b*) ..	1934–35	555,000	275,000	46,000	310,000	292,500	3,000	500	1,482,000
Special Relief ..	1934–35	100,000	192,000	12,000	127,000	137,000	5,250	..	573,250
Relief (*b*) ..	1934–35	612,000	391,550	45,000	503,500	432,100	(*e*) 26,057	600	2,010,807
Total ..	..	3,699,499	2,725,192	284,819	3,086,811	2,654,064	95,730	2,213	12,548,328
Fruit-growers as—									
Relief (*c*) ..	1933–34	8,225	36,321	478	5,258	10,918	63,800	..	125,000
Relief (*c*) ..	1934–35	4,023	22,083	1,168	12,990	14,505	70,231	..	125,000
Relief (*d*) ..	1934–35	8,515	216	935	126	208	..	..	10,000
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	19,870	90,227	32,822	34,930	51,487	17,480	(*f*) 3,184	250,000
Manure subsidy (*b*)	1934–35	21,000	90,000	33,000	35,000	53,000	18,000	..	250,000
Total ..	..	40,870	180,227	65,822	69,930	104,487	35,480	3,184	500,000
Grand Total..	..	3,761,132	2,964,039	353,222	3,175,115	2,784,182	265,241	5,397	13,308,328

(*a*) Rate of Bounty 4½d. per bushel in 1931–32 and 3d. per bushel in 1934–35. (*b*) Subject to revision (*c*) Growers of apples or pears. (*d*) Mandarin Growers. (*e*) Includes special grant to Tasmania (*f*) Includes £3,153 unallotted.

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 season 1934–35. Altogether, the amount paid during 1934–35 for the benefit of wheat-growers exceeded £4 million. This also was paid through the State Governments. The relief granted to fruit-growers was paid to growers of apples, pears and mandarins. Payments were made to primary producers, other than wheat-growers, at the rate of 15s. for each ton of artificial manure used for the production of primary produce. 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 is to be allocated in the same proportion, but is 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. The divergent character of the soils presented a difficulty in the proper use of fertilizers for different crops and the outstanding development of wheat-growing made a system of crop rotation impracticable. The importance of fallowing and the application of suitable fertilizers in adequate quantities is, however, now widely 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 manures, 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 will be found in Official Year Book No. 12 (page 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 1933–34 the value of rock phosphate imported represented more than 71 per cent. of the total imports of fertilizers. Nauru and Gilbert and Ellice Islands Colony supplied almost the whole of the shipments. Sodium nitrate is obtained chiefly from Chile.

The imports of manures during the last five years are given in the following table. Although considerable quantities of manufactured superphosphate were imported up to the year 1914–15, imports during recent years were very small :—

FERTILIZERS.—IMPORTS, AUSTRALIA.

Fertilizer.		1929–30.	1930–31. (b)	1931–32. (b)	1932–33. (b)	1933–34. (b)
Bonedust ..	cwt.	(a)	(a)	(a)	(a)	(a)
,, ...	£	(a)	(a)	(a)	(a)	(a)
Guano	cwt.	1,000	..	..	130	11
,, ...	£	462	..	..	13	30
Superphosphate ..	cwt.	4,572	511	..	..	..
,, ..	£	3,331	398	..	..	..
Rock phosphate ..	cwt.	10,579,094	8,614,718	5,948,490	9,569,006	7,480,378
,, ,, ..	£	1,126,531	642,006	463,496	731,454	593,971
Soda nitrate ..	cwt.	256,457	27,434	13,041	64,388	59,534
,, ,, ..	£	123,635	14,782	8,052	40,604	30,899
Other	cwt.	402,188	341,023	203,892	467,664	551,214
,, ...	£	205,574	166,491	103,186	209,488	213,588
Total ..	cwt.	11,243,311	8,983,686	6,165,423	10,101,188	8,091,137
	£	1,459,533	823,677	574,734	981,559	838,488

(a) Now included with other fertilizers. (b) Australian currency values.

4. **Exports.**—The subjoined table shows the exports of manures for the years 1929–30 to 1933–34. Practically all these fertilizers are manufactured locally, the quantities exported being consigned chiefly to New Zealand, Japan, Java, and the Pacific Islands :—

FERTILIZERS.—EXPORTS, AUSTRALIA.

Fertilizer.		1929–30.	1930–31.	1931–32.	1932–33.	1933–34.
Bonedust ..	cwt.	6,426	6	1,140	5,470	25
„ ..	£	2,756	4	162	770	10
Superphosphate ..	cwt.	168	144	66	294	633
„ ..	£	54	52	28	89	155
Rock phosphate ..	cwt.	4	..	..	..	..
„ „ ..	£	1	..	..	..	..
Soda nitrate ..	cwt.	34	7	88	65	6
„ „ ..	£	27	14	69	49	7
Ammonia sulphate	cwt.	972	3,882	1,715	1,035	279
„ „ ..	£	440	1,470	546	423	121
Other	cwt.	31,474	12,935	41,399	11,811	21,445
„	£	13,766	4,186	11,453	1,664	8,493
Total ..	cwt.	39,078	16,974	44,408	18,675	22,388
	£	17,044	5,726	12,258	2,995	8,786

5. **Quantities Locally Used.**—Information regarding quantities, etc., of manures used in each State during the year 1933–34 is given in the table hereunder :—

FERTILIZERS USED, 1933–34.

State or Territory.	Total Area of Crops.	Area Manured.		Manure Used.	
		Aggregate.	Percentage on Total Area of Crops.	Natural (Stable Yard, etc.).	Artificial.
	Acres.	Acres.	%	Loads.	Tons.
New South Wales ..	6,283,951	3,301,538	52.54	175,810	95,048
Victoria	5,266,913	a5,067,382	96.21	101,533	217,251
Queensland	1,313,438	156,380	11.91	126,364	42,517
South Australia ..	5,078,558	4,392,451	86.49	53,165	148,923
Western Australia ..	4,215,360	a4,632,753	b98.64	51,624	203,848
Tasmania	288,390	226,507	78.54	12,618	20,506
Northern Territory ..	1,250	..	..	..	..
Fed. Cap. Territory ..	6,467	4,090	63.24	..	120
Total ..	22,454,327	17,781,101	79.19	521,114	728,213

(a) Includes area under sown grasses and manure used thereon. (b) 1923 figure.

Similar particulars in respect of Australia during the last five years are as shown below :—

FERTILIZERS USED IN AUSTRALIA.

Year.	Total Area of Crops.	Area Manured.		Manure Used.		
		Aggregate.	Percentage on Total Area of Crops.	Natural (Stable Yard, etc.).	Artificial.	Average per Acre of Total Area (Artificial).
	Acres.	Acres.	%	Loads.	Tons.	lb.
1929–30 ..	21,929,721	19,925,988	90.86	405,812	852,925	87
930–31 ..	25,163,816	22,150,034	88.02	466,468	885,827	79
1931–32 ..	21,166,900	14,951,476	70.64	438,429	602,689	64
1932–33 ..	22,408,489	17,444,090	77.85	559,831	693,430	69
1933–34 ..	22,454,327	17,781,101	79.19	521,114	728,213	73

The quantity of chemical fertilizers used per acre of all crops increased from 75 lb., the average for the period 1910–13, to 87 lb. in 1929–30. Following that year the quantity dropped to 64 lb. in 1931–32, but subsequently rose to 73 lb. in 1933–34. The recent decline was principally due to the low prices of farm produce. In order to meet the altered conditions farmers sowed their crops with a lighter dressing of manure in an effort to reduce the cost of production. Seasonal conditions were favourable and prevented any serious decrease in the quantities produced. These circumstances caused the percentage of the area manured on the total area cultivated to decline from 90.86 to 79.19 during the last four years, while the use of artificial manures decreased by 124,000 tons during the same period. As a measure of relief to primary producers other than wheat-growers already referred to in § 18, the Commonwealth Government provided for the State Governments a sum of £250,000 which was distributed on the basis of 15s. 0d. per ton of artificial manure used during the year ended 30th November, 1933. A similar sum has been provided in the Budget for 1934–35 for distribution on the same basis.

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 1933–34 was 34, made up as follows :—New South Wales, 4 ; Victoria, 7 ; Queensland, 5 ; South Australia, 7 ; Western Australia, 5 ; and Tasmania, 6. The production of superphosphates in Australia during 1933–34 amounted to 597,059 tons, the largest producing States being Victoria and Western 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 silage.

2. **Quantity Made.**—Information regarding the number of holdings on which ensilage was made and the quantity made during the seasons 1929–30 to 1933–34 is given in the following table.

ENSILAGE MADE.

State.	1929–30.		1930–31.		1931–32.		1932–33.		1933–34.	
	Holdings.	Ensilage Made.	Holdings.	Ensilage Made.	Holdings.	Ensilage Made.	Holdings.	Ensilage Made.	Holdings.	Ensilage Made.
	(a) No.	Tons.	(a) No.	Tons.	(a) No.	Tons.	(a) No.	Tons.	(a) No.	Tons.
New South Wales ..	338	28,155	669	60,172	628	54,885	738	62,435	892	70,835
Victoria	74	4,783	99	6,373	96	5,792	197	11,642	214	11,900
Queensland	43	2,933	60	4,880	79	5,819	112	6,305	134	8,515
South Australia ..	22	1,319	21	3,656	92	5,640	132	9,470	92	5,098
Western Australia ..	105	7,966	209	10,509	396	16,999	469	21,655	433	19,974
Tasmania	6	75	14	840	23	687	37	1,336	58	2,301
Australia ..	588	45,231	1,072	86,430	1,314	89,822	1,685	112,843	1,823	118,623

(a) No. of holdings on which ensilage was made.

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 forage. The quantities made since that date have fluctuated considerably, the output in 1933–34 amounting to 118,623 tons.

§ 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.**—In previous issues of this volume detailed information was given regarding agricultural colleges, experimental farms, and agricultural education generally. See Year Book No. 11, pages, 393–5, and a summary in respect of the year 1933–34 will be found in the Production Bulletin No. 28 issued by this Bureau.

3. **Agricultural and Stock Departments.**—A synopsis of the activities and operations of the Agricultural and Stock Departments of the several States on 30th June, 1920, will be found in the Official Year Book No. 14, pages 1180 to 1191.

§ 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 fruitpickers, 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.

MALES EMPLOYED IN AGRICULTURE.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Total.
1913–14 ..	61,525	51,932	33,362	34,111	18,210	11,789	210,929
1923–24 ..	48,176	49,740	38,186	31,532	22,153	12,905	202,692
1929–30 ..	39,860	46,533	43,501	30,158	26,701	12,073	198,826
1930–31 ..	40,163	43,199	43,847	30,325	26,487	11,823	195,844
1931–32 ..	39,382	40,994	45,496	30,587	25,576	12,736	194,771
1932–33 ..	42,556	41,845	46,203	30,457	26,079	13,199	200,339
1933–34 ..	42,084	38,514	46,097	30,329	24,925	13,945	195,894

The above table reveals that there has been a decrease in the employment afforded in the agricultural branch of the rural industry in Australia. This has taken place despite the expansion in the area under crop during the past two decades. The increased employment of machinery in the cultivation of the soil and the harvesting of crops has largely contributed to this decline. Evidence of this is revealed by the fact that in 1913–14 the value of the machinery used mainly in general agriculture was £15.2 million, while the area under crop was 14.7 million acres. In 1923–24 the machinery values rose to £27.3 million and the area under crop increased to 16.5 million acres. Machinery values again increased to £31.2 million in 1933–34, while the area under crop also rose to 22.5 million acres, whereas the employment again decreased by nearly 7,000 to 195,894.