

CHAPTER XIX.

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	5,210	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	..	..	8,313,666
1910-1	3,386,017	3,952,070	667,113	2,746,334	855,024	286,920	360	..	11,893,838
1920-21	4,465,143	4,486,503	779,497	3,231,083	1,804,987	297,383	296	1,966	15,069,858
1927-28	4,998,272	4,942,258	1,066,613	4,192,167	3,720,100	296,875	570	2,539	19,219,394
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	5,500,346	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	5,219,870	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	1,043	6,525	22,408,489

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 in 1919-20. 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 planted 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. In 1931-32, however, the area planted dropped to 21,166,900 acres, a decrease of 4 million acres or 16 per cent. on the previous year, increasing again in 1932-33 to 22.4 million acres, an expansion of 1.2 million acres, of which wheat accounted for 1 million acres. Wheat is by far the most extensively grown crop in Australia, representing 70 per cent. of the total area under crop in 1932-33. 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, it was decided that a permanent organization to be known as the Australian Agricultural Council should be formed. The Council will consist 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 stated to be, (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, viz.—(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 will consist 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 1932-33 :—

DISTRIBUTION OF CROPS, 1932-33.

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 ..	4,803,943	3,230,955	250,049	4,066,782	3,389,352	20,985	..	3,438	15,765,504
Oats ..	163,809	368,846	3,733	174,244	285,850	30,652	..	128	1,027,262
Maize ..	113,333	16,425	98,487	5	8	..	..	2	228,260
Barley—									
Maltng ..	4,596	75,425	3,275	299,492	8,707	8,177	..	59	399,731
Other ..	3,140	18,130	1,515	14,794	5,065	418	..	40	43,102
Beans and Peas ..	48	12,509	59	8,573	1,918	29,123	..	..	52,230
Rye ..	2,455	1,480	18	782	446	36	..	..	5,217
Other Cereals ..	22,032	..	..	..	210	123	..	..	22,365
Hay ..	645,609	1,044,523	64,076	461,332	417,435	92,668	..	1,765	2,727,408
Green Forage ..	405,206	107,732	392,762	46,232	115,785	18,522	..	953	1,087,192
Grass and other Seeds ..	..	5,502	2,296	1,620	..	1,727	..	..	11,145
Orchards and other Fruit Gardens ..	83,909	77,173	30,578	29,109	20,026	32,774	..	58	273,627
Vines—									
Productive ..	14,137	36,852	1,586	51,026	4,955	..	..	..	108,556
Unproductive ..	1,307	2,292	282	1,453	556	..	..	..	5,890
Market Gardens ..	6,047	18,249	992	1,896	3,807	804	..	55	31,850
Sugar Cane—									
Productive ..	7,796	..	205,046	..	..	..	..	..	212,842
Unproductive ..	8,349	..	86,090	..	..	..	..	..	94,439
Potatoes ..	20,855	69,783	11,534	6,454	4,975	35,769	15	11	149,396
Onions ..	209	7,109	971	429	154	..	..	1	8,873
Other Root Crops ..	1,356	3,800	1,047	565	482	6,069	..	..	13,319
Tobacco ..	4,105	13,418	7,239	859	466	171	..	14	26,272
Broom Millet ..	3,096	1,391	210	..	..	..	..	..	4,697
Pumpkins and Melons ..	3,302	999	9,777	341	498	..	..	1	14,918
Hops ..	..	151	..	..	..	801	..	..	952
Cotton—									
Productive ..	..	..	29,995	..	..	..	..	..	29,995
Unproductive ..	..	..	26,113	..	..	..	..	..	26,113
All other Crops ..	14,077	3,001	17,908	668	352	298	1,030	..	37,334
Total Area ..	6,332,716	5,115,745	1,245,638	5,166,656	4,261,047	279,117	1,045	6,525	22,408,489

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 1932-33 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 green forage, sugar cane, 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 in 1932-33 74 per cent. of the total area under cultivation.

RELATIVE AREAS UNDER CROP, 1932-33.

Crop.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Nor. Ter.	Fed. Cap. Ter.	Australia.
	%	%	%	%	%	%	%	%	%
Wheat ..	75.86	63.16	20.07	78.71	79.54	7.52	..	52.69	70.36
Hay ..	10.19	20.42	5.14	8.93	9.80	33.20	..	27.05	12.17
Oats ..	2.59	7.21	0.30	3.37	6.71	10.98	..	1.96	4.58
Green Forage..	6.40	2.11	31.53	0.89	2.72	6.64	..	14.61	4.85
Maize ..	1.80	0.32	7.91	0.00	0.00	..	..	0.03	1.02
Barley ..	0.12	1.83	0.38	6.08	0.32	3.08	..	1.52	1.98
Orchards and Fruit Gardens	1.33	1.51	2.45	0.56	0.47	11.74	0.00	0.89	1.22
Sugar Cane	0.25	..	23.37	..	..	..	..	..	1.37
Potatoes ..	0.33	1.36	0.93	0.12	0.12	12.82	0.00	0.17	0.67
Vineyards	0.24	0.77	0.15	1.02	0.13	..	..	..	0.51
All other..	0.89	1.31	7.77	0.32	0.19	14.02	100.00	1.08	1.27
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 five seasons, together with averages for the decennial periods 1913-23 and 1923-33 are shown hereunder:—

AREA UNDER CHIEF CROPS.—AUSTRALIA.

Crop.	1928-29.	1929-30.	1930-31.	1931-32.	1932-33.	Average, 1913-23.	Average 1923-33.
	1,000 acres.	1,000 acres.					
Barley (a) ..	307	389	328	299	400	177	307
Maize ..	315	298	293	269	228	314	310
Oats ..	1,046	1,516	1,082	1,085	1,027	834	1,098
Rice ..	14.1	19.8	19.9	19.6	22	..	11
Wheat ..	14,840	14,977	18,165	14,741	15,766	9,569	13,302
Green Forage ..	860	977	845	980	1,087	686	960
Hay ..	2,739	2,659	3,323	2,635	2,727	2,925	2,868
Beans and Peas ..	48	50	42	42	52	39	49
Onions ..	8.6	8.9	7.4	6	9	7.8	7.6
Potatoes (b) ..	138	124	142	145	147	138	141
Sugar Beet ..	2.1	2.5	3	3	3	1	2.4
Vineyards ..	115	115	113	113	114	74	114
Hops ..	1.5	1.4	1.2	1	1	1.5	1.4
Sugar Cane ..	299	307	312	326	307	178	293
Cotton ..	26	28	36	50	56	6	47
Tobacco ..	2.2	2.5	3.4	18	26	2	6.4
Market Gardens (c) ..	45	52	54	51	46	42	49
Orchards ..	277	278	276	273	274	259	276
All other Crops ..	106	126	118	110	116	106	104
Total ..	21,190	21,930	25,164	21,167	22,408	15,360	19,945

(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 five years ended 1932-33 and averages for the decennia ended 1922-23 and 1932-33 :—

TOTAL AND AVERAGE PRODUCTION, CHIEF CROPS.—AUSTRALIA.

Crop.	Unit of Quantity.	1928-29.	1929-30.	1930-31.	1931-32.	1932-33.	Average 1913-23.	Average 1923-33.
Barley (a) ..	1,000 bushels	5,692	6,439	5,674	5,547	7,837	3,283	5,486
Maize ..	" "	8,323	7,946	8,026	7,062	5,066	7,796	8,277
Oats ..	" "	14,109	14,424	16,658	15,195	16,160	12,917	15,011
Rice ..	" "	1,308	1,829	1,428	1,350	1,901	..	899
Wheat ..	" "	159,679	126,884	213,594	190,612	213,927	108,049	158,772
Hay ..	" tons	3,175	2,725	4,150	3,167	3,571	3,559	3,780
Beans and Peas ..	" bushels	663	813	737	497	1,000	612	756
Onions ..	" tons	34	50	47	24	49	36	39
Potatoes (b) ..	" "	284	343	365	397	384	347	371
Sugar Beet ..	" "	2.1	3.5	5.0	5.4	5.7	1.6	3.4
Grapes ..	" "	393	386	284	324	410	122	315
Wine ..	" gallons	18,600	16,069	13,078	14,191	16,418	7,281	16,031
Raisins and Currants ..	" cwt.	1,444	1,469	1,016	1,207	1,540	348	1,086
Hops ..	" lb.	2,342	2,340	1,973	1,810	1,669	1,958	2,277
Sugar Cane ..	" tons	538	538	536	604	531	236	491
Cotton, Unginned ..	" lb.	12,291	8,024	17,023	15,245	6,276	1,042	12,372
Tobacco ..	" "	1,839	1,702	1,594	10,160	9,723	1,671	3,265
Pumpkins and Melons ..	" tons	37	45	59	58	38	49	51

(a) Malting only. (b) Not Including Sweet Potatoes.

5. Average Production per Acre, Chief Crops, Australia.—Details of the average production for Australia of the principal crops are shown hereunder for the periods indicated :—

AVERAGE PRODUCTION PER ACRE, CHIEF CROPS.—AUSTRALIA.

Crop.	Unit of Quantity.	1928-29.	1929-30.	1930-31.	1931-32.	1932-33.	Average 1913-23.	Average 1923-33.
Barley (a) ..	bushel	18.53	16.56	17.30	18.55	19.60	18.54	17.88
Maize ..	" "	26.41	26.71	27.34	26.21	22.20	24.81	26.67
Oats ..	" "	13.49	9.52	15.39	14.00	15.73	15.49	13.67
Rice ..	" "	93.02	92.44	71.88	68.91	86.30	..	81.03
Wheat ..	" "	10.76	8.47	11.76	12.03	13.57	11.29	11.94
Hay ..	" ton	1.16	1.03	1.25	1.26	1.31	1.22	1.19
Beans and Peas ..	bushel	13.74	16.16	14.32	11.60	19.14	15.79	15.47
Onions ..	" ton	4.03	5.57	6.29	3.67	5.53	4.58	5.07
Potatoes (b) ..	" "	2.06	2.76	2.57	2.74	2.61	2.52	2.63
Sugar Beet ..	" "	0.99	1.39	1.67	1.70	1.80	1.12	1.39
Grapes (c) ..	" "	3.71	3.61	2.67	3.02	3.78	2.12	3.11
Wine (c) ..	" gallon	400	345	281	299	341	238	349
Raisins and Currants (c) ..	" cwt.	27.52	27.77	19.17	22.88	15.80	17.24	22.47
Hops (c) ..	" lb.	1,594	1,708	1,689	1,747	1,753	1,401	1,627
Sugar Cane (c) ..	" ton.	2.42	2.41	2.33	2.50	2.50	2.15	2.48
Cotton, Unginned (c) ..	" lb.	605	535	752	679	209	170	447
Tobacco ..	" "	822	689	475	572	426	825	510
Pumpkins and Melons ..	" ton.	2.79	2.76	2.96	3.13	2.54	3.73	3.13

(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 estimated on recorded agricultural production at the wholesale prices prevailing in the principal markets of each State for the years 1925-26 to 1932-33.

GROSS VALUE OF AGRICULTURAL PRODUCTION.—AUSTRALIA.

Crops.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.	1930-31.	1931-32.	1932-33.
	£1,000	£1,000	£1,000	£1,000	£1,000	£1,000	£1,000	£1,000
Barley (a)	1,126	1,109	1,006	1,096	1,059	685	829	911
Maize	1,878	2,317	2,799	1,665	2,085	1,617	1,193	1,234
Oats	2,334	2,165	2,321	2,137	2,097	1,437	1,448	1,550
Rice	14	52	198	234	335	295	297	352
Wheat	35,724	42,453	31,895	38,303	27,299	25,047	33,728	33,316
Green Forage	3,381	3,912	2,731	2,680	3,167	2,385	2,642	3,046
Hay	17,078	17,252	15,120	14,137	12,721	14,397	8,145	9,520
Beans and Peas	267	337	333	256	257	199	220	302
Onions,	457	221	319	314	193	139	253	218
Potatoes (b)	3,639	3,116	2,327	3,424	2,375	1,690	2,073	1,791
Sugar Beet	42	20	54	33	58	82	86	73
Grapes	3,866	5,590	3,786	4,022	4,145	3,496	3,495	3,918
Hops	207	171	258	189	132	157	144	128
Sugar Cane	6,789	6,568	7,469	7,444	7,476	7,340	7,649	7,098
Tobacco	168	123	108	97	92	187	1,115	961
Cotton, Unginned	380	190	145	214	186	355	308	125
Market Gardens (c)	2,331	2,680	2,374	2,384	2,640	2,259	2,152	1,965
Orchards	8,043	8,198	9,109	8,807	8,469	7,086	7,030	7,414
Other Crops	1,543	1,821	1,976	2,004	2,323	1,647	1,682	1,640
Total, Gross Value	89,267	98,295	84,328	89,440	77,109	70,500	74,489	75,562

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

7. Value of Production—Gross and Net.—The following table shows the value of agricultural produce in its various relations to the farmer computed in accordance with the methods determined at Conferences of Australian Statisticians in 1924 and subsequent years. It is apparent, however, that the methods of the several States in determining the net values of production are not yet in complete harmony.

The figures in column 2 show the estimated value of all agricultural production on the assumption that it was sold at metropolitan wholesale market prices. From the gross value so computed, marketing costs—which include freight, handling charges, commission, and cost of containers—are deducted. The net result shown in column 4 gives the farm parity of the values in column 2. From this value, however, the value of produce retained or bought for seed, also, of fodder used for farm live-stock must be deducted. The remainder shown in column 6, shows, as nearly as practicable from information available, the value at the farm of all produce actually marketed. This value is, however, still too large, since it includes agricultural produce which was not sold, but fed to live-stock and eventually marketed, in the form of milk, butter, eggs, poultry, meat, &c., as the produce of a branch of farming other than agriculture. To ascertain the net result to the agricultural industry the figures in column 6 must be reduced by the cost of the materials used and by an allowance for depreciation. The principal items under the heading—Column 7—are (i) seed pickling; (ii) manures; (iii) spraying; (iv) power and water used in irrigation; and (v) depreciation of farm implements and machinery. The sum of these items is subtracted from column 6, leaving the net value of production (column 8). It is from the sum appearing in the last column that such items as wages, interest, rent and profit are met. The net value of agricultural production is, therefore, in fair harmony with that given for manufacturing production. Owing to the lack of complete data for all States, the value of materials used in maintenance of buildings, fences, etc., and an allowance for the depreciation of stock used for draught purposes have been omitted in arriving at the amount shown in column 7.

GROSS, FARM AND NET VALUES OF AGRICULTURAL PRODUCTION.—AUSTRALIA.

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

Year.	Gross Production valued at Metropolitan wholesale Prices.	Marketing Costs. (c)	Gross Production valued at Farm.	Seed used, and Fodder for Farm Stock.	Marketed Production valued at Farm.	Value of Principal Materials used and allowance for Depreciation.	Net Value of Production.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	£1,000	£1,000	£1,000	£1,000	£1,000	£1,000	£1,000
1926-27 ..	98,295	17,556	80,739	(b) 18,578	..	(a)	62,161
1927-28 ..	84,328	15,819	68,509	(b) 19,731	..	(a)	48,778
1928-29 ..	89,440	15,480	73,960	(b) 18,444	..	(a)	55,516
1929-30 ..	77,109	15,637	61,472	12,182	49,290	9,562	39,728
1930-31 ..	70,500	18,487	52,013	11,756	40,257	9,029	31,228
1931-32 ..	74,489	15,391	59,098	6,960	52,138	7,758	44,380
1932-33 ..	75,562	15,186	60,376	8,721	51,655	7,352	44,303

(a) Not available separately, included with seed used, &c. (b) See Note (a). (c) For details see ante.

On account of the fall in prices, and in spite of a greater volume of production, the gross value of agricultural production fell from £98 million in 1926-27 to £70 million in 1930-31, a fall of £28 millions or 29 per cent. In 1931-32, prices rose approximately 15 per cent. with an increased return in the gross value of production. In 1932-33 prices again fell by approximately 7 per cent., but this was more than offset by the increase in the quantities produced, with the result that the total gross value increased by £1 million. The net value of production advanced from £31 million in 1930-31 to £44 million in 1931-32 and remained at that level in 1932-33, but is still far below that of 1926-27, when it reached £62 million. Production and marketing costs, which had risen from £36 million in 1926-27 to £39 million in 1930-31, declined to £30 million in 1931-32, rising in 1932-33 to £31 million. The cost of seed and fodder for farm stock was responsible for this increase. Marketing and other production costs showed a slight fall.

§ 4. Wheat.

1. Progress of Wheat-growing.—(i) Area and Production. (a) Seasons 1928-29 to 1933-34. Wheat is the principal crop raised in Australia, and since 1895, when the area under this crop amounted to 3½ million acres, an average of 322,000 acres has been added annually, until in 1932-33 when 15.8 million acres were cut for grain. The area and yield of wheat for grain are given below for each State for the five years ended 1932-33, and are shown from the year 1860 onwards in the graphs hereinafter. The figures in the table include also an estimate for the 1933-34 crop :—

WHEAT.—AREA AND PRODUCTION.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Fed. Cap. Ter.	Australia.
AREA.								
1928-29 ..	Acres. 4,090,083	Acres. 3,718,004	Acres. 218,069	Acres. 3,445,563	Acres. 3,343,530	Acres. 22,570	Acres. 1,394	Acres. 14,840,113
1929-30 ..	3,974,064	3,566,135	204,116	3,645,764	3,568,225	76,805	1,435	14,976,564
1930-31 ..	5,734,960	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(a)	4,584,092	3,052,931	232,053	3,821,795	3,182,830	24,100	3,087	14,900,888

(a) Final estimate.

WHEAT.—AREA AND PRODUCTION—*continued.*

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Fed. Cap. Ter.	Australia.
PRODUCTION.								
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1928-29 ..	49,257,000	46,818,833	2,515,561	26,826,094	33,700,040	455,336	16,557	159,679,421
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(a)	57,057,000	42,613,106	4,361,614	35,373,466	37,533,177	561,000	66,852	177,566,215

(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.

Commencing with 1920-21, when 9 million acres were sown, there was a steady expansion of the area under wheat, reaching almost 15 million acres in 1929-30; an increase of 6 million acres in ten years. In the following year (1930-31) in response to the urge of Commonwealth and State Governments, and influenced by favourable seasonal conditions, farmers increased their sowings to the maximum of more than 18 million acres. This represents an increase of 3 million acres or 20 per cent. over the previous year. In 1931-32 sowings reverted to their normal area when 14.7 million acres were sown. In 1932-33 there was an expansion of 1 million acres to 15.8 million acres. During the following year sowings were again reduced but complete details are not yet available.

The season 1932-33 was very satisfactory and resulted in over average yields in all States with the exception of Queensland and Tasmania. The average for Australia amounted to 13.57 bushels per acre, as compared with 12.93 bushels for the previous year, and 11.94 bushels the average for the decennium ending 1932-33. The total production of grain for the year amounted to 213.9 million bushels and is the greatest quantity garnered in Australia in any year. It is interesting to note that 213.6 million bushels were reaped from 18.2 million acres in 1930-31 and 213.9 million bushels were obtained from 15.8 million acres in 1932-33.

The annual production of wheat over the fourteen seasons ending with 1933-34 has exceeded 100 million bushels, and during the last four seasons 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 1933-34 indicate the area sown to wheat for grain in Australia to be about 14,900,888 acres, a decrease of approximately 865,000 acres or 5.6 per cent. on that of 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 first that has been recorded since 1918-19, and is probably the commencement of a considerable decrease in Australia of wheat acreages. There are several factors contributing to this decrease (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. Production according to the final estimate amounted to 177 million bushels, or 11.92 bushels per acre, compared with 214 million bushels or 13.57 bushels per acre for the previous year.

(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 10
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 1923-33:—

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.
1928-29 ..	12.04	12.59	11.54	7.79	10.10	20.17	11.88	10.76
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
Average 10 seasons, 1923-33	12.92	12.47	14.63	10.12	11.86	21.43	16.26	11.94

The great variations in the average yields were chiefly due to the vagaries of the seasons. Considerable improvement has been shown in the averages for the last three decades, the figures being 11.37, 11.29, and 11.94 bushels per acre respectively, the increased yields in the later years 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 in exchange it ships wheat which produces a flour particularly suitable for making 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 fourth 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, Argentina and the United States. The quantity exported is approximately 14½ per cent. of the total quantity shipped by exporting countries.

2. *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 Algeria and Greece of barely 8 bushels per acre.

WHEAT.—YIELD PER ACRE, VARIOUS COUNTRIES.

Country.	Average Yield in Bushels per acre.		Country.	Average Yield in Bushels per acre.	
	Average, 1929-1931.	1932.		Average, 1929-1931.	1932.
Denmark ..	41.87	44.84	Brazil ..	(b) 16.90	(a) 12.94
Netherlands ..	40.92	43.27	Chile ..	16.26	19.61
Belgium ..	35.07	39.84	Rumania ..	15.99	7.83
United Kingdom ..	32.14	32.47	Canada ..	14.76	16.30
Sweden ..	30.77	35.54	Syria ..	14.56	8.81
Switzerland ..	30.57	29.29	United States of America ..	14.52	13.01
Germany ..	30.49	32.63	Spain ..	13.19	16.38
Egypt ..	27.39	29.85	Argentina ..	12.80	13.23
New Zealand ..	27.04	36.54	Peru ..	12.55	10.67
Japan ..	24.94	25.14	Australia ..	11.09	13.57
Finland ..	24.06	25.29	Soviet Union ..	11.06	8.70
Czechoslovakia ..	24.00	26.03	India ..	11.02	9.94
Norway ..	23.25	26.92	Portugal ..	10.81	12.82
Austria ..	22.45	22.81	Uruguay ..	10.45	5.71
France ..	21.01	24.84	Cyprus ..	10.10	6.95
Italy ..	20.09	22.73	Korea ..	10.10	10.81
Hungary ..	19.48	17.00	French Morocco ..	9.74	10.31
Lithuania ..	19.42	18.49	Mexico ..	9.73	8.75
Poland ..	19.14	11.60	Union of South Africa ..	9.11	6.83
Latvia ..	18.16	20.75	Algeria ..	7.97	7.83
Bulgaria ..	17.58	16.43	Greece ..	7.83	11.40
Yugoslavia ..	17.41	11.09			
Estonia ..	17.03	16.30			

(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:—

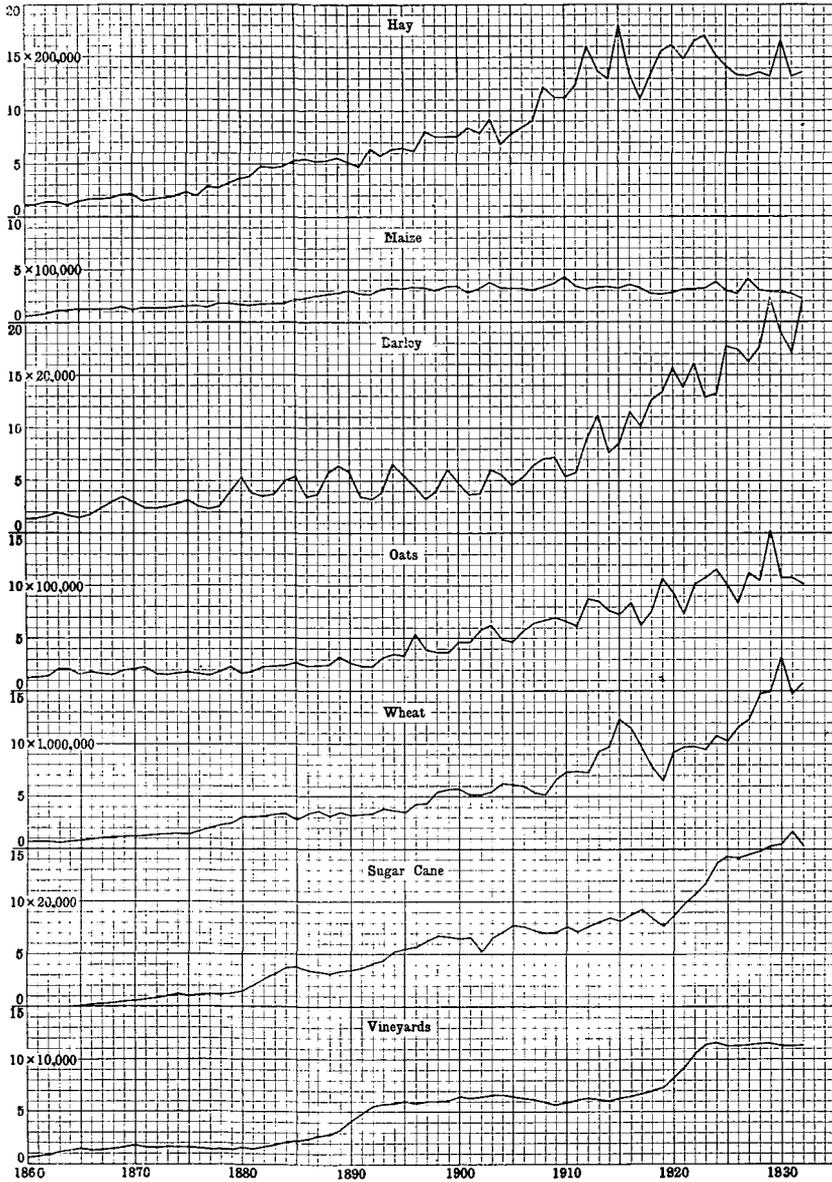
WHEAT.—TOTAL PRODUCTION, VARIOUS COUNTRIES.

Country.	Yield in Bushels (,000 omitted).		Country.	Yield in Bushels (,000 omitted).	
	Average, 1929-1931.	1932.		Average 1929-1931.	1932.
Soviet Union ..	927,618	744,060	Syria ..	16,625	9,849
United States of America ..	856,733	744,088	Belgium ..	13,426	15,376
Canada ..	375,135	443,068	Mexico ..	13,002	9,658
India ..	351,941	336,896	Portugal ..	12,544	18,757
France ..	271,703	333,527	Tunis ..	12,223	17,453
Italy ..	238,359	276,924	Austria ..	11,525	12,193
Argentina ..	197,700	235,380	Union of South Africa ..	11,525	10,626
Australia ..	177,030	213,927	Denmark ..	10,680	10,997
Spain ..	145,125	184,209	Uruguay ..	10,623	5,407
Germany ..	139,276	183,831	Greece ..	10,593	17,068
Rumania ..	121,942	55,537	Lithuania ..	9,664	9,423
Yugoslavia ..	91,372	53,445	Korea ..	8,549	8,576
Hungary ..	77,292	64,463	New Zealand ..	6,753	11,055
Poland ..	77,135	49,473	Netherlands ..	6,091	12,838
Bulgaria ..	50,569	50,554	Brazil ..	(a) 4,759	..
Czechoslovakia ..	48,247	53,737	Peru ..	4,154	3,117
Egypt ..	43,685	52,587	Switzerland ..	4,009	4,001
United Kingdom ..	43,272	43,615	Latvia ..	3,262	5,292
Algeria ..	30,465	29,237	Cyprus ..	1,897	1,182
Japan ..	30,309	31,336	Estonia ..	1,544	2,085
French Morocco ..	27,617	27,970	Finland ..	917	1,483
Chile ..	26,476	28,743	Norway ..	687	749
Sweden ..	19,516	26,500			

(a) Average 1924-28.

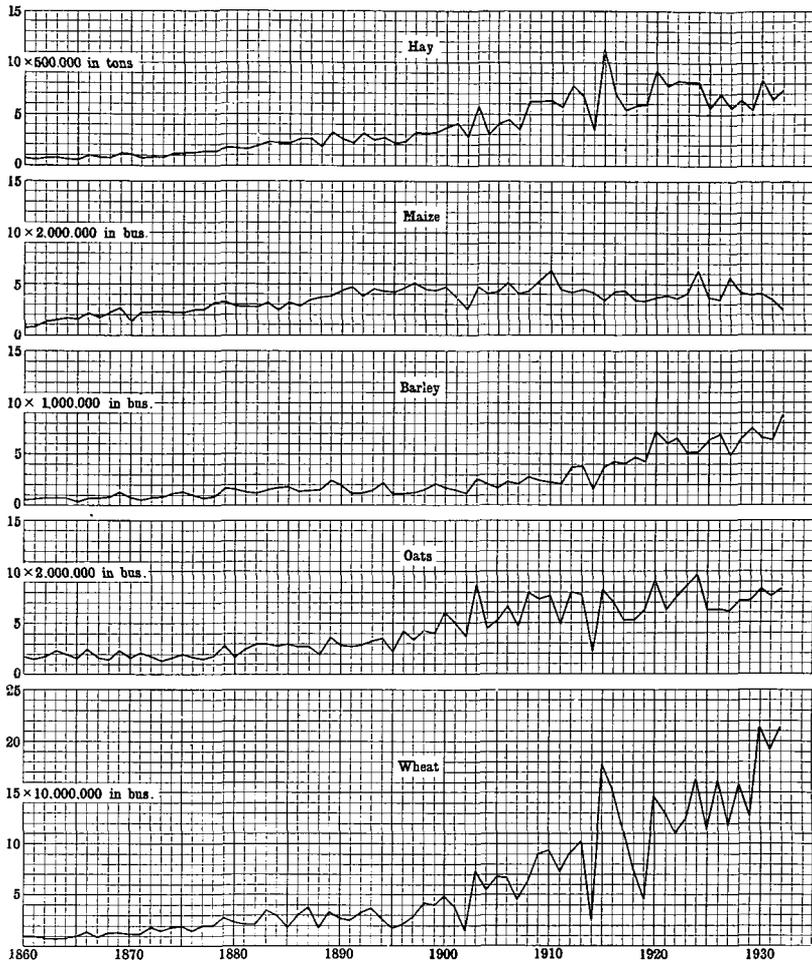
NOTE.—The harvests reported above for 1932 relate to the year 1932 for the Northern, and 1932-33 for the Southern Hemisphere.

AREA UNDER PRINCIPAL CROPS—AUSTRALIA 1860 TO 1932-33.



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 1932-33.



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.

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
1928 .. ..	..	322,070,000	4,848,331,000	15.05
1929 .. ..	..	324,640,000	4,305,627,000	13.26
1930 .. ..	..	341,739,300	4,881,400,000	14.28
1931 .. ..	..	347,941,500	4,827,645,000	13.87
1932 .. ..	..	345,445,800	4,577,898,000	13.25
Average, 1928-1932 ..		336,367,320	4,688,180,200	13.94

(a) From countries reporting.

The Report of the Institute mentions that if all countries for which data are lacking were taken into account, the world's total production of wheat may be approximately estimated at 5,000 million bushels.

The total area harvested in 1932 shows a decrease on the figures for the previous year. This decrease was due principally to the Soviet Union, but a slight drop in Europe was noted. In other great divisions of the world there was a slight upward tendency but not sufficient to counterbalance the decreases above mentioned. In comparison with the average for the period 1924-28, areas sown to wheat throughout the world 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. 5½d. in 1931, a decrease of 53 per cent. In 1932, however, the price increased to 3s. 1d., but in 1933 declined to 2s. 10d., and to 2s. 7½d. in 1934.

The Australian contribution to the world's production during the last five years amounted to more than 3½ per cent.

3. 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.	1929-30.	1930-31.	1931-32.	1932-33.	1933-34.
Price per bushel ..	s. d. 5 0	s. d. 2 5½	s. d. 3 0½	s. d. 2 11½	s. d. 2 9½

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

4. Exports of Wheat and Flour.—(i) *Quantities.* The table appended shows the exports, and net exports of wheat and flour from 1928-29 to 1932-33. 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 so 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 were 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 124,533,172 bushels :—

WHEAT AND FLOUR.—EXPORTS, AUSTRALIA.

Year.	Exports.			Net Exports.
	Wheat.	Flour.	Total.	
	Bushels.	Eq. Bushels.(a)	Bushels.	Bushels.
1928-29 ..	81,896,245	27,062,544	108,958,789	108,954,924
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

(a) Equivalent in bushels of wheat.

(ii) *Destination.* The following table gives the exports of wheat to various countries for each of the five years ended 1932-33, together with averages for the pre-war period 1909-13 and for the five years 1929-33 :—

EXPORTS OF WHEAT.—AUSTRALIA.

Country to which Exported.	1928-29.	1929-30.	1930-31.	1931-32.	1932-33.	Average, 1909-13.	Average, 1929-33.
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
United Kingdom ..	20,564,650	21,488,415	39,995,488	49,219,354	50,939,947	30,305,384	36,441,571
Italy	5,861,552	3,261,455	12,697,635	8,195,049	3,656,230	581,309	6,734,384
Japan	5,626,298	2,811,142	17,676,232	21,464,248	17,896,367	330,131	13,094,857
France	1,967,455	186,682	350,638	163,495	..	1,681,918	533,654
Union of South Africa ..	4,143,328	1,540,482	956,317	461,706	19,730	2,992,355	1,424,313
Belgium ..	994,923	408,990	2,016,002	1,892,016	826,517	1,218,131	1,227,810
Egypt	4,943,383	1,178,230	3,143,433	1,640,116	1,019,218	135,377	2,384,876
Germany ..	1,001,897	..	193,935	204,084	46,125	286,822	289,208
Netherlands ..	1,834,132	490,358	2,158,470	2,073,363	527,462	(a)	1,416,757
Other Countries ..	34,958,627	9,024,953	40,034,540	42,087,574	44,624,342	4,465,847	34,146,007
Total ..	81,896,245	40,390,707	119,223,290	127,401,005	119,555,938	41,997,274	97,693,437

(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.	1928-29.	1929-30.	1930-31.	1931-32.	1932-33.	Average, 1909-13.	Average, 1929-33.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Egypt	243,468	125,963	145,694	106,526	28,589	(a)	130,047
United Kingdom	57,945	85,364	134,547	191,963	121,995	27,699	118,363
Netherlands East Indies	79,040	82,595	74,765	85,570	73,179	26,099	79,030
Malaya (British) ..	52,176	51,160	41,841	43,664	43,965	15,492	46,561
Union of South Africa	24,558	18,256	9,051	1,230	228	30,714	10,665
Ceylon	21,705	21,252	21,630	19,441	19,239	3,389	20,653
New Zealand	3,556	3,823	5,168	4,833	2,716	3,221	4,019
Philippine Islands	8,436	8,707	8,949	11,762	11,484	13,680	9,868
Hong Kong	2,972	2,933	5,947	53,557	50,874	2,672	23,257
Mauritius	9,395	5,988	4,896	13,231	10,905	2,221	8,883
Portuguese East Africa	5,917	5,410	5,747	6,199	5,896	13,462	5,834
Other Countries ..	54,635	54,282	66,008	72,882	6262,389	28,463	102,039
Total	563,803	465,733	524,243	610,858	631,459	167,112	559,219

(a) Included with other Countries.

(b) Includes China 160,062 tons.

5. Exports—Principal Countries.—The following table shows the net quantities of wheat exported from the chief exporting countries for the years 1928 to 1932, 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 1928-32 and 1909-13 shows that the world's supply of wheat in the later years has been obtained from North America, Canada supplying 35 per cent., and the United States 15 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 5 per cent. for the years 1928-32. Under Government stimulus, however, the area sown to wheat in the Soviet Union is increasing rapidly. In 1932 the total amounted to 85 million acres, which produced 744 million bushels, an average of 8.70 bushels per acre. While Australian production was only 3½ per cent. of the world's total, the exports accounted for 14.5 per cent. of the quantities exported in the years 1928-32:—

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

Country.	Average, 1909-13.		1928.	1929.
	Bushels.	Per cent.	Bushels.	Bushels.
Soviet Union (b) ..	157,109,000	23.71	..	..
Canada	89,919,000	13.57	411,760,521	250,485,790
United States of America	100,864,000	15.22	131,835,470	137,914,928
Argentina	95,041,000	14.34	202,868,949	249,708,054
British India	50,886,000	7.68	2,776,563	..
Australia	49,417,000	7.46	79,670,093	99,150,188
All other Countries ..	119,351,000	18.02	76,736,892	71,425,641
Total	662,587,000	100.00	905,648,488	808,684,601
World's Production ..	3,779,479,000		4,848,331,000	4,305,627,000
Percentage of Australian Net Exports on Total Net Exports ..	7.46		8.80	12.26
Percentage of Australian Production on World's Production ..	2.39		3.30	2.95

(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.

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

Country.	1930.	1931.	1932.	Average, 1928-32.	
	Bushels.	Bushels.	Bushels.	Bushels.	Per cent.
Soviet Union (b) ..	93,500,338	93,294,187	16,441,600	40,647,225	5.24
Canada ..	240,076,983	219,380,719	250,412,350	274,423,273	35.39
United States of America ..	127,484,281	109,348,836	74,044,725	116,125,648	14.97
Argentina ..	86,434,936	137,917,662	91,014,145	153,588,749	19.80
British India ..	4,376,075	..	1,500,921	1,730,712	0.23
Australia ..	75,115,330	156,306,844	151,065,123	112,261,516	14.47
All other Countries	78,525,402	100,566,335	56,428,288	76,736,512	9.90
Total ..	705,513,345	816,814,583	640,907,152	775,513,635	100.00
World's Production	4,881,400,000	4,827,645,000	4,577,898,000	4,688,180,200	
Percentage of Australian Net Exports on Total Net Exports ..	10.65	19.14	23.57	14.48	
Percentage of Australian Production on World's Production ..	4.38	3.95	4.67	3.86	

For footnotes see preceding page.

6. 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 should prove 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.		1928.	1929.
	Bushels.	Per cent.	Bushels.	Bushels.
Germany ..	89,731,507	12.44	92,748,503	79,779,402
Belgium ..	73,962,974	10.26	44,514,982	44,654,975
France ..	38,681,717	5.36	38,356,333	52,592,676
Great Britain ..	219,365,265	30.42	215,560,947	232,781,569
Italy ..	57,156,174	7.93	101,033,230	65,030,081
Netherlands ..	76,340,387	10.59	29,519,980	30,187,874
Brazil ..	20,774,307	2.88	35,798,744	35,397,705
China ..	5,525,863	0.77	19,731,378	47,929,460
Japan ..	3,713,840	0.52	24,568,194	27,530,853
Egypt ..	7,914,626	1.10	8,162,124	12,656,077
Union of South Africa ..	6,519,097	0.90	8,749,311	7,634,672
All other Countries ..	121,409,356	16.83	266,606,749	280,693,876
Total ..	721,095,113	100.00	885,350,475	916,869,220

(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.

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

Country Importing.	1930.	1931.	1932.	Average, 1928-32.	
	Bushels.	Bushels.	Bushels.	Bushels.	Per cent.
Germany ..	45,076,168	29,833,110	37,934,262	57,074,289	6.76
Belgium ..	44,876,382	54,100,975	46,775,358	46,984,174	5.56
France ..	39,331,044	87,744,709	78,226,077	59,250,168	7.02
Great Britain ..	224,793,731	249,672,560	218,384,873	228,238,736	27.03
Italy ..	71,417,907	55,225,990	39,394,648	66,420,371	7.87
Netherlands ..	33,835,932	34,050,398	29,407,321	31,400,301	3.72
Brazil ..	31,279,111	32,247,550	28,625,653	32,669,753	3.87
China ..	21,501,395	65,067,217	53,162,869	41,478,464	4.91
Japan ..	18,756,906	26,846,094	28,158,858	25,172,181	2.98
Egypt ..	10,225,853	8,867,699	4,229,181	8,828,187	1.04
Union of South Africa	2,794,289	3,408,764	1,095,763	4,736,560	0.56
All other Countries	227,141,083	229,453,123	207,001,803	242,179,327	28.68
Total ..	771,029,801	876,517,289	772,396,666	844,432,511	100.00

For footnotes see preceding page.

7. 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, 1928-29 TO 1932-33.

Flour Milled	1,215,557 tons
Less Net exports of flour	559,165 tons
Less Net exports of flour in Biscuits	1,115 "
	560,280 "
Net quantity available for home consumption	655,277 "
Equivalent in terms of wheat	31,453,296 bushels
Net quantity available per head of population—	
As flour	202 lb.
As wheat	4.848 bushels

AVERAGE USED FOR SEED, 1928-29 TO 1932-33.

Average area sown for grain, hay and green forage	16,848,631 acres
Average quantity of seed used	16,536,762 bushels
Average quantity of seed used per acre	59 lb.
Average quantity per head of population	2.549 bushels

In addition to the above, allowance must be made for wheat fed to poultry and other live stock. The quantities so used vary from year to year according to the price of wheat and the nature of the season, and sufficient data are not available on which to base an annual estimate, but, taken over a period, the amount so consumed has been estimated to range from one half to one bushel per head of population per annum. The average quantity of flour consumed per annum for the five years under consideration was 202 lb. per head of population, which, expressed in terms in wheat, represents 4.848 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 2.549 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, 52,099,600 bushels, or 8.03 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.
Argentina	5.4	0.2	5.6
Australia (a)	4.8	0.6	5.4
Canada	4.5	3.3	7.8
New Zealand (b)	4.9	1.1	6.0
United Kingdom	4.8	1.0	5.8
United States	4.2	0.6	4.8

(a) Average for five years ended 1932-33.

(b) Average for five years ended 1932.

8. **Value of the Wheat Crop.**—The estimated value of the wheat crop in each State and in Australia during the season 1932-33 is shown below:—

WHEAT.—VALUE OF CROP(a), 1932-33.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Fed. Cap. Ter.	Australia.
	£	£	£	£	£	£	£	£
Aggregate value..	12,159,130	7,369,707	447,169	6,473,802	6,777,190	78,120	10,397	33,315,515
Value per acre ..	£2/10/8	£2/2/11	£1/15/9	£1/11/10	£2/0/0	£3/14/6	£3/0/6	£2/2/3

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

9. **Stocks of Wheat and Flour.**—Stocks of wheat and flour held by each State at 30th November, 1933, 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, 1933.

State.	Wheat.	Flour.	Total in terms of wheat.(a)
	Bushels.	Tons.	Bushels.
New South Wales	4,390,320	35,825	6,109,920
Victoria	7,366,733	31,763	8,891,331
Queensland	441,749	449	463,301
South Australia	1,251,616	10,388	1,750,240
Western Australia	290,154	7,111	631,482
Tasmania	123,485	1,102	176,381
Total, 30th November, 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
.. .. . 1929 ..	11,085,059	93,825	15,588,659

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

10. **Voluntary Wheat Pools.**—Reference to the operations of the voluntary Wheat Pools in the various States during 1933-34 will be found in the Appendix at the end of this volume.

§ 5. Oats.

i. Progress of Cultivation.—(i) *Area and Production.* Oats is usually next in importance to wheat amongst the grain crops cultivated in Australia, but while wheat grown for grain accounted for 70.36 per cent., oats represented only 4.58 per cent. of the area under crop in 1932-33. 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.	Acros.	Acres.	Acres.	Acres.	Acres.	Acres.
1928-29	126,743	347,021	916	207,266	325,827	37,602	295	1,045,670
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	368,816	3,733	174,244	285,850	30,652	128	1,027,262

PRODUCTION.

	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1928-29	2,183,880	5,602,409	13,737	1,740,515	3,554,609	1,011,367	2,160	14,108,677
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	823,239	2,868	16,159,628

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 15,010,942 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 1923 to 1933 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.	Aus-tralia.
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1928-29	17.23	16.14	15.00	8.40	10.91	26.90	7.32	13.49
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
Average for 10 seasons 1923-33	17.46	14.30	16.65	9.60	11.84	26.96	15.60	13.67

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 1932, as computed by the International Institute of Agriculture, amounted to 3,550 million bushels. This quantity was harvested from 141 million acres, and represents an average yield of 25.18 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 quinquennia 1924-1928 and 1928-1932:—

OATS.—WORLD'S PRODUCTION.

Year.	Area.	Production.	Average Yield
			per Acre.
	Million Acres.	Million Bushels.	Bushels.
Average 1924-28	145	3,677	25.36
1928	146	3,970	27.19
1929	150	3,781	25.21
1930	146	3,787	25.94
1931	145	3,539	24.41
1932	141	3,550	25.18
Average 1928-32	146	3,725	25.51

3. **Prices of Oats.**—The average wholesale prices in the Metropolitan markets for the year 1932-33 are given in the following table:—

OATS.—AVERAGE WHOLESALE PRICES, 1932-33.

Particulars.	Sydney.	Melbourne.	Brisbane.	Adelaide.	Perth.	Hobart.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Average price per bushel ..	2 4½	1 11¼	3 5¼	1 7	1 10½	2 2

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 1927-8 there was a net import of 460,581 bushels. The quantities and values of oats imported into and exported from Australia during the years 1928-29 to 1932-33 are given hereunder:—

OATS.—IMPORTS AND EXPORTS, AUSTRALIA.

Year.	Imports.		Exports.		Net Exports.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Bushels.	£	Bushels.	£	Bushels.	£
1928-29 ..	38,993	8,045	90,463	18,833	51,470	10,788
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

(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, and Netherlands East Indies. 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 1932-33 amounted to 312,074 cwt., practically the whole of which is consumed locally, the quantity of oats used for oatmeal being 1,832,318 bushels, or 11 per cent. of the total production. Oversea trade in this and similar products is small, the imports of oatmeal, wheatmeal and rolled oats during 1932-33 amounted to 1,601 cwt., and exports to 13,792 cwt.

6. *Value of Oat Crop.*—The estimated value of the oat crop for the season 1932-33 was, as follows :—

OATS.—VALUE OF CROP,(a) 1932-33.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Fed. Cap. Ter.	Australia.
Aggregate value..	£ 351,380	£ 609,869	£ 10,400	£ 160,239	£ 334,970	£ 82,820	£ 287	£ 1,549,965
Value per acre ..	£2/2/11	£1/13/1	£2/15/9	£0/18/5	£1/3/5	£2/14/1	£2/4/10	£1/10/2

(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 1932-33 being 211,820 acres, or 93 per cent. of the total for Australia. Of the balance, Victoria contributed 16,425 acres, Western Australia 8 acres, and South Australia 5 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 1932-33 decreased by more than 41,000 acres. The greatest area grown was in 1910-11 when it amounted to 414,914 acres. The average for the decennium 1923-33 was 310,000 acres.

The area and production of maize for grain in each State for the last five years 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.
1928-29	106,835	16,077	192,173	..	55	..	..	315,140
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
PRODUCTION.								
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1928-29	2,506,470	679,810	5,135,607	..	831	..	..	8,322,718
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

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 1932-33 amounted to 5,066,321 bushels, and the average for the last decennium was 8,276,502 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 1928-29 to 1932-33, and for the decennium 1923-1933:—

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.
1928-29	23.46	42.28	26.72	..	15.11	..	..	26.41
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
Average for 10 seasons 1923-33	26.84	39.01	22.41	17.47	12.79	5.19	19.25	26.67

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 26.7 bushels per acre. The United States of America shows an average of 26.3 bushels, Argentina 31.9 bushels, Rumania 15.9 bushels, and the Soviet Union 17.2 bushels per acre during the period 1924-28.

3. *World's Production.*—The following table furnishes particulars of the world's acreage under maize, production and average yield per acre 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
1928	201	4,386	21.82
1929	202	4,484	22.20
1930	206	4,027	19.55
1931	213	4,514	21.19
1932	215	4,897	22.76
Average 1928-32	207	4,462	21.56

The United States is the most important maize-producing country in the world. Approximately 100,000,000 acres are planted there annually, and nearly 2,500 million bushels are reaped, representing about 75 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.	1928-29.	1929-30.	1930-31.	1931-32.	1932-33.
Average price per bushel ..	s. d. 4 11½	s. d. 6 0½	s. d. 4 1	s. d. 3 9	s. d. 4 11

5. Overseas Imports and Exports.—The decline in production has necessitated an average annual import of more than 15,000 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 1928-29 to 1932-33 are as follow:—

MAIZE.—IMPORTS AND EXPORTS, AUSTRALIA.

Year.	Imports.		Exports.		Net Imports.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Bushels.	£	Bushels.	£	Bushels.	£
1928-29.. ..	773	539	278,289	50,451	— 277,516	— 49,912
1929-30.. ..	66,068	13,809	2,339	824	64,629	13,075
1930-31(a) ..	3,945	709	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

NOTE.—(—) 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 in 1931-32 and 1932-33 they were negligible. Exports from Australia are small, and in 1932-33 amounted to 14,899 lb., valued at £367.

7. Value of Crop.—The value of the crop for the season 1932-33 was as follows:—

MAIZE.—VALUE OF CROP, 1932-33.

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	F.C.T.	Australia.
Aggregate value	£ 733,790	£ 110,340	£ 389,345	£ 39	£ 15	£ 2	£ 1,233,531
Value per acre	£6/9/6	£6/14/4	£3/19/1	£7/16/0	£1/17/7	£1/0/0	£5/8/1

§ 7. Barley.

1. Progress of Cultivation.—(i) Area and Production. The area under barley has fluctuated considerably, but results for the last ten years show a tendency towards an increase. The average annual area sown for the decennium 1923-1933 amounted to 356,115 acres, as compared with an average of 247,889 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 nearly 71 per cent. of the Australian acreage in 1932-33. Victoria was next in importance with 21 per cent., leaving a small balance of about 8 per cent. distributed among the other States. The figures here given relate to the areas harvested for grain; small areas only are cropped 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 are shown in the following table for the last five years, 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.
1928-29 ..	5,024	75,451	7,654	247,348	14,429	4,613	4354,539
1929-30 ..	7,947	97,678	9,754	305,316	23,649	6,935	4451,339
1930-31 ..	11,526	87,518	8,434	251,957	17,236	6,192	4382,887
1931-32 ..	8,349	66,381	2,223	242,339	14,533	8,377	4342,396
1932-33 ..	7,736	93,555	4,790	314,286	13,772	8,595	4442,833
PRODUCTION.							
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1928-29 ..	80,910	1,556,118	107,593	4,583,715	189,560	99,085	46,617,341
1929-30 ..	113,850	2,183,325	205,567	4,656,254	261,870	166,984	47,588,852
1930-31 ..	188,610	1,983,130	173,563	3,960,929	185,301	168,625	46,660,911
1931-32 ..	137,430	1,256,678	36,397	4,572,941	164,580	119,725	46,290,672
1932-33 ..	154,530	1,995,446	101,033	6,070,161	135,243	211,570	48,670,077

(a) Including Federal Capital Territory, 20 acres, 360 bushels.

(b) " " " " 60 acres, 1,002 bushels.

(c) " " " " 24 acres, 753 bushels.

(d) " " " " 194 acres, 2,921 bushels.

(e) " " " " 99 acres, 2,044 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 4,196,589 and 1,712,275 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 1932-33. Particulars for the season 1932-33 are as follow:—

BARLEY, MALTING AND OTHER.—AREA AND PRODUCTION, 1932-33.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Malting barley ..	4,596	75,425	3,275	299,492	8,707	8,177	a 399,731
Other barley ..	3,140	18,130	1,515	14,794	5,065	418	b 43,102
Total ..	7,736	93,555	4,790	314,286	13,772	8,595	c 442,833
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
Malting barley ..	97,950	1,581,814	67,792	5,803,974	82,797	201,545	a7,837,111
Other barley ..	56,580	413,632	33,241	266,187	52,446	10,025	b 832,966
Total ..	154,530	1,995,446	101,033	6,070,161	135,243	211,570	c8,670,077

(a) Including Federal Capital Territory, 59 acres, 1,239 bushels.

(b) " " " " 40 acres, 855 bushels.

(c) " " " " 99 acres, 2,094 bushels.

Taking Australia as a whole, about 90 per cent. of the area under barley in 1932-33 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 1932-33 was as follows: Malt works, 1,960,423 bushels; Distilleries, 60,682 bushels; exports, 3,051,138 bushels; leaving a balance of approximately 3,600,000 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.
1928-29 ..	307,154	47,385	354,539	5,691,673	925,668	6,617,341	18.53	19.53	18.66
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
1931-22 ..	299,074	43,322	342,396	5,547,111	743,531	6,290,672	18.55	17.16	18.37
1932-33 ..	399,731	43,102	442,833	7,837,111	832,966	8,670,077	19.60	19.33	19.58
Average 10 seasons 1923-33	306,902	49,214	356,116	5,486,323	925,358	6,411,681	17.88	18.80	18.00

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 1923-33, 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.
1928-29 ..	16.10	20.62	14.06	18.53	13.14	21.48	18.66
1929-30 ..	14.33	22.35	21.08	15.25	11.07	24.08	16.81
1930-31 ..	16.36	22.60	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
Average for 10 seasons 1923-33	16.37	21.14	18.25	17.29	11.35	22.32	18.00

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 1932 are as follow:—United States, 290 million bushels; Soviet Union, 221 million bushels; Germany, 142 million bushels; India, 107 million bushels; and Canada, 78 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
1928	91.0	1,820	20.00
1929	97.6	1,979	20.28
1930	92.9	1,891	20.36
1931	88.8	1,653	18.61
1932	90.3	1,798	19.91
Average 1928-32	92.1	1,828	19.85

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.	1928-29.	1929-30.	1930-31.	1931-32.	1932-33.
	<i>s. d.</i>	s. d.	s. d.	s. d.	s. d.
Malting barley	4 7	4 1	2 11	2 11½	2 9
Cape barley	3 6	3 3½	2 2	2 3	2 4

5. *Imports and Exports.*—Australian exports of barley during the last five years averaged 2,324,291 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.	£
1928-29	150	58	1,279,014	228,707	1,278,864	228,649
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

(a) Australian currency values.

In some years there is an export of Australian pearl and Scotch barley, the total for 1932-33 reaching 44,043 lb., valued at £362 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 1932-33 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.	£
1928-29	508	186	4,958	1,897	4,450	1,711
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

(a) Australian currency values.

7. **Value of Barley Crop.**—The estimated value of the barley crop for the season 1932-33 and the value per acre are shown in the following table:—

BARLEY.—VALUE OF CROP(a), 1932-33.

Value.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Fed. Cap. Ter.	Australia.
	£	£	£	£	£	£	£	£
Total ..	21,940	237,367	15,155	675,183	19,867	28,830	294	998,636
Per acre ..	£2/16/9	£2/10/9	£3/3/3	£2/3/0	£1/8/10	£3/7/1	£2/19/5	£2/5/1

(a) Exclusive of the value of straw.

§ 8. Rice.

Experimental rice cultivation has been carried on at the Yanco Experimental Farm for some 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.

Figures relating to area, production, etc., since 1928-29 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.
1928-29 ..	14,058	1,307,641	93.02	237,493	7,250	3.74
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

The area and production shown in the table refer chiefly to the Murrumbidgee Irrigation Area. The production from several small experimental plots in other States is also included, but the quantity is negligible. According to the report of the Irrigation Commission of New South Wales, there are about 53,000 acres of land in the irrigation settlements suitable for rice-growing, and it is estimated that at least 40,000 acres could be so used, of which, probably, 20,000 acres would be under fallow each year and 20,000 under crop. Annual local requirements are computed at 1,100,000 bushels, but the production during the last three years has exceeded consumption and the surplus has been exported chiefly to the United Kingdom, Canada, New Zealand, and the Pacific Islands.

§ 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 1932-33 was 52,230 acres, giving a yield of 999,843 bushels, or an average of 19.14 bushels per acre, being above the average yield for the decennium ended 1932-33, which was 15.47 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 1932-33 was 5,217 acres, yielding 68,651 bushels, giving an average of 13.16 bushels per acre, as compared with the average for the last ten seasons, i.e., 16.69 bushels per acre. Nearly 47 per cent. of the rye grown during the season was produced in New South Wales, 28 per cent. in South Australia, and 15 per cent. in Victoria.

§ 10. Potatoes.

1. Progress of Cultivation.—(i) *Area and Production.* Victoria possesses peculiar advantages for the growth of potatoes, as the rainfall is generally satisfactory, and the climate is unfavourable to the spread of Irish blight, consequently the crop is 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 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.
1928-29 ..	14,830	68,412	8,154	4,518	4,819	37,299	16	138,068
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	9,783	6,454	4,971	35,769	11	147,485
PRODUCTION.								
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1928-29 ..	26,339	140,158	9,687	13,859	18,774	75,222	11	284,050
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

(a) Includes Northern Territory, 20 acres.

(b) " " " " 15 acres.

The acreage grown during the last few years was fairly uniform, except in 1927-28, when the acreage was increased to 163,231, chiefly owing to larger planting in Victoria and Tasmania. The production in 1932-33 amounted to 384,271 tons, as compared with an average of 370,900 tons for the last ten years and 346,994 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 1932-33, 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.
1928-29 ..	1.78	2.05	1.19	3.07	3.90	2.02	0.69	2.06
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
Averages for 10 seasons 1923-33	2.18	2.73	1.59	3.80	3.94	2.63	2.73	2.63

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 1932-33 averaged 5.25 tons per acre from an area of 24,605 acres, as compared with 2.61 tons per acre from 147,485 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 almost 9 cwt. Details for each State for the five seasons ended 1932-33 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.
1928-29 ..	11	80	11	24	46	347	1	45
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

(iv) *Consumption.* Oversea trade in potatoes is comparatively small, and the consumption in Australia averages between 50 and 60 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.	£
1928-29	4	82	1,766	19,948	1,762	19,866
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

(a) Australian currency values.

3. **Value of Potato Crop.**—The estimated value of the potato crop of each State for the season 1932-33 is given in the following table :—

POTATOES.—VALUE OF CROP, 1932-33.

Value.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Fed. Cap. Ter.	Australia.
	£	£	£	£	£	£	£	£
Total	194,520	775,502	108,630	132,054	137,572	442,000	115	1,790,693
Per acre	£9/7/7	£11/2/3	£11/3/0	£20/9/3	£27/13/6	£12/9/2	£10/9/1	£12/2/10

§ 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 1932-33 being only 24,103 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 1932-33 was 8,873 acres, giving a yield of 49,101 tons, and averaging 5.53 tons per acre. The area in 1932-33 under root crops other than potatoes and onions was 15,230 acres, from which a production of 108,731 tons was obtained, or an average of 7.14 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 9,332 tons, valued at £71,613, were imported, principally from Japan, the United States of America, and New Zealand, while during the same period the exports which amounted to 14,249 tons, valued at £105,157 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 1932-33 averaged more than 12 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.	Aus- tralia.
AREA.									
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1928-29	684,730	1,005,063	55,498	497,538	414,866	80,190	..	788	2,738,673
1929-30	698,395	865,015	49,745	544,438	418,698	80,153	..	2,217	2,058,661
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	2,034,680
1932-33	645,609	1,044,523	64,076	461,332	417,435	92,668	..	1,765	2,727,408
PRODUCTION.									
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1928-29	793,255	1,267,437	85,651	486,593	421,504	119,427	..	971	3,175,238
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

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, i.e., 3,597,771 acres, was the largest on record, whilst the average during the last decennium amounted to 2,867,937 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 1928-29 to 1932-33 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.	Aus- tralia.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1928-29	1.16	1.26	1.54	0.98	1.02	1.49	..	1.23	1.16
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
Average for 10 seasons 1923-1933	1.25	1.20	1.42	1.11	1.11	1.43	1.75	1.21	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.	1928-29.	1929-30.	1930-31.	1931-32.	1932-33.
NEW SOUTH WALES—	Acres.	Acres.	Acres.	Acres.	Acres.
Wheaten	375,270	381,071	520,993	292,234	290,556
Oaten	214,137	226,025	278,865	222,212	248,222
Barley	817	1,294	1,081	740	955
Lucerne	94,275	89,385	95,181	96,396	105,246
Other	231	620	650	568	630
Total	684,730	698,395	896,770	612,150	645,609
VICTORIA—					
Wheaten	135,718	165,564	188,360	139,683	89,549
Oaten	845,731	675,256	1,049,019	781,932	860,854
Lucerne, etc.	23,014	24,195	40,019	34,224	94,120
Total	1,005,063	865,015	1,277,398	955,839	1,044,523
QUEENSLAND—					
Wheaten	4,585	3,811	10,645	5,282	5,498
Oaten	2,192	2,608	4,280	1,617	2,724
Lucerne	45,476	40,013	34,845	47,547	52,925
Other	3,245	3,313	2,458	5,155	2,929
Total	55,498	49,745	52,228	59,601	64,076
SOUTH AUSTRALIA—					
Wheaten	270,805	318,239	321,295	250,285	205,372
Oaten	218,140	212,956	275,526	273,375	243,015
Lucerne	4,833	5,447	6,390	5,660	3,704
Other	3,760	7,796	9,724	9,756	9,241
Total	497,538	544,438	612,935	539,076	461,332
WESTERN AUSTRALIA—					
Wheaten	250,786	209,893	192,345	197,982	173,327
Oaten	160,675	198,529	192,243	167,326	224,006
Lucerne	184	293	234	190	106
Other	3,221	9,983	13,589	15,949	19,996
Total	414,866	418,698	398,411	381,447	417,435

Wheat is most largely used for hay in New South Wales, South Australia, and Western Australia, oats in Victoria and Tasmania, and lucerne in Queensland. For all States the proportions of the principal kinds of hay produced average about 61.0 per cent. for oaten, 28.0 per cent. for wheaten, 7.1 per cent. for lucerne, and 3.9 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 1932-33, 148 tons were imported, while the exports amounted to 2,597 tons, valued at £14,451, the principal purchases being made by Malaya (British), India, Ceylon, New Zealand, 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 1932-33 :—

HAY.—VALUE OF CROP, 1932-33.

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Fed. Cap. Ter.	Australia.
Total Value	£ 3,166,710	£ 3,002,040	£ 413,961	£ 1,046,340	£ 1,496,309	£ 388,130	£ 6,212	£ 9,519,702
Value per acre	£4/18/1	£2/17/6	£6/9/2	£2/5/5	£3/11/9	£2/15/0	£3/10/5	£3/9/10

§ 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.	Nor. Ter.	Fed. Cap. Ter.	Australia.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1928-29	264,699	107,351	180,524	155,460	125,311	25,402	..	837	859,584
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

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 1932-33 may be taken approximately as £3,046,395, or about £2 16s. od. 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 307,281 acres under sugar-cane in Australia for the season 1932-33, there were 291,136 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 1932-33 only 16,145 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 1931-32 being the highest on record, while that of 1932-33 declined by 18,700 acres. The area under sugar-cane in Australia from 1928-29 is 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.		Total.
	Productive.	Unproductive.	Productive.	Unproductive.	Productive.	Unproductive.	
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	
1928-29 ..	6,783	9,055	215,674	67,802	222,457	76,857	299,314
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

(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 1923-24, when, although the total acreage was greater, the area cut was less than in the previous year.

(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 4,213,453 tons in 1931-32. The average production of cane during the decennium ended 1932-33 was 3,686,478 tons. The three highest yields of sugar were in 1931-32, 1929-30, and 1928-29, the quantities being 603,735 tons, 538,084 tons, and 537,574 tons respectively. The decennial average was 490,264 tons of sugar. Particulars relative to the total production of cane and sugar for the last five years are as follow :—

° 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.
1928-29 ..	147,414	16,954	3,736,311	520,620	3,883,725	537,574
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

The production of raw sugar in Australia in 1932-33 amounted to 532,594 tons manufactured from 3,703,188 tons of cane, compared with the record quantities of 603,735 tons and 4,213,453 tons respectively for the previous year. The assistance mentioned hereafter given by the Commonwealth and State Governments during recent years has greatly benefited the sugar industry. In 1922-23 the area cultivated in Queensland was 202,303 acres and the number of cane farmers was 4,971, whereas in 1932-33 291,136 acres were under cultivation and the number of growers had risen to 7,231, or an increase of 2,260 in ten years. Official data are not available regarding the total number engaged in the sugar industry in Queensland, but the average number of persons employed in sugar mills is 6,600. In addition, it is unofficially estimated that 15,000 persons are engaged as cane cutters and field workers. The total number of persons directly engaged in the industry in Queensland may therefore be estimated as approximately 28,800.

Final figures for the 1933-34 season are not yet complete, but it is anticipated from the information available that the production of raw sugar will amount to 665,726 tons from 4,898,040 tons of cane crushed. Early indications point to a slightly reduced crop in 1934-35, and it is anticipated that the production will amount to about 648,000 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 1932-33 was for New South Wales, 13.22 tons, and 16.27 tons for Queensland. Similarly, the production of sugar per acre for the same period is estimated at 1.51 tons and 2.18 tons respectively. Leaving aside the consideration mentioned above, the yield of cane and sugar per acre crushed for Australia for the ten years ended 1932-33 was 17.89 tons and 2.38 tons respectively, as compared with 17.95 tons and 2.15 tons for the decennium ended 1922-23.

(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 1932-33 averaged 7.52 tons, the average production of sugar being 13.30 per cent. of the weight of cane crushed. As the result of the systematic study of cane culture in Queensland, the sugar content of the cane has been considerably increased in recent years, and in 1930 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 1922-23 it required on the average 8.34 tons of cane to produce one ton of sugar, whereas the average figure for the last decennium was reduced to 7.52 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.
1928-29	Tons. 21.73	Tons. 2.50	Tons. 8.69	Tons. 17.32	Tons. 2.41	Tons. 7.18	Tons. 17.46	Tons. 2.42	Tons. 7.22
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	6.97
Average 10 seasons, 1923-33	24.24	2.77	8.76	17.63	2.36	7.46	17.89	2.38	7.52

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 sugar in Australia during the last five years was more than sufficient to supply local requirements, the average production during the period amounting to 191 lb. per head of population. Details for the period 1928-29 to 1932-33 are as follow :—

SUGAR.—PRODUCTION PER HEAD OF POPULATION.

State.	1928-29.	1929-30.	1930-31.	1931-32.	1932-33.
	lb.	lb.	lb.	lb.	lb.
New South Wales	16	18	19	20	16
Queensland	1,272	1,248	1,221	1,351	1,221
Australia	190	188	185	207	181

(vii) *Consumption.* The average annual consumption of raw sugar during the five years ended 1931-32 is estimated at 340,666 tons, equal to 119 lb. of raw sugar or 114 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 :—

SUGAR.—CONSUMPTION IN FACTORIES, AUSTRALIA.

Factories.	1928-29.	1929-30.	1930-31.	1931-32.	1932-33.
	Tons.	Tons.	Tons.	Tons.	Tons.
Aerated Waters and Cordials	11,063	8,958	6,316	5,665	5,639
Bacon Factories	125	113	102	96	706
Bakeries—including Cakes and Pastry	8,575	8,815	7,267	5,920	5,789
Biscuits	5,837	5,385	4,359	4,207	5,158
Breweries	15,264	13,836	10,939	9,170	9,117
Condensed and Concentrated Milk	8,975	7,503	6,133	6,731	6,796
Confectionery	24,275	23,166	16,940	16,277	18,101
Jams, Jellies and Preserved Fruit	27,779	29,186	22,786	26,329	28,667
Jelly Crystals	1,269	1,177	896	556	541
Total	103,162	98,139	75,738	74,951	80,514

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 five years are incorporated in the table below :—

SUGAR-BEET.—AREA AND PRODUCTION, VICTORIA.

Particulars.		1928-29.	1929-30.	1930-31.	1931-32.	1932-33.
Area harvested ..	acres	2,130	2,500	3,045	3,173	3,155
Production ..	tons	15,237	26,525	38,291	43,209	36,740
Average per acre ..	„	7.15	10.61	12.58	13.62	11.65
Sugar produced ..	„	2,096	3,472	5,095	5,428	5,701

Seasonal conditions were particularly favourable during 1932-33, the production amounted to 36,740 tons of beet, from which 5,701 tons of sugar were obtained. The quantity of beet required to produce one ton of sugar was 6.46 tons, as compared with 7.96 tons for the previous year. The average production of beets per acre was 11.65 tons, and the average for the ten years ended 1932-33 was 11.23 tons.

(ii) *Encouragement of Beet-growing.* During recent years efforts have been made to expand the industry, and the Victorian Government has advanced its irrigation scheme on the Macalister River to provide an increased water supply for the district. 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 has, however, been 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 were arranged between the Commonwealth Government and representatives of the industry. It was decided that the Sugar Agreement of 1931-36 should

be amended to provide for a reduction in the retail price of sugar by $\frac{1}{2}$ d. per lb. from 1st January, 1933, and that the reduced retail price of 4d. per lb. should continue until the end of the period of the agreement (31st August, 1936). It was recommended also that the amount of assistance to the fruit industry should be reduced by £115,000 to £200,000. Legislation for the ratification of these proposals was assented to on 5th December, 1932.

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

(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.	Oversea Imports.		Oversea Exports.		Net Exports.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Tons.	£	Tons.	£	Tons.	£
1928-29	11	241	199,497	2,391,469	199,486	2,391,228
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	187,039	1,489,639	187,026	1,489,374

(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 XXIII. —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 587:—

SUGAR.—PRICES FOR CONSUMPTION IN AUSTRALIA.

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

(a) The price of raw sugar for the years 1925 to 1931 is estimated at £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.; and in 1933-34 £16 6s. 3d.

§ 15. Vineyards.

1. **Progress of Cultivation.**—(1) *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 is 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.
1928-29..	15,200	41,565	1,787	51,802	4,943	There are no vineyards in Tasmania.	115,297
1929-30..	15,589	40,594	1,749	52,329	4,964		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

The area under vines in Australia amounted to 65,673 acres in 1904-5. From that year onwards a gradual decline set in, and at the end of 1914-15 the acreage had decreased to 60,985. Since that date, however, as a result of extensive plantings, particularly of varieties suitable for drying, the 1904-5 figure was soon exceeded, and the area for 1928-29 i.e., 115,297 acres was the highest on record. In 1930-31, and 1931-32 a fall of 2,300 acres from 1928-29 was recorded, but in 1932-33 the area again increased and now stands at 114,446 acres.

(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, while the Commonwealth bounty on the export of fortified wine of specified strength has greatly stimulated the industry. Particulars of the Wine Export Bounty are shown in § 18 hereafter. The bounty was increased to 1s. 9d. per gallon from 13th March, 1930, under the *Wine Export Bounty Act 1930* which provides that this rate will be paid until the 28th February, 1935. Commencing on 1st March, 1935, the rate of bounty will vary according to year as provided in the *Wine Export Bounty Act* of 1934.

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 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.	No production of wine in Tasmania.	Gallons.
1928-29 ..	1,481,846	1,942,701	37,210	14,828,968	309,524		18,600,249
1929-30 ..	1,933,709	1,363,575	48,174	12,406,017	317,637		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

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.	£	£	£
1928-29 ..	20,212	56,171	76,383	50,576	32,948	83,524
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

(a) Australian currency values.

(ii) *Exports.* Wine is exported from Australia chiefly to the United Kingdom and New Zealand, although the share of the latter country is comparatively small. 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.	£	£	£
1928-29 ..	2,932	1,738,047	1,740,979	5,685	495,299	500,984
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

(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.
1928-29	4,278	3,909	1,535	899	2,811	13,432
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	4,003	2,165	957	2,679	15,210

(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.
1928-29	3,004	488	38,556	9,499	10,527	8,207	602	1,311	52,689	19,505
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	3,013	497	29,702	7,832	9,234	7,320	797	1,428	42,776	17,577
1923-33	4,909	670	42,568	7,814	12,434	6,390	704	1,536	60,615	16,410
Average 10 seasons 1923-33	2,405	424	28,325	7,130	8,024	6,222	602	1,168	39,356	14,944

(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.	£
1928-29	148	7,002	33,575	1,620,307	33,427	1,613,305
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
CURRANTS.						
	(a)					
1928-29	(a)	30	13,326	597,917	13,326	597,887
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

(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 1932-33 exceeded 54,300 tons, of which 12,500 tons satisfied local requirements, leaving a surplus averaging 41,800 tons available for export. The production has reached 77,000 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 77 per cent., 17 per cent. and 4 per cent. respectively of the average quantity exported during the last five years. Exports to Canada have increased from 4,500 tons in 1928-29 to 9,800 tons in 1932-33. 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 77 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.**—The Dried Fruits Control Board appointed under the *Dried Fruits Export Control Act* has power to regulate the export, and sale and distribution after export, of Australian sultanas, lexiás and currants. The Board, with an agency in London, is financed by an export levy charged on all dried fruits exported.

The regulation of sales and fixation of prices in Australia is in the hands of the Australian Dried Fruits Association, which has, in addition, power to regulate interstate transfers. The prices fixed for home consumption are somewhat higher than those realized on exports overseas, as will be seen from the next table.

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.
1928-29 ..	d. 6½	d. 7½	d. 4	d. 4½	d. 4	d. 4½
1929-30 ..	7	7½	4½	3½	4½	3½
1930-31 ..	7	7	6½	4½	7	5
1931-32 ..	7½	7	5½	4	7	5
1932-33 ..	8½	7½	3½	3½	4½	4½

§ 16. Orchards and Fruit Gardens.

1. **Progress of Cultivation.**—(i) *Total Area.* The greatest area under orchards and fruit gardens was 281,149 acres in 1921-22. Since that year the area has declined slightly owing to difficulty in disposing of the surplus production. 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.
1928-29 ..	76,009	79,322	38,452	30,836	18,735	34,087	35	277,476
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

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 1932-33 :—

ORCHARDS AND FRUIT GARDENS.—AREA, 1932-33.

Fruit.	New South Wales.	Victoria. (b)	Queensland.	South Australia.	Western Australia.	Tasmania.	Federal Capital Territory.	Australia.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Apples ..	15,241	31,662	4,741	10,446	11,958	26,224	37	100,309
Apricots ..	1,799	4,097	137	3,035	678	1,431	..	11,180
Bananas ..	11,275	..	10,589	..	29	..	3	21,893
Cherries ..	3,674	1,327	8	739	(a)	63	..	5,813
Lemons ..	2,780	1,891	155	430	506	..	2	5,762
Nectarines and Peaches ..	6,893	11,925	1,646	2,023	978	65	4	23,534
Nuts ..	656	531	..	1,259	201	..	..	2,650
Oranges ..	22,407	5,837	3,622	4,953	2,831	..	3	39,650
Pineapples ..	115	..	5,862	..	(a)	..	..	5,977
Pears ..	3,817	10,696	255	1,997	1,033	2,121	3	19,922
Plums ..	2,695	3,739	1,345	2,822	969	640	5	12,215
Small fruits ..	26	865	114	369	58	2,172	..	3,604
Other fruits ..	12,531	4,603	2,104	1,036	785	58	1	21,118
Total ..	83,909	77,173	30,578	29,109	20,026	32,774	58	273,627

(a) Included with "Other Fruits."

(b) Estimated.

(iii) *Production—(a) Quantities.* The production in 1932-33 is shown in the next table:—

ORCHARDS AND FRUIT GARDENS.—PRODUCTION, 1932-33.

Fruit.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Federal Capital Territory.	Australia.
Apples .. bushel	1,251,815	3,217,074	233,565	881,139	804,048	4,410,000	897	10,798,538
Apricots	158,861	303,730	6,275	331,700	55,437	150,000	201	1,006,204
Bananas	853,696	..	1,402,412	..	412	..	..	2,256,520
Cherries	100,152	30,597	215	25,216	..	2,200	..	158,380
Lemons	261,508	165,335	11,148	40,102	58,067	..	..	536,160
Nectarines and Peaches	486,356	1,365,201	87,355	153,449	79,950	4,000	..	2,167,311
Nuts lb.	340,032	159,889	..	803,152	106,330	..	..	1,409,403
Oranges .. bushel	2,129,210	566,398	321,995	575,046	251,272	..	..	3,843,921
Pineapples .. dozen	25,204	..	1,175,870	..	..	..	..	1,201,074
Pears .. bushel	336,300	1,172,204	18,200	219,576	121,574	285,000	33	2,152,887
Plums	133,068	263,819	61,942	182,278	72,696	130,000	180	843,983
Small Fruits .. cwt.	307	24,275	1,496	5,949	328	101,216	..	133,571

(b) *Values.* The value of production for the various classes of fruit for the year 1932-33 is given in the following table:—

ORCHARDS AND FRUIT GARDENS.—VALUE OF PRODUCTION, 1932-33.

Fruit.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Federal Capital Territory.	Australia.
	£	£	£	£	£	£	£	£
Apples	469,900	562,988	94,337	153,396	370,755	615,000	337	2,266,713
Apricots	83,460	83,525	4,262	77,350	31,010	37,500	108	317,213
Bananas	480,200	..	427,208	..	412	..	..	907,820
Cherries	93,720	26,772	227	18,597	(a)	1,100	..	140,416
Lemons	90,610	62,000	8,477	12,031	27,138	..	..	200,256
Nectarines and Peaches	208,130	408,867	38,551	36,879	35,672	900	..	728,999
Nuts	10,300	5,965	..	25,833	4,873	..	..	46,971
Oranges	573,380	198,239	122,808	161,395	122,087	..	..	1,177,909
Pineapples	5,780	..	196,914	..	..	..	..	202,694
Pears	117,980	234,441	6,977	39,949	48,275	57,000	12	504,634
Plums	53,520	69,645	34,842	32,442	26,201	29,250	72	245,942
Small Fruits	1,160	52,782	7,038	11,277	3,268	138,540	..	214,065
Other Fruits	289,570	75,865	53,234	19,728	20,567	1,100	..	460,064
Total	2,477,710	1,781,089	994,875	588,847	690,258	830,390	527	7,413,696

(a) Included with "Other Fruit."

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
1928-29	98,338	21,681	54,286	23,722	21,268	17,433
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	12,215

(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
1928-29 ..	5,519,341	2,571,616	4,642,142	1,765,818	1,516,253	794,488
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	4,873,738	2,090,584	2,152,887	843,983

(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
1928-29 ..	2,707,273	1,042,305	2,056,830	702,602	543,940	295,240
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	1,508,395	699,296	504,634	245,942

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 centials of bananas will 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 1932-33 amounted to £4,648,829. 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.	Oversea Imports.		Oversea Exports.		Net Exports.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	lb.	£	lb.	£	lb.	£
1928-29 ..	6,350,000	69,011	82,706,700	942,960	76,356,700	873,949
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

(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.	£
1928-29 ..	644,183	703,037	55,006	68,290	71,932	76,023
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

(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 87 per cent. of the total imports consisted of dates obtained chiefly from Iraq :—

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

Year.	Oversea Imports.		Oversea Exports.		Net Imports.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	lb.	£	lb.	£	lb.	£
1928-29 ..	11,098,182	146,078	2,096,416	81,106	9,001,766	64,972
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	2,001,187	51,027	7,414,364	11,254

(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 1932-33 amounted to only £47,682. Particulars relative to imports and exports during each of the last five years are as follow :—

JAMS AND JELLIES.—IMPORTS AND EXPORTS, AUSTRALIA.

Year.	Oversea Imports.		Oversea Exports.		Net Exports.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	lb.	£	lb.	£	lb.	£
1928-29 ..	325,422	13,133	1,947,786	58,204	1,622,364	45,071
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

(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 1932-33 was £18,108. Overseas exports in 1932-33 were as follow :—Apricots, 5,238,543 lb., £97,303; peaches, 16,079,554 lb., £284,682; pears, 12,926,655 lb., £239,994; pineapples, 2,971,177 lb., £56,353; and other 1,939,270 lb., £44,334; or a total shipment valued at £722,666.

§ 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 decline in area under cultivation from 82,409 acres in 1924-25 to 56,108 acres in 1932-33 was due to poor seasons and difficulty in marketing the product. The total area in Australia during the season 1932-33 devoted to crops not dealt with in previous sections was 183,577 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.
1928-29 ..	7,709	18,630	918	1,408	2,924	546	11	32,146
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

3. *Grass Seed.*—The area under this crop during 1932-33, exclusive of New South Wales and Western Australia, for which States complete figures as to area are not available, was 11,145 acres, of which 5,502 acres were in Victoria, 1,727 acres in Tasmania, 2,296 acres in Queensland, and 1,620 acres in South Australia. The production for 1932-33, including New South Wales and Western Australia, was 179,344 bushels, valued at £115,498. In addition to the areas planted above, 7,886 acres were sown to canary seed in Queensland during 1932-33, returning a yield of 49,339 bushels, valued at £31,660.

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 imports of tobacco in its various forms are an index of the market for a satisfactory product. The net imports of tobacco into Australia during the year 1932-33 were valued at £632,001, while the net quantity of unmanufactured tobacco imported was 14,372,805 lb. valued at £830,753.

It has been proved that suitable leaf can be grown, and research is in progress with a view to improvement in 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. In addition, 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 agreement was made for the season 1932-33 and the production was considerably below that of 1931-32. The decline was due chiefly to climatic conditions, i.e., frosts in Victoria, floods in Northern Queensland, and dearth of rain in Central Queensland, while in some districts the plants were badly affected by disease.

The following table furnishes details of the average area, production, etc., in quinquennial periods from 1901 to 1930, and annually from 1928-29 to 1932-33 :—

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	164,978	487
1921-25	2,677	1,962,576	158,748	925
1926-30	2,478	1,632,243	121,589	666
1928-29	2,238	1,838,592	97,438	632
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

(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 the amount was included in the Budget for 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. The Council for Scientific and Industrial Research is to investigate diseases affecting the tobacco plant, including work on disease resisting varieties, and to make tests of smoking quality. The States will carry out field investigations on disease resistance, selection, yield and quality improvement, and will conduct instructional, demonstrational and field experimental work.

5. Pumpkins and Melons.—The total area under this crop in Australia during 1932-33 was 14,918 acres, of which 3,302 acres were in New South Wales, 999 acres in Victoria, 9,777 acres in Queensland, 341 acres in South Australia, and 498 acres in Western Australia. The production for Australia amounted to 37,914 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 1932-33 being 952 acres, of which 801 acres were in Tasmania and 151 acres in Victoria. The Tasmanian area, though still small, has increased considerably during the past 31 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 151 in 1932-33. 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 1932-33 the exports of hops exceeded the imports by 21,761 lb., valued at £1,197. The value of the production in Australia in 1932-33 amounted to £128,353.

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 decreased to 958 acres in 1931-32 and to 509 acres in 1932-33.

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 aggressive 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 is payable on flax and linseed grown in Australia for a period of five years, commencing on the 1st March, 1930. The rates of bounty payable are 15 per cent. of the market value of the flax or linseed for the first two years, 10 per cent. for the next two years, and 7½ per cent. for the last year. The total amount paid shall not exceed £20,000 in any financial year. During the year 1932-33 the sum of £412 was paid on 37 tons of flax and 143 tons of linseed, and in 1933-34 £205 was paid on 31 tons of flax and 30 tons of linseed.

8. Millet.—Millet figures in the statistical returns of three of the States. The total area devoted thereto in 1932-33 was 4,697 acres, of which 3,096 acres were in New South Wales, 1,391 in Victoria, and 210 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 1932-33 the areas in those States were 717, 1,205, 158, and 178 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 1883, 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 Ipswich, 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 1½d. per lb. The rise in price enabled the Government to offer a guarantee of 5½d. per lb. for seed 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 rates payable to growers for seed cotton vary from 1½d. per lb. for the first year for the higher grades and ¾d. per lb. for the lower grades to ½d. and ¼d. per lb. respectively for the year ending 30th September, 1936. The amount of bounty payable in any financial year is limited to £260,000. The number of growers were:—1930, 1,461; 1931, 1,988; and 1932, 1,989.

The area under cultivation and the production in Queensland since the year 1921 are shown hereunder:—

COTTON.—AREA AND PRODUCTION, QUEENSLAND.

Year.						Area(a).	Yield of Unginned Cotton.
					Acres.	lb.	
1921	..	..	..	..	1,944	940,126
1922	..	..	..	..	8,716	3,956,635
1923	..	..	..	..	40,821	12,543,770
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

(a) Area picked.

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 serious decline in world prices, however, affected local prices and has resulted in a smaller return to the growers.

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 1932-33 only 9 acres were recorded with a production of 4,200 lb.

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

§ 18. Bounties.

The bounties paid by the Commonwealth Government during the year ended 30th June, 1934, amounted to £338,746. 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. For purposes of convenience particulars regarding bounties in operation in Australia on all commodities during the years 1929-30 to 1933-34 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.				
			1929-30.	1930-31.	1931-32.	1932-33.	1933-34.
Iron and Steel Products Bounty Act—			£	£	£	£	£
*Fencing Wire ..	£2 12s. per ton (d) ..	(e) 6th Nov., 1930	114,141	39,913	..	..	..
*Galvanized Sheets ..	£2 12s. per ton (b) ..	e) 27th Mar., 1931	89,561	79,429	..	..	..
*Wire Netting ..	£3 8s. per ton (c) ..	..	56,486	22,696	6,334	8,947	9,838
Traction Engines ..	According to capacity, £40-£90 per tractor less 10 per cent. from 9th July, 1930, increased to 16 per cent. from 7th November, 1930, and to 40% from 11th July, 1931. Restored to original rate from 4th December, 1933	..	199	1,974	1,058	894	5,152
Sulphur Bounty Act—							
Sulphur from Australian Pyrites and other Sulphide Ores or Concentrates	£2 5s. per ton ..	..	55,018	48,520	30,962	46,245	47,955
Flax and Linseed Bounties Act 1930	Rates vary according to year	28th Feb., 1935	..	..	1,561	412	205
Wine Export Bounty Act—							
Fortified Wine, containing not less than 34 per centum of proof spirit, exported from Australia from 1st September, 1924, to 28th February, 1935	4s. per gallon to 31st August, 1927 1s. 9d. per gallon from 1st September, 1927, to 8th March, 1928 1s. per gallon from 9th March, 1928 1s. 9d. per gallon from 13th March, 1930(f)	28th Feb., 1935	83,210	165,009	201,268	178,491	183,981

(a) All bounties are subject to 20 per cent. reduction from 20th July, 1931, excepting that paid on gold 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, 1930, owing to increase in Customs duty. (e) Date Bounty ceased. (f) Actual rate for the period 5th October, 1932, to 30th June, 1933, is 1s. 4. 2d. per gallon and for the year 1933-34, 1s. 4. 8d. per gallon.

BOUNTIES.—AUSTRALIA—continued.

Articles on which Bounty was Paid.	Rate of Bounty Payable. (c)	Date of Expiry of Bounty.	Amount Paid.				
			1929-30.	1930-31.	1931-32.	1932-33.	1933-34.
			£	£	£	£	£
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 ½d. per lb. in 1936	30th Sept., 1936	70,307	100,848	64,206	56,182	87,268
Cotton Yarn manufactured in Australia	Varies according to count and year	(e) 30th June, 1932	48,660	57,085	94,395	36,985	2,287
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	1,059	(b) 946	(b) 830	(b) 632	(b) 844
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—(h) 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 (f)	132,807	(g)
Total			518,641	516,460	3,777,982	557,707	338,746

(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. (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) In addition a sum of £2,250,000 was paid under the *Financial Relief Act 1932*, to the States for the relief of wheat growers and other primary producers. (g) Under the *Wheat Growers Relief Act 1933*, £3,000,000 was paid to the States for the assistance of wheat growers. (h) Includes Administrative expenses amounting to £14,087.

§ 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 1932-33 the value of rock phosphate imported represented more than 74 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.	1928-29.	1929-30.	1930-31. (b)	1931-32. (b)	1932-33. (b)
Bonedust .. cwt.	(a)	(a)	(a)	(a)	(a)
" .. £	(a)	(a)	(a)	(a)	(a)
Guano .. cwt.	52,018	1,000	..	..	130
" .. £	6,438	462	..	..	13
Superphosphate .. cwt.	2,560	4,572	511	..	..
" .. £	1,834	3,331	398	..	..
Rock phosphate .. cwt.	12,349,710	10,579,094	8,614,718	5,948,490	9,569,006
" .. £	1,291,583	1,126,531	642,006	463,496	731,454
Soda nitrate .. cwt.	152,747	256,457	27,434	13,041	64,388
" .. £	75,888	123,635	14,782	8,052	40,604
Other .. cwt.	308,425	402,188	341,023	203,892	467,664
" .. £	112,232	205,574	166,491	103,186	209,488
Total .. cwt.	12,865,460	11,243,311	8,983,686	6,165,423	10,101,188
" .. £	1,487,975	1,459,533	823,677	574,734	981,559

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

4. Exports.—The subjoined table shows the exports of manures for the years 1928-29 to 1932-33: 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.	1928-29.	1929-30.	1930-31.	1931-32.	1932-33.
Bonedust .. cwt.	39	6,426	6	1,140	5,470
" .. £	27	2,756	4	162	770
Superphosphate .. cwt.	316	168	144	66	294
" .. £	83	54	52	28	89
Rock phosphate .. cwt.	..	4	..	..	..
" .. £	..	1	..	..	..
Soda nitrate .. cwt.	6	34	7	88	65
" .. £	9	27	14	69	49
Ammonia sulphate .. cwt.	18,610	972	3,882	1,715	1,035
" .. £	11,255	440	1,470	546	423
Other .. cwt.	66,429	31,474	12,935	41,399	11,811
" .. £	30,097	13,766	4,186	11,453	1,664
Total .. cwt.	85,400	39,078	16,974	44,408	18,675
" .. £	41,471	17,044	5,726	12,258	2,995

5. Quantities Locally Used.—Information regarding quantities, etc., of manures used in each State during the year 1932-33 is given in the table hereunder:—

FERTILIZERS USED 1932-33.

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 ..	6,332,716	3,238,716	51.14	185,710	87,607
Victoria ..	5,115,745	(a) 4,764,641	93.14	97,978	199,557
Queensland ..	1,245,638	142,808	11.46	166,817	35,505
South Australia ..	5,166,656	4,413,560	85.42	43,873	150,800
Western Australia ..	4,261,047	(a) 4,647,985	(b) 98.64	52,333	199,337
Tasmania ..	279,117	232,370	83.25	13,002	20,496
Northern Territory ..	1,045	..	..	..	..
Fed. Cap. Territory ..	6,525	4,010	61.46	58	128
Total ..	22,408,489	17,444,090	77.85	559,831	693,430

(a) Includes area under sown grasses and manure used.

(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.
1928-29 ..	21,189,557	18,701,389	88.26	450,474	813,656	86
1929-30 ..	21,929,721	19,925,988	90.86	405,812	852,925	87
1930-31 ..	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

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, followed by a decrease in 1930-31 to 79 lb., a further fall to 64 lb. in 1931-32 and increasing in 1932-33 to 69 lb. The 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 88.26 to 77.85 during the last five years, while the use of artificial manures has decreased by 120,000 tons during the same period. As a measure of relief to primary producers other than wheat growers the Commonwealth Government provided for the States' Governments a sum of £250,000, which was distributed on the basis of 15s. od. 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 1932-33 was 33, made up as follows:—New South Wales, 4; Victoria, 7; Queensland, 4; South Australia, 7; Western Australia, 5; and Tasmania, 6. The production of superphosphates in Australia during 1932-33 amounted to 638,983 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 1928-29 to 1932-33, is given in the following table:—

ENSILAGE MADE.

State or Territory.	1928-29.		1929-30.		1930-31.		1931-32.		1932-33.	
	Holdings.	Ensilage Made.	Holdings.	Ensilage Made.	Holdings.	Ensilage Made.	Holdings.	Ensilage Made.	Holdings.	Ensilage Made.
	(a)		(a)		(a)		(a)		(a)	
	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.
New South Wales ..	350	27,177	338	28,155	669	60,172	628	54,885	738	62,435
Victoria ..	89	7,775	74	4,783	99	6,373	96	5,792	197	11,642
Queensland ..	72	4,037	43	2,933	60	4,880	79	5,819	112	6,305
South Australia ..	12	2,808	22	1,319	21	3,656	92	5,640	132	9,470
Western Australia ..	93	7,022	105	7,966	209	10,509	396	16,999	469	21,655
Tasmania ..	5	115	6	75	14	840	23	687	37	1,336
Australia ..	621	48,934	588	45,231	1,072	86,430	1,314	89,822	1,685	112,843

(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 1932-33 amounted to 112,843 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 1932-33 will be found in the Production Bulletin No. 27 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.