



TOTALS						
Year	Average Rainfall	Wheat		Wool Total Product ^a	Live Stock	
		Area	Average per Area		Cattle	Sheep
		Acres	Bushels	lbs.		
1913	23.06	2,565,861	12.84	106,833,690	1,528,553	12,113,682
1914	15.21	2,863,535	1.38	95,406,867	1,362,542	12,051,685
1915	22.88	3,679,971	15.90	82,330,198	1,043,604	10,545,632
1916	30.27	3,125,692	16.37	94,845,024	1,175,098	12,576,587
1917	31.36	2,690,216	14.03	105,424,682	1,371,049	14,760,013
1918	24.70	2,214,490	11.40	126,647,061	1,596,544	15,772,902

Year	Average Rainfall	Wheat Area	Wheat Average per Area	Wool Total Product	Live Stock Cattle	Live Stock Sheep
1914	7.25	1,082,956	33	4,468,315	26,219	604,135
1915	12.42	1,275,123	10.72	1,852,086	20,873	347,350
1916	17.72	1,265,761	15.09	1,417,104	24,084	429,595
1917	19.55	983,896	11.26	5,434,960	38,949	701,091
1918	13.82	842,105	7.70	8,225,091	42,483	641,155

Year	Average Rainfall	Wheat Area	Wheat Average per Area	Wool Total Product	Live Stock Cattle	Live Stock Sheep
1914	9.76	330,355	1.20	15,404,900	41,119	1,506,566
1915	10.26	206,634	10.57	12,017,121	38,423	1,466,544
1916	22.54	700,637	20.73	16,463,159	40,300	1,760,752
1917	21.36	687,983	20.63	16,269,166	46,490	2,359,967
1918	16.44	600,765	17.64	31,718,156	55,762	2,444,345

Year	Average Rainfall	Wheat Area	Wheat Average per Area	Wool Total Product	Live Stock Cattle	Live Stock Sheep
1914	9.75	810,389	1.27	12,721,740	25,921	1,355,410
1915	16.75	1,063,616	16.30	16,645,853	100,086	1,219,635
1916	35.60	849,155	15.30	12,571,231	131,908	1,622,176
1917	36.36	796,452	13.84	11,964,281	175,770	1,803,104
1918	27.86	620,461	10.37	12,357,701	225,572	2,024,711

Year	Average Rainfall	Wheat Area	Wheat Average per Area	Wool Total Product	Live Stock Cattle	Live Stock Sheep
1914	19.04	89,132	4.01	6,612,386	171,041	1,044,310
1915	34.17	80,436	16.31	5,442,961	122,468	762,423
1916	44.01	67,868	11.32	5,735,133	164,373	853,014
1917	56.09	11,381	6.54	6,043,161	179,220	1,654,629
1918	36.26	22,262	7.90	7,301,136	211,367	1,039,895

Year	Average Rainfall	Wheat Area	Wheat Average per Area	Wool Total Product	Live Stock Cattle	Live Stock Sheep
1914	44.35	25,813	3.50	6,601,541	87,539	1,000,467
1915	25.61	30,858	10.50	7,370,400	61,484	360,711
1916	34.44	18,314	10.35	7,803,890	63,143	1,131,361
1917	35.06	22,123	11.55	8,665,618	70,904	1,236,730
1918	28.30	8,867	8.22	10,132,236	94,177	1,374,231

Year	Average Rainfall	Wheat Area	Wheat Average per Area	Wool Total Product	Live Stock Cattle	Live Stock Sheep
1914	30.66	14,364	7.72	7,531,854	228,590	1,280,698
1915	24.67	32,435	19.40	7,434,935	186,120	1,005,657
1916	40.76	42,220	13.34	8,255,163	209,630	1,203,980
1917	32.41	58,187	14.38	8,357,645	226,587	1,307,697
1918	30.11	7,776	13.38	10,070,746	265,011	1,351,355

Year	Average Rainfall	Wheat Area	Wheat Average per Area	Wool Total Product	Live Stock Cattle	Live Stock Sheep
1914	23.01	9,541	18.36	7,287,764	354,069	1,280,005
1915	37.63	19,476	22.30	7,947,041	254,564	1,055,219
1916	37.70	21,262	16.90	6,767,221	284,856	1,267,854
1917	34.03	46,916	10.35	7,594,250	203,640	1,266,003
1918	37.59	3,072	16.67	8,646,551	243,006	1,326,466

VICTORIA.

Showing Statistics of Wheat, Wool, Live Stock and Rainfall in each District.



PRODUCTION.

LAND SETTLEMENT, ETC.

The total area of the State is 56,245,760 acres. This comprises—

	Acres.
Lands alienated in fee simple	24,503,531
Lands in process of alienation	7,562,762
Crown lands	24,179,467
Total	56,245,760

The Crown lands comprise—

Permanent forests	3,374,453
Timber Reserves	747,244
Water Reserves	314,846
Reserves for Agricultural Colleges, &c. ..	84,990
Reserves in the Mallee	397,881
Other Reserves	304,672
Roads	1,748,162
Water frontages, beds of rivers, lakes, &c. {	2,183,831
Unsold land in cities, towns, and boroughs }	

Land in occupation under—

Grazing Area Leases	2,503,197
Perpetual Leases	204,812
Other Leases and Licences	114,103
Temporary Grazing Licences	7,866,426
Unoccupied	4,334,850
Total	24,179,467

In the following table are shown the area of Crown lands sold absolutely and conditionally, and the area of such lands alienated in fee simple in each year since 1899.

A portion of the area conditionally sold each year reverts to the Crown in consequence of the non-fulfilment of conditions by the selectors. The lands alienated each year include areas selected in previous years.

ALIENATION OF CROWN LANDS, 1900 TO 1918.

Year.	Area of Crown Lands Sold.		Crown Lands alienated in Fee Simple.	
	Absolutely, at Auction, &c.	Conditionally to Selectors.*	Area.	Purchase Money.
	Acres.	Acres.	Acres.	£
1900	7,685	225,098	494,752	526,650
1901	7,052	516,412	406,145	438,363
1902	7,304	299,502	523,574	555,538
1903	13,223	334,590	510,080	542,011
1904	9,588	253,592	584,010	613,511
1905	8,778	217,419	907,339	934,386
1906	6,642	173,113	344,519	375,296
1907	6,313	191,232	181,050	208,619
1908	6,552	213,883	137,023	176,335
1909	7,393	257,179	150,948	188,017
1910	5,795	248,694	127,993	171,904
1911	4,068	205,708	159,892	136,277
1912	4,120	114,630	128,427	165,854
1913	4,205	171,449	153,051	164,065
1914	3,705	166,026	129,525	145,003
1915	3,287	129,232	117,257	113,167
1916	2,061	140,341	89,203	80,238
1917	2,075	89,164	82,042	79,992
1918	1,760	74,514	76,064	78,235

* Exclusive of Mallee selectors.

From the period of the first settlement of the State to the end of 1918 the amount realized by the sale of Crown lands was £33,644,441, which represents an average of £1 1s. per acre for all lands alienated or in process of alienation. Payment of a considerable portion of this amount extended over a series of years without interest, upon very easy terms.

Amount realized by sale of Crown lands.

Production.

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Lands remaining for disposal.

The next table shows the whole of the unalienated lands of the Crown remaining for disposal :—

CROWN LANDS REMAINING FOR DISPOSAL ON 31st DECEMBER, 1918.

Location.		Classification.					Total.
		Agricultural and Grazing.				Auri-ferous.	
		First.	Second.	Third.	Un-classed.		
County.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	
Buln Buln	2,296	52,445	48,552	..	..	103,293
Croajingolong	2,510	5,416	553,110	840,400	14,150	1,415,586	
Dargo .. .. .	..	..	88,880	435,400	77,800	602,080
Tambo .. .. .	..	..	203,050	398,800	900	602,750
Tanjil .. .. .	..	..	99,190	363,650	67,000	529,840
Wonnangatta .. .. .	..	39	129,618	942,100	..	1,071,757
Bogong	3,771	11,560	198,070	203,692	124,063	541,156	
Benambra .. .. .	..	292	226,265	320,974	76,412	623,943
Delatite	705	21,328	198,564	234,300	66,941	521,838	
Moirra	146	..	9,299	..	..	9,445
Anglesey	26	4,446	66,094	..	8,223	78,789	
Bourke .. .. .	..	72	100	..	..	172
Dalhousie .. .. .	..	732	2,624	..	5,583	8,939
Evelyn .. .. .	..	22,588	..	..	3,530	26,118
Mornington .. .. .	..	5,963	51,198	..	..	57,161
Bendigo	85	635	3,803	..	5,164	9,687	
Rodney .. .. .	..	103	146	..	2,480	2,729
Borong .. .. .	..	319	37,237	..	9,767	47,323
Gladstone	413	1,147	1,335	..	21,630	24,525	
Lowan .. .. .	..	177	49,907	..	..	50,084
Kara Kara .. .. .	..	123	4,893	..	6,553	11,569
Talbot .. .. .	..	485	205	..	51,685	52,375
Tatchera .. .. .	..	70	..	..	..	70
Heytesbury .. .. .	..	1,047	168,612	..	..	169,659
Polwarth	1,294	12,530	35,878	..	..	49,702
Grant .. .. .	..	75	24,000	..	17,213	41,288
Grenville .. .. .	..	20	..	..	15,078	15,098
Ripon .. .. .	..	..	13,568	..	7,220	20,788
Normanby	85	33	70,329	..	..	70,447
Dundas	425	40	24,698	11,500	..	36,663	
Villiers .. .. .	..	..	455	..	..	455
Follett .. .. .	..	268	15,758	..	..	16,026
Totals	11,756	141,953	2,325,438	3,750,816	581,392	6,811,355	
Throughout the State.. ..	Swamp or reclaimed lands					1,303	
	Lands which may be sold by auction					10,648	
The north-western portion of the State	Mallee lands (such as are suitable to be eventually classed 1st, 2nd, or 3rd class for selection)					5,377,970	
Total area remaining for disposal						12,201,276	

Much of the land included in the above statement is temporarily leased under grazing licences.

The particulars of Crown lands leased for pastoral occupation on 31st December, 1918, are as follows :—

Pastoral occupation of Crown lands.	Number of Licences and Leases	14,220
	Area (acres)	10,649,247
	Annual Rental	£42,152

These licences and leases are not all on the same basis as regards the terms and the privileges of tenure. For instance, grazing area

leases are granted for any term of years expiring not later than 29th December, 1920, whilst grazing licences are renewable annually, and are only granted for waste lands of the Crown until required under the principal sections of the Act. The lessee of a grazing area has the privilege of selecting (*i.e.*, of purchasing under the deferred payment system on certain conditions) out of his lease for agricultural or grazing purposes an area not exceeding 200 acres of first class, 320 acres of second class, or 640 acres of third class land, according to classification; and the lessee of a Mallee allotment has a like privilege of selecting out of his lease 640 acres of first class, 1,000 acres of second class, or 1,280 acres of third class land, according to classification.

Persons who may select land. Any person of the age of 18 years or upwards is eligible to apply to select under the Land Acts a prescribed area varying according to the classification of the land—less the area of previous selections.

Land Laws. A conspectus of the provisions of the Victorian Land Acts appears in the *Year-Book* for 1916-17 and previous issues.

Official register of private farms for sale. At the Lands Inquiry Office, in addition to particulars regarding Crown lands, &c., available for settlement, a register is kept of suitable private farms for sale. These are classified according to value and utility. The list is comprehensive and embraces the whole State, and intending purchasers can inspect with confidence any of the properties submitted. No charge is made by the Government for any work done in this connexion.

Transfer of Land Act. The "Torrens System," whereby persons acquiring possession of land may receive a clear title, was introduced into Victoria in 1862. The system has been the means of simplifying procedure in connexion with the transferring of land. It gives a title to the transferee free of any latent defect and reduces the cost of dealing in real estate by reason of the simplicity of the procedure. All land parted with by the Crown since 1862 is under the operation of the Transfer of Land Act, and the Crown grant issues through the Titles Office; but, to bring under the Act land that was parted with prior to that year, application must be made accompanied by strict proofs of the applicant's interest in the property. During 1918 there were submitted 388 applications to have brought under the Act land amounting to 11,761 acres in extent, and to £422,213 in value; whilst the land actually brought under the Act during the year by application was 20,344 acres valued at £499,039. Up to the end of 1918 there had been brought under the Act 2,990,000 acres valued at £60,440,452. The number of certificates of title issued in 1918 was 15,395.

Assurance Fund. When application is made to have land brought under the Transfer of Land Act, a contribution to the assurance fund of $\frac{1}{4}$ d. in the £1 on the value of the land is levied on the applicant, to assure and indemnify the Government in granting a clear title against all the world, as some other person may have a latent interest in the property, and it may be necessary for the Government to

recompense such person out of the fund for the loss of his interest. The amount at credit of the fund at 30th June, 1917, was £128,899. Receipts during 1917-18 comprised contributions £1,917, interest on stock £2,845, and interest on £75,073, advanced for the purchase of land adjoining the Titles Office, £3,003. During the year the amount paid out of the fund for claims was £40. The balance at the credit of the assurance fund on 30th June, 1918, was £136,624. The amount paid up to 30th June, 1918, as compensation and for judgments recovered, including costs, was £7,613.

CLOSER SETTLEMENT.

Closer Settlement.

Under the provisions of the Closer Settlement Act the Closer Settlement Board is empowered to expend at the rate of £500,000 per annum in the purchase—either by voluntary or compulsory acquisition—of lands (whether privately owned or held under lease from the Crown) for subdivision into suitable allotments according to the class of the land, and for disposal by the Board to eligible applicants, as stated hereafter. Lands well adapted for settlement are thus made available in those portions of the State in which railways, water supply and markets are provided, and in which roads and other facilities are good. The areas purchased comprise ordinary farming lands in a more or less improved condition, and lands in irrigated districts with plentiful supplies of water for irrigation.

Every application for a Closer Settlement allotment must be accompanied by the registration fee of 5s., a lease fee of £1, and a deposit (equal to 3 per cent. of the capital value of the land) which is deducted from the purchase money. The applicant is required to give evidence of suitability and fitness, &c., to occupy the land. If successful, a permit giving immediate possession is issued (followed by a lease as soon as practicable), and no further payment is required for six months. The deposit, less the 5s. registration fee, is at once returned to any unsuccessful applicant. Only one allotment of the maximum value can be granted to any one person and the principle of residence for eight months in each year is a condition of the lease.

In addition to the provisions for the purchase of large estates for subdivision, the Closer Settlement Act provides that any one or more persons, who are eligible to acquire a farm allotment under the Closer Settlement Act, may enter into a provisional agreement with the owner of a block of private land for the purchase thereof, and acquire it through the Closer Settlement Board. The value of the land must not exceed the maximum allowed under the Act, unless two or more eligible persons agree to purchase it. Agreements with full details and an application on the proper forms must be filled in and lodged with the Board, together with a valuation fee of £4, when an inspection and valuation of the property will be made. The fee may be returned if, after a preliminary inspection, the Board does not approve of the application. Should the Board decide to acquire the land, the purchaser is required to deposit an amount not exceeding four half-yearly

instalments, and is otherwise subject to all the provisions of the Closer Settlement Act with regard to payments, residence, improvements, &c.

Repurchased lands are disposed of as farm allotments, agricultural labourers' allotments, and workmen's home allotments under conditional purchase lease, the terms of which are briefly stated herein, but are more particularly described in each title as issued.

Conditional purchase leases are granted to successful applicants under the Closer Settlement Act, and are for such a term not exceeding $31\frac{1}{2}$ years as may be agreed upon between the lessee and the Board. The purchase money is payable by 63 or a less number of half-yearly instalments. In some cases the Board has granted applications made for extension of payments under a lease to $46\frac{1}{2}$ years, the payments being by 93 half-yearly instalments. The deposit lodged with the application is credited as part of the principal, and the balance bears interest at $4\frac{1}{2}$ per cent. Each instalment includes interest upon the balance of purchase money remaining unpaid, and is 3 per cent. half-yearly (6 per cent. per annum) of the capital value of the allotment (less the amount of the deposit). Payments in advance may be made at any time, at the option of the lessee, and a proportionate reduction of interest secured thereby.

In special cases, when a lessee is unable to meet the instalments of purchase money as they fall due, the Board has power to suspend such payments up to an amount not exceeding 60 per cent. of the value of the improvements effected by the lessee. Interest at the rate of 5 per cent. per annum is charged on the amount in arrear or on any instalments which may have been suspended.

The lessee must reside on the allotment. Personal residence by the lessee's wife, or child over 18 years of age, or parent dependent for support, may, with the approval of the Board, be considered personal residence by the lessee. A farm lessee cannot transfer, assign, mortgage, or sublet the whole or any part of his allotment within the first six years of the lease. The Crown grant may be issued to the lessee at the end of any half-year after the first twelve years have expired, on payment of the balance of purchase money. The residence condition is not carried into the Crown Grant.

Lands for farm allotments are subdivided into suitable areas not exceeding in value a maximum amount of £2,500; and no lease thereof can be granted to a person who at the date of application is directly or indirectly the owner of any other land in Victoria (township land excepted) which, together with the allotment applied for, exceeds such value. Improvements of a permanent and substantial character must be effected by the lessee of a farm allotment to the value of at least two instalments of the purchase money before the end of the first year from the date of the lease, 10 per cent. of the purchase money before the end of the third year, and a further 10 per cent. before the end of the sixth year. Improvements must thus be made to the value of at least 20 per cent. of the total purchase money payable for the allotment; and, if they are

**Farm
allotments.**

made in excess of requirements during either of the two earlier periods mentioned, the excess is set off against the expenditure necessary by the end of the sixth year. Where special circumstances warrant action, the Minister, upon the recommendation of the Board, may modify the improvement conditions.

Advances to settlers.

The Closer Settlement Act provides for advances by the Closer Settlement Board to settlers who are—

- (a) Lessees under the *Closer Settlement Act* 1915.
- (b) Licensees of an agricultural or grazing allotment under the *Land Act* 1915.
- (c) Licensees under section 86 of the *Land Act* 1915 or corresponding sections of any repealed Act.
- (d) Conditional purchase lessees under the *Land Act* 1915; or
- (e) Conditional purchase lessees under the Murray Settlements Act, now Section 245, *Land Act* 1915.
- (f) Selection purchase lessees under Sections 46 and 50, *Land Act* 1915.
- (g) Perpetual lessees under Section 54, *Land Act* 1915.

Advances of not more than £500, and not exceeding 60 per cent. of the value of improvements effected on the land, may be made during the first six years of the lease for the following purposes:—

1. The erection of dwelling-houses or outbuildings, or the effecting of other improvements.
2. Carrying on farming, grazing, agricultural and horticultural pursuits.

After six years the lessee may obtain an advance up to £1,000 on a 60 per cent. basis of the value of his improvements and the purchase money paid for the land. The amounts allowed by the Board to lessees under the Closer Settlement Act towards the cost of erecting dwelling-houses and outbuildings on farm allotments must not exceed 10 per cent. of the value of the land, except where the land is valued at less than £500, when the maximum is not to exceed £50.

Advances are repayable by equal half-yearly instalments, extending over a period fixed by the Board not exceeding twenty years, with interest at 5 per cent. per annum; but may be repaid at any time in whole or in part under a duly proportionate rebate of interest.

Where the whole or part of an advance has been repaid the Board has power to make a further advance up to £500 or £1,000 as the case may be.

Wire netting advances.

Advances of wire netting may also be made under the Closer Settlement Act to owners of land—

- (a) if such land is held as above mentioned; or
- (b) if such land immediately adjoins any unoccupied Crown land or is not included in any municipality.

The wire netting supplied is No. 17 gauge, $1\frac{1}{2}$ -in. mesh, 42 inches wide, weighs 28 cwt. to the mile, and is supplied in rolls of not less than 100 yards. Each advance is limited to a quantity sufficient for 6 miles of vermin-proof fencing, and the price of the wire netting is deemed to be the amount of the advance, which is repayable by a

cash payment or on terms over a period not exceeding ten years, with interest at 4 per cent. per annum.

The following is a complete statement of all estates acquired by the Closer Settlement Board for the purpose of closer settlement at 30th June, 1919, including the estates acquired under the provisions of the Small Improved Holdings Act, the administration of which has been transferred to the Board.

CLOSER SETTLEMENT ESTATES AT 30TH JUNE, 1919.

Estates.	Area.*	Purchase Money, including Discount.	Price Paid Per Acre.	No. of Lessees.			Area Vacant and Available.
				Farm Allotments.	Workmen's Home Allotments.	Agricultural Labourers' Allotments.	
	acres.	£	£ s. d.				
ry Areas—							
Wando Vale ..	10,446	63,985	6 2 6	67	..	..	25
Walmer ..	13,769	44,751	3 5 0	42	..	2	6
Whitfield ..	4,247	36,096	8 10 0	34	..	1	98
Brunswick ..	91	2,793	29 0 0	..	56	..	9
Eurack ..	5,109	53,640	10 10 0	46	..	..	4
Footscray ..	31	2,494	80 0 0	..	85	..	..
Dal Campbell ..	45	2,357	47 8 0	..	63	..	2
Springvale ..	3,396	25,895	7 12 6	22	..	..	..
Memsie ..	10,028	57,159	5 14 0	44	..	..	10
Richmond Vale ..	1,790	11,000	8 11 6	10	..	1	..
Overnewton ..	11,336	71,492	6 4 6	67	..	..	..
Wyuna ..	23,016	120,876	5 5 0	121	..	10	23
Restdown ..	17,894	60,391	3 7 6	53	..	..	..
Strathkellar ..	10,227	74,150	7 5 0	56	..	6	29
Bona Vista ..	2,060	28,832	14 0 0	30	..	4	113
Cadman's ..	18	844	50 0 0	..	42	..	..
Iara ..	8,329	45,825	5 10 0	33	..	7	186
Tandarra ..	4,558	21,083	4 12 6	19	..	..	8
Exford ..	8,054	64,039	8 0 0	46	..	6	4
Colbinabbin ..	19,164	110,198	5 17 6	85	..	..	69
Pirron Yaloak ..	1,058	23,796	22 7 6	21	..	..	..
Numurkah ..	2,360	18,901	8 0 0	13	..	1	..
Allambee ..	5,025	31,794	6 6 4	10	..	..	3,474
Pender's Grove ..	233	23,337	100 0 0	..	259	..	..
Phoenix ..	23	968	40 0 0	..	47	..	2
Keayang ..	1,494	14,966	10 0 0	13	..	..	..
Werneth ..	6,588	31,043	4 15 0	21	..	..	11
Staughton Vale ..	9,857	66,466	6 15 0	45	..	..	..
Glenhuntly ..	74	7,040	94 0 0	..	158	..	2
The Heart ..	3,793	56,322	14 12 2	42	..	..	5
Mooralla ..	17,199	60,197	3 10 0	26	..	..	562
Maribyrnong ..	1,112	10,842	9 15 0	12	..	2	..
Kenilworth ..	18,440	55,321	3 0 0	28	..	14	10
Doogalook ..	4,640	29,002	6 5 0	17	..	..	..
Werribee ..	15,218	148,802	13 0 0	35	..	..	1,859
Konongwootong ..	10,181	104,363	10 3 0	65	..	15	45
Cornella Creek ..	29,567	121,034	4 15 0	80	..	1	743
Koyuga ..	789	3,914	.. ..	2	..	..	..
Meadowbank ..	313	9,085	29 0 0	5	..	..	..
Oaklands ..	8,069	26,309	3 5 0	12	..	..	..
Hurstwood ..	6,493	31,311	4 15 0	14	..	..	..
Bumeralla ..	10,034	57,570	5 13 7	34	..	7	..
Morven ..	8,029	39,533	4 17 6	20	..	..	11
Mt. Widderin ..	8,333	48,634	5 15 6	23	..	..	3
Tooronga ..	101	17,675	178 4 4	..	210	..	..
Nerrin Nerrin and Westmere ..	7,743	67,915	.. ..	32	..	1	74
Bellarine ..	204	5,457	26 15 0	7	..	..	33
Daylesford ..	70	2,957	42 5 2	16	..	..	..

* The area given is that to the nearest acre, and in some cases includes Crown lands transferred to the Board without purchase.

CLOSER SETTLEMENT ESTATES AT 30TH JUNE, 1919—continued.

Estates.	Area.*	Purchase Money, including Discount.	Price Paid Per Acre.	No. of Lessees.			Area Vacant and Available.
				Farm Allotments.	Workmen's Home Allotments.	Agricultural Labourers' Allotments.	
	acres.	£	£ s. d.				
Dry Areas—continued.							
Mordialloc ..	460	7,850	17 1 6	..	..	33	22
Thomastown ..	581	11,230	19 5 6	23	..	2	..
Wangaratta ..	796	9,660	12 3 4	27	..	2	162
Warragul ..	98	2,060	21 0 0	3	..	5	..
Belmont ..	113	3,161	28 0 0	..	..	17	..
Highton ..	425	11,032	26 0 0	18	..	..	32
Deepdene ..	2,985	35,742	12 0 0	14	..	..	447
Glenaladale ..	2,109	28,787	13 10 0	17	..	..	..
Cremona ..	1,292	20,140	Various	2	..	..	..
Boisdale ..	2,521	72,174	Various	46	..	..	95
Pannoo ..	15,102	98,455	Various	44	..	..	289
Marathon and Wil-							
low Grove ..	14,783	58,752	Various	27	..	..	1,369
Dunrobin ..	18,814	119,779	6 6 0	56	..	21	29
Kilmany ..	8,746	106,080	12 0 0	75	..	..	2
Waubra ..	47	1,042	22 10 0	10	..	3	..
Nathalia ..	30	362	12 0 0	..	..	5	..
Moyhu ..	2,422	19,580	8 0 0	13	..	..	265
† Condah ..	157	1,725	10 19 8	..	..	..	..
† Mackey ..	1,078	20,626	19 2 10	..	..	..	..
Ascot Vale ..	488	3,671	Various	..	..	..	..
Nanneella ..	738	7,767	Various	6	..	12	18
Cohuna ..	223	2,215	Various	1	..	..	111
Bamawm ..	162	1,391	8 12 0	..	..	..	162
Thornbury ..	11	5,625	..	..	46	..	..
Crown Lands	2,904	20,043	Various	13	79	25	..
Sec. 6-11—Pur-							
chases ..	50,826	334,029	Various	274	..	13	2,560
Barwidgee ..	274	1,625	..	1	..	..	..
Derrinalum ..	103	2,150	..	1	..	..	..
Irrigable Areas—							
Nanneella ..	8,565	78,654	Various	89	..	3	1,319
Bamawm ..	13,365	122,944	Various	143	..	11	1,499
Shepparton ..	9,243	136,839	Various	217	..	40	455
Swan Hill ..	7,358	73,637	Various	147	..	1	327
Cohuna ..	11,531	114,856	Various	103	..	5	2,072
Tongala ..	15,228	172,396	Various	199	..	24	1,741
Kyabram ..	993	14,025	Various	21	..	7	104
Koondrook ..	3,423	23,201	Various	34	..	..	414
Werribee ..	7,996	153,871	..	102	..	19	1,977
Koyuga ..	4,173	36,228	..	42	..	14	72
Echuca ..	3,235	29,142	Various	26	..	1	15
Dingee ..	472	4,160	Various	6	..	8	110
Cornelia Creek	2,507	16,501	..	13	..	..	387
Stanhope (including							
Lauderdale and							
Bonshaw) ..	13,259	152,320	Various	95	..	4	5,214
Sec. 6-11—Pur-							
chases ..	679	6,188	..	6	..	..	..
Acquired, but not							
available ..	9,687	98,375	..	..	..	..	..
Total ..	570,650	4,252,544	..	3,287§	1,045	353	28,689

* The area given is that to the nearest acre, and in some cases includes Crown lands transferred to the Board without purchase.

† Disposed of to the Crown Lands Department.

‡ Disposed of for public purposes.

§ Includes 208 Discharged Soldiers.

On 30th June, 1919, the Board had 99 properties, with a total area of 570,650 acres, of which 28,689 acres were available for allotment, and 9,687 acres had not at that date been made available for occupation. Portions of estates amounting in the aggregate to 29,311 acres have been sold by public competition and for public reserves without any restrictions, and are not under conditional purchase lease.

Up to the end of June, 1919, 208 allotments, containing 18,774 acres, had been sold to discharged soldiers and transferred to the Discharged Soldiers Settlement Act.

The extent of the settlement effected by the Board at 30th June in each of the years 1915 to 1919 is summarized in the next statement.

CLOSER SETTLEMENT HOLDINGS, 1915 TO 1919.

	At 30th June—				
	1915.	1916.	1917.	1918.	1919.
In occupation—					
Number of Holdings ..	4,227	4,321	4,509	4,492	4,477
Area .. acres	460,592	494,965	507,500	506,838	508,463
Resident Population ..	17,200	17,600	17,782	17,620	17,616
Area unallotted .. acres	56,977	51,879	43,017	30,618	28,689

The sum of £2,531,624 had been repaid to the Closer Settlement Fund up to 30th June, 1919. Of this amount £1,536,473 has been transferred to revenue to meet interest due to stockholders, £40,000 has been invested to replace amounts written off estates re-valued, and £794,803 has been utilized for redemption and cancellation of stock and for capital and working expenditure, the balance to the credit of the fund on 30th June, 1919, being £160,348. The balance of unredeemed stock is now £5,042,426, on which the interest payable amounts to £185,131 per annum. Up to the 30th June, 1919, 12,490 applications for advances aggregating £1,020,466 had been approved, and that amount had been advanced to effect improvements, or upon improvements already effected by lessees.

**Small
Improved
Holdings.**

Under the *Closer Settlement Act* 1909 (No. 2) the administration of the *Small Improved Holdings Act* 1906 was placed in the hands of the Closer Settlement Board, subject to the Minister. The particulars of estates dealt with under the latter Act are shown in the table on page 402 relating to closer settlement estates at 30th June, 1919.

**Soldiers
Settlement
Scheme.**

Up to the 30th November, 1919, the Closer Settlement Board had specially purchased for the settlement of soldiers 397,060 acres at a cost of £3,348,346. The number of soldiers settled at that date were as follows:—

On land specially purchased by the Closer Settlement Board	1,458
On land specially purchased by the State Rivers and Water Supply Commission	116
On Closer Settlement old estates—Dry areas	65
On Closer Settlement old estates—Irrigable areas ..	273
On Crown Lands—Ordinary and Mallee Areas	393
On Crown Lands—Merbein and Nyah Irrigation Areas ..	163
Soldiers receiving assistance from the Closer Settlement Board on share farming, leasing agreements, and freehold land	203
Total	2,671

In addition to the above the Board had available or in process of being made available 1,081 allotments, of which 504 were on specially purchased land, 267 in irrigable areas, and 310 on Crown land.

Up to the end of November, 1919, the amount of assistance rendered by the Board to soldier settlers by way of advances was £509,000.

WATERWORKS.

**Victorian
Waterworks.**

Victorian Waterworks are all controlled by official bodies, either State or local, and the following table summarizes those waterworks on which the Government has expended or advanced moneys. It is practically a summary of all waterworks

in the State, although there are minor works constructed by municipalities out of municipal funds.

WATERWORKS—CAPITAL EXPENDITURE AND ADVANCES BY STATE TO 30TH JUNE, 1918.

Controlling Bodies.	Purposes of Supply.	Storage Capacity of Reservoirs.	Capital Expenditure and Advances by State.
		Gallons.	£
State Rivers and Water Supply Commission—			
Coliban System ..	Domestic and Mining	10,826,000,000	1,252,186
Broken River Works ..	Stock and Domestic	..	14,853
		Acres feet.	
Goulburn-Waranga ..	Irrigation, &c. ..	218,090	1,468,781
North-west (Kerang) Lakes	Stock and Domestic	88,500	10,865
Kow Swamp Works ..	Irrigation, &c. ..	40,860	187,084
Loddon River Works ..	" " ..	14,000	167,636
Sugarloaf Reservoir (under construction) ..	" " ..	300,000	214,687
		Cubic feet.	
Lake Lonsdale Reservoir	Stock and Domestic	1,981,000,000	49,054
Lower Wimmera Compensation Works ..	" "	125,000,000	8,558
Long Lake Pumping Works ..	" "	160,000,000	27,346
Pyke's Creek and Werribee Scheme ..	Irrigation, &c. ..	31,850	161,898
Irrigation and Water Supply Districts (19)	" " ..	..	1,693,747
Waterworks Districts (16)	Stock and Domestic	..	1,261,228
First Mildura Irrigation and Water Supply Trust	Irrigation ..	..	103,732
		Gallons.	
Waterworks Trusts (99) ..	Stock and Domestic	1,180,000,000	1,205,763
Municipal Corporations (29)	" "	3,110,000,000	773,998
Abolished Irrigation and Water Supply Trusts (8)	Irrigation ..	..	31,953
Miscellaneous Expenditure	" " ..	..	170,285
Melbourne and Metropolitan Board of Works ..	Domestic ..	6,460,000,000	4,888,821
Geelong Waterworks Trust	" " ..	2,703,967,000	617,267
Total ..	" " ..	..	14,309,742

Of the expenditure given in the case of the Melbourne waterworks, £3,189,934 represents money borrowed by the State, £1,630,148 of which has been redeemed—£800,000 out of consolidated revenue, and £830,148 by payments from the Melbourne and Metropolitan Board of

Works, to which body the waterworks were transferred in 1891. The loan liability to the State of the Melbourne and Metropolitan Board of Works on 30th June, 1918, was £1,559,786. Further particulars relating to this Board will be found on page 267, Part VI., of this volume.

The Geelong Waterworks were sold by the Government to the Geelong Municipal Waterworks Trust in 1908 for £265,000. The expenditure shown in the above table includes, in addition to this amount, the outstanding State loan liability on account of the works, viz., £190,676, and the capital expenditure by the Trust since acquiring the works, viz., £161,591.

The next table summarizes the amounts disbursed on State works and those granted and lent to local bodies by the State on account of waterworks. In addition to their receiving free grants large sums have been written off the liabilities of the local bodies.

CAPITAL EXPENDITURE AND LOANS FOR WATERWORKS.

	Expenditure and Advances by State.	Interest Capitalized.	Free State Grants.	Capital Written Off.	Payments towards Redemption.	Amount standing at Debit, 30th June, 1918.
	£	£	£	£	£	£
State Works	3,562,948	..	2,798*	..	..	3,562,948
Irrigation and Water Supply Districts (19)	1,693,747	..	15,406	575,152	17,394	1,101,201
First Mildura Irrigation and Water Supply Trust ..	103,732	..	..	..	2,180	101,552
Waterworks Districts (16) ..	1,261,228	..	46,439	169,927	34,034	1,057,267
Waterworks Trusts (99) ..	1,152,050	6,871	37,414	130,989	123,703	904,229
Geelong Waterworks and Sewerage Trust	455,676	..	..	..	265,000	190,676
Municipal Corporations (20) ..	764,455	43,633	..	165,870	128,103	514,115
" (9)	9,543	346	..	..	9,889	..
Melbourne and Metropolitan Waterworks System ..	3,189,934	..	..	..	1,630,148	1,559,786
Abolished Trusts (8)	31,710	..	243	31,680	30	..
Miscellaneous	170,285	..	..	..	..	170,285
Total	12,395,308	50,850	102,300	1,073,618	2,210,481	9,162,059

* Originally grants to Waterworks Trusts, the works on which spent having been taken over by the State.

In addition to the capital written off, as shown above, arrears of interest amounting to £579,786 have been written off certain

liabilities to the State, viz., £342,773 from the liabilities of what were originally Irrigation and Water Supply Trusts, £85,556 from the liabilities of Waterworks Trusts, and £151,457 from the liabilities of Municipal Corporations. Thus the amount actually written off the liabilities of the Trusts (Irrigation and Waterworks) and Corporations is £1,653,404. Interest outstanding at 30th June, 1918, amounted to £36,342, viz., £13,360 against the First Mildura Trust, £12,633 against Waterworks Trusts, and £10,349 against Municipal Corporations.

IRRIGATION.

Progress of Irrigation. Prior to 1905 the management of irrigation in Victoria was in the hands of various Irrigation Trusts, which were financed by the State. These Trusts drifted into financial difficulties and the State was compelled to assume control.

In the year mentioned, by the authority of Parliament, the State Rivers and Water Supply Commission was constituted and intrusted with the management of all irrigation works, except those controlled by the First Mildura Trust. This authority is embodied in the *Water Act* 1915—which consolidates the *Water Acts* of 1905 and 1909, of which an epitome has been given in previous issues of this work—and the *Water Act* 1916. The chief difficulties under which the Irrigation Trusts laboured were sparse settlement, and the absence of powers to make compulsory charges on the properties commanded by the irrigation channels. Since the assumption of control by the Commission, a policy of closer settlement on the lands served by the irrigation channels has been inaugurated and vigorously pushed on, and a system of compulsory rating enforced, along with which there has been the allotment of water as a right to properties in channelled areas.

An illustration of the influence of closer settlement and the allotment of water rights in extending irrigation is contained in the following table, which shows, for the districts having water rights, most of which are directly affected by the Commission's Closer Settlement policy, the areas irrigated in 1909-10—the year in which these two factors were first put into operation—and the average areas for the last five years.

PROGRESS OF IRRIGATION IN CLOSER SETTLEMENT AREAS.

District (having allotted Water Rights).	Area Irrigated.	
	1909-10.	Average for past Five Years.
	Acres.	Acres.
Supplied from the Goulburn—		
Shepparton .. .. .	..	11,309
Rodney	32,356	47,892
Tongala	2,270	9,540
Rochester	500	20,860
Dingee .. .. .	..	1,529
Tragowel Plains	20,000	29,691
Supplied from the Murray—		
Cohuna	12,000	15,959
Gannawarra	7,825	15,344
Koondrook	5,029	14,051
Swan Hill	5,410	8,643
Nyah	569	1,633
Merbein	202	5,468
Supplied from the Werribee—		
Bacchus Marsh	31	2,950
Werribee .. .. .	..	2,628
Total	86,192	187,497

The Closer Settlement operations of the Water Supply Commission during the past year have been confined almost exclusively to the settlement of discharged soldiers, 352 of whom were provided with blocks out of a total of 386 applications granted. The remaining 34 holdings, not being deemed quite so suitable for the settlement of soldiers, were allotted in the ordinary way under the Closer Settlement Acts to applicants having previous experience. The total area now settled on the irrigable closer settlement estates subdivided by the Commission is about 97,700 acres. Of this area, about 14,400 acres have been devoted to fruit culture, and 25,600 acres are under lucerne, and 14,900 acres under other crops. The Commissioner has up to the present time placed on irrigable farms 486 discharged soldiers, 166 of whom chose blocks on the Murray frontage settlements at Merbein and Nyah, 84 on the Stanhope Estate in the Goulburn Valley, 40 at Werribee, 143 on various other subdivided estates, and 53 on separate properties specially purchased. Of the above total, 76 soldiers availed themselves of the provisions of section 20 of the *Closer Settlement Act* 1915, which enabled them to acquire, by agreement with the owners, irrigable farms selected by themselves, such agreements being ratified by the Governor in Council. The 76 holdings so purchased comprise some 6,300 acres,

bringing the total area settled under irrigation Closer Settlement conditions to about 104,000 acres.

The following statement shows the lands purchased and subdivided by the State in irrigation districts, and the extent of settlement on each estate. From this it will be seen that the subdivided portions of these estates are already supporting fourteen times as many families as were living on them prior to their subdivision. The statement shows also the particulars of settlement effected under section 20 of the *Closer Settlement Act 1915* :—

CLOSER SETTLEMENT IN IRRIGATION DISTRICTS.

Closer Settlement Estates.	Area of Lands purchased by the State.	Properties Subdivided.						
		Area.	Number.	No. of families thereon when purchased.	Subdivided into—		No. of Closer Settlement Blocks now occupied.	Increase in No. of Families.
					No. of Closer Settlement Blocks.	Average Area.		
	Acres.	Acres.				Acres.		
Shepparton ..	9,600	9,600	22	21	280	32	269	248
Tatura ..	100	100	1	..	4	24	..	..
Stanhope ..	20,900	15,800	5	10	276	53	132	122
Kyabram ..	3,000	1,000	1	3	28	33	26	23
Tongala ..	15,800	15,800	32	31	247	61	212	181
Cornelia Creek	2,500	2,500	} Pt. 1	..	13	190	13	13
Koyuga ..	4,200	4,200			56	71	50	50
Nanneella ..	8,600	8,600	16	6	109	76	91	85
Echuca ..	3,200	3,200	6	4	26	122	24	20
Bamawm ..	13,400	13,400	28	21	174	73	158	127
Dingee ..	500	500	3	1	16	28	12	11
Cohuna ..	11,500	11,500	27	8	128	86	99	91
Koondrook ..	3,400	3,400	5	4	35	90	30	26
Swan Hill ..	7,400	7,400	20	10	142	126	136	126
Werribee ..	8,000	8,000	1	9	170	43	141	132
	112,100	105,000	168	128	1,704	58	1,393	1,265
<i>Murray Frontage Settlements.</i>								
Nyah ..	3,300	3,300	1	5	188	17	182	177
Merbein ..	7,700	7,700	Crown lands	..	334	23	334	334
	123,100	116,000		133	2,226	50	1,909	1,776
Properties acquired under Section 20, <i>Closer Settlement Act 1915</i> ..	6,300	..	..	..	..	..	76	..

The lands made available during the year were for discharged soldiers only. The area aggregated over 16,500 acres which provided 332 allotments. The total area in the subdivided estates is 116,000 acres, which, after making the necessary deductions for roads, channels and township reserves, has been made available in 2,226 blocks of a total area of 110,500 acres, an average of 50 acres per block. Of this, as previously stated, 97,700 acres have been settled. There are now available in these estates 317 allotments in areas varying from 2 to 145 acres, and containing in all 12,800 acres. In addition to this area, the Commission has in reserve some 5,000 acres at Stanhope and 2,100 acres at Kyabram, acquired under the Closer Settlement Acts, and has purchased, specially for repatriation purposes, 1,460 acres at Swan Hill and 320 acres at Shepparton. It is also making available about 200 acres at Werribee presented for the same purpose. These lands are being surveyed and made ready for settlement as required.

**Water Supply
Construction
Works,
1918-19.** The construction of storage works by the State Rivers and Water Supply Commission was continued during the year. Satisfactory progress was made with the construction of Sugarloaf Reservoir, on the Upper Goulburn, and the enlargement of Waranga Reservoir, which are the principal works for irrigation requirements now being carried on.

Progress was also made with the works for supplementing the domestic and stock supplies to the districts served by the Wimmera-Mallee system.

The work of converting Taylor's Lake into a controllable reservoir (to hold 30,000 acre feet) has been somewhat delayed owing to the scarcity of labour, but it is now well advanced, and will probably come into partial use during the winter of 1920.

The construction of the main channel to connect the channels of the Long Lake and Tyntynder Waterworks District with the Wimmera-Mallee System having been completed, these districts, hitherto supplied from the Murray River by pumping at Long Lake and Nyah, are now supplied with equal efficiency and at a lower cost from the Wimmera River by gravitation. The comprehensive Wimmera-Mallee gravitation channel system now serves a total area of 8,500 square miles, extending approximately from Lake Lonsdale—at the foot of the Grampians Ranges—on the south, to Ouyen and Piangil, some ten to twenty miles beyond Lake Tyrrell—on the north, and from the Richardson and Avoca Rivers on the east to Lake Hindmarsh on the west. The channels which supply this extensive area have a total length of 4,000 miles.

The scheme prepared at the request of the Naval authorities for the supply of water to the Naval Base which is being established at Crib Point, Western Port, and the several townships and bayside resorts *en route* has been so far advanced that water is now being supplied to the Naval Base.

The supply is to be drawn from the head-waters of the Bunyip River, and will be conveyed through cement-lined races and pipes, *viâ* Berwick, Beaconsfield, Pakenham, and Cranbourne townships to a service reservoir at Frankston, from which the townships of Mornington, Frankston, Seaford, Carrum, Chelsea, and Aspendale will be reticulated. From Langwarrin a pipe main, which will supply the township of Somerville *en route*, connects with the Base Reservoir, which serves the Naval Base and the neighbouring seaside resorts.

The original scheme was estimated to cost £156,000, but extensions are under consideration which would enable a supply to be given to the district of the Dandenong Waterworks Trust, also to a portion of Moorabbin Shire. The inclusion of these areas would increase the estimated cost by about £30,000.

The total storage capacity of existing reservoirs under the Commission's control is 569,000 acre feet, compared with 172,000 acre feet in the drought year 1902. When the works now in hand are completed, the total capacity will exceed 1,000,000 acre feet, and it is estimated that Victoria's share of the Upper Murray storage will be an additional 500,000 acre feet.

The subjoined table shows the total extent of irrigated land in the State for 1909-10 and each of the last five years, and the purposes for which the land was utilized:—

IRRIGATED AREAS: HOW UTILIZED.

Crop.	1909-10.	1914-15.	1915-16.	1916-17.	1917-18.	1918-19.
	acres.	acres.	acres.	acres.	acres.	acres.
Cereals	23,715	74,658	61,663	18,790	3,243	44,765
Lucerne	24,124	71,217	70,372	74,042	50,869	64,131
Sorghum and other annual fodders ..	8,094	37,759	15,412	14,707	10,589	19,083
Pastures	50,541	81,463	82,622	87,458	54,985	83,986
Vineyards and orchards	17,524	28,666	32,918	38,246	32,785	38,260
Fallow	4,988	13,368	5,621	3,220	2,323	5,575
Miscellaneous ..	785	2,214	2,399	4,242	3,002	3,559
	129,771	309,345	271,007	240,705	157,796	264,359
Details not available (private diversions)	8,000	15,000	17,000	17,000	17,000	17,800
Total ..	137,771	324,345	288,007	257,705	174,796	282,159

Of the total area irrigated in 1918-19 for which details of crops are available—264,359 acres—the percentages devoted to different purposes were as follows:—Pastures, 34; lucerne, 24; cereals, 17; vineyards, orchards, and gardens, 15; sorghum and other annual fodder crops, 7; fallow, 2; and miscellaneous, 1. The abnormally heavy rainfall in the year 1917-18—particularly in the cereal irrigation period—made it

unnecessary, in many instances, to water land which in ordinary seasons is under irrigated culture.

The Mildura Irrigation Settlement, on the Murray River, was established in 1887 under the management of the Chaffey Brothers Limited, and in 1895 the control of the water supply was vested in the First Mildura Irrigation Trust. Water is obtained by pumping from the river. The following particulars are an indication of the prosperity of the settlement :—

POPULATION OF MILDURA SHIRE, 1891 TO 1918.

1891	April (Census)	..	2,321	1914	December	..	7,250
1896	September	..	2,000	1915	..	..	7,618
1901	March (Census)	..	3,325	1916	..	..	8,000
1911	April (Census)	..	6,119	1917	..	..	8,250
				1918	..	..	8,550

The receipts and payments of the Mildura Irrigation Trust during the year ended 30th June, 1918, were as follows :—

RECEIPTS AND PAYMENTS OF FIRST MILDURA IRRIGATION TRUST, 1917-18.

<i>Receipts.</i>	£	<i>Payments.</i>	£
Horticultural Rates	.. 23,459	Wages and Salaries	.. 8,054
Special Waterings, &c.	.. 1,127	Firewood	.. 9,240
Miscellaneous	.. 4,913	Interest, Sinking Fund and	
		Depreciation	.. 6,888
		Miscellaneous	.. 7,275
Total	.. 29,499	Total	.. 31,457

The extent of watering done represented 40,860 water acres in 1911-12, 36,553 acres in 1912-13, 39,541 acres in 1913-14, 42,476 acres in 1914-15, 41,405 acres in 1915-16, 29,966 acres in 1916-17, and 22,876 acres in 1917-18.

The following particulars relating to artesian boring have been supplied by the State Rivers and Water Supply Commission :—

ARTESIAN AND SUB-ARTESIAN BORING.

Number of Bores Sunk.		Total Depth Bores.	
State.	Private.	State.	Private.
99	186	Feet. 42,000	Feet. 39,000

In 86 of the Government bores fresh water was struck at depths varying from 150 to 700 feet, the water rising to heights varying from 200 to 7 feet below the surface. In three cases the water rises from 4 feet to 17 feet above the surface.

METEOROLOGY.

Particulars in regard to climate and weather conditions have been furnished by the Commonwealth Meteorologist, and are given in the following tables. In the first are shown the rainfall for each of the years 1916, 1917, and 1918, and the average yearly amount of rainfall deduced from all available records to December, 1918, in each of the 26 river basins or districts constituting the State of Victoria :—

RAINFALL.—YEARLY RECORDS AND AVERAGES.

Basin or District.	Rainfall.			
	During 1916.	During 1917.	During 1918.	Yearly Average to December, 1918.
	Inches.	Inches.	Inches.	Inches.
Glenelg and Wannon Rivers ..	29.09	29.86	23.95	26.46
Fitzroy, Eumeralla, and Merri Rivers ..	32.02	32.78	28.04	29.33
Hopkins River and Mt. Emu Creek ..	29.64	29.97	23.87	25.34
Mt. Elephant and Lake Corangamite ..	30.28	26.94	22.81	25.13
Cape Otway Forest ..	42.04	44.09	39.32	41.59
Moorabool and Barwon Rivers ..	31.66	25.43	20.85	24.39
Werribee and Saltwater Rivers ..	34.98	26.97	22.77	23.62
Yarra River and Dandenong Creek ..	43.66	40.26	34.77	33.69
Koo-wee-rup Swamp ..	45.31	43.01	34.35	35.78
South Gippsland ..	46.46	37.66	37.66	39.32
Latrobe and Thomson Rivers ..	43.22	40.34	38.23	36.86
Macallister and Avon Rivers ..	34.18	22.91	25.56	23.76
Mitchell River ..	31.17	26.28	24.52	26.49
Tambo and Nicholson Rivers ..	30.44	25.62	24.51	27.60
Snowy River ..	37.24	27.46	32.99	34.49
Murray River ..	23.40	25.24	20.40	16.85
Mitta Mitta and Kiewa Rivers ..	41.62	53.58	32.63	33.22
Ovens River ..	47.47	61.88	39.85	34.26
Goulburn River ..	36.45	42.64	31.62	26.58
Campaspe River ..	31.51	30.58	24.26	23.37
Loddon River ..	27.23	27.78	21.55	19.97
Avoca River ..	20.80	22.23	16.36	17.18
Avon and Richardson Rivers ..	20.54	20.94	14.35	16.38
Eastern Wimmera ..	28.02	25.46	21.40	21.36
Western Wimmera ..	23.37	24.38	18.03	19.98
Mallee ..	16.50	20.45	13.82	12.90
Weighted Averages ..	30.27	30.77	24.70	24.40

The wettest portions of the State are the South Gippsland, the Latrobe and Thomson, and the Cape Otway Forest districts, and the driest district is the Mallee, where the average rainfall is only 12.90 inches as compared with an average of 24.40 for the State.

The actual areas of the State, in square miles, subject to different degrees of rainfall are as follows :—

DISTRIBUTION OF AVERAGE RAINFALL.

Rainfall.					Area in Square Miles.
Under 15 inches ..	..	..	..	..	19,912
From 15 to 20 inches	..	..	..	..	12,626
From 20 to 25 inches	..	..	..	..	14,070
From 25 to 30 inches	..	..	..	..	15,247
From 30 to 40 inches	..	..	..	..	14,029
From 40 to 50 inches	..	..	..	..	7,055
From 50 to 60 inches	..	..	..	..	3,348
Over 60 inches ..	..	..	..	..	1,597

The rainfall recorded for each quarter of 1918, and the quarterly averages up to 1918 deduced from all available records are as follows :—

RAINFALL—QUARTERLY RECORDS AND AVERAGES.

Basin or District.	First Quarter.		Second Quarter.		Third Quarter.		Fourth Quarter.	
	Amount.	Average.	Amount.	Average.	Amount.	Average.	Amount.	Average.
Glenelg and Wannon Rivers	points	points	points	points	points	points	points	points
Fitzroy, Eumeralla, and Merri Rivers	238	363	850	801	742	885	565	597
Hopkins River and Mt. Emu Creek	305	438	833	877	1007	967	659	651
Mt. Elephant and Lake Corangamite	341	413	860	757	749	787	437	577
Cape Otway Forest	424	453	804	717	617	748	436	595
Moorabool and Barwon Rivers	569	642	1218	1246	1323	1362	822	909
Werribee and Saltwater Rivers	540	478	659	669	554	701	332	591
Yarra River and Dandenong Creek	583	512	637	618	695	644	362	598
Koo-wee-rup Swamp	871	688	881	895	1119	903	606	883
South Gippsland	780	678	1031	1022	1001	995	623	883
Latrobe and Thomson Rivers	934	790	1195	1111	965	1126	672	905
Macallister and Avon Rivers	921	707	1206	963	965	1048	731	968
Mitchell River	844	622	764	535	647	591	301	628
Tanbo and Nicholson Rivers	707	672	651	639	657	673	437	665
Snowy River	790	701	513	685	690	662	458	712
Murray River	864	812	687	925	1019	891	729	821
Mitta Mitta and Kiewa Rivers	764	325	689	500	428	474	159	386
Ovens River	737	599	1243	955	940	987	343	781
Goulburn River	892	574	1651	1011	1095	1088	347	753
Campaspe River	939	453	1194	799	685	825	344	581
Loddon River	681	421	993	693	489	722	263	501
Avoca River	580	347	870	610	491	600	214	440
Avon and Richardson Rivers	443	282	707	536	343	531	143	369
Eastern Wimmera	308	254	708	508	297	521	122	355
Western Wimmera	346	301	891	656	598	707	305	472
Mallee ..	183	249	769	629	497	693	354	427
	415	244	586	386	275	394	106	286
The whole State ..	584	443	868	702	652	733	366	562

The averages of the climatic elements for the seasons in Melbourne deduced from all available official records are given below :—

AVERAGES OF CLIMATIC ELEMENTS IN MELBOURNE.

Meteorological Elements.	Spring.	Summer.	Autumn.	Winter.
Mean pressure of air in inches	29·971	29·924	30·079	30·079
Monthly range of pressure of air—Inches	0·889	0·772	0·811	0·981
Mean temperature of air in shade—° Fahr.	57·6	66·5	59·4	50·0
Mean daily range of temperature of air in shade—° Fahr.	18·7	21·2	17·4	14·0
Mean relative humidity. Saturation = 100	66	60	70	76
Mean rainfall in inches	7·29	5·86	6·66	5·75
Mean number of days of rain	37	23	33	42
Mean amount of spontaneous evaporation in inches	10·13	17·17	7·75	3·63
Mean daily amount of cloudiness—Scale 0 to 10	6·0	5·2	6·0	6·4
Mean number of days of fog	1	1	5	11

In the subjoined statement are shown the yearly averages of the climatic elements in Melbourne for 1918 and for the past 63 years as well as the extremes between which the yearly average values of such elements have oscillated in the latter period.

YEARLY AVERAGES AND EXTREMES OF CLIMATIC ELEMENTS.

Meteorological Elements.	Yearly Averages and Extremes.			
	Year 1918.	Average for 63 Years.	Extremes between which the Yearly Average Values have oscillated in 63 years.	
			Highest.	Lowest.
Mean atmospheric pressure (inches) ..	30·035	30·013	30·106	29·945
Highest " " " ..	30·609	30·606	30·762	30·488
Lowest " " " ..	29·345	29·256	29·445	28·942
Range (inches)	1·264	1·350	1·719	1·169
Mean temperature of air in shade (°Fahr.)	58·9	58·4	59·9	57·3
Mean daily maximum .. (° Fahr.)	67·4	67·3	69·0	66·0
Mean daily minimum	50·5	49·5	51·2	47·2
Absolute maximum	100·9	105·1	111·2	96·6
Absolute minimum	31·0	30·7	33·9	27·0
Mean daily range	16·9	17·8	20·4	15·0
Absolute annual range	69·9	74·4	82·6	66·0
Solar Radiation (mean maxima) ..	116·3	118·1	127·6	106·0

YEARLY AVERAGES AND EXTREMES OF CLIMATIC ELEMENTS—
continued.

Meteorological Elements.	Yearly Averages and Extremes.			
	Year 1918.	Average for 63 years.	Extremes between which the Yearly Average Values have oscillated in 63 years.	
			Highest.	Lowest.
Terrestrial Radiation (mean minima) .. (°Fahr.)	43·6	43·8	46·7	39·5
Rainfall (in inches) ..	27·13	25·56	38·04	15·61
Number of wet days ..	160	135	171	102
Year's amount of free evaporation (in inches) ..	37·70	38·68	45·66	31·59
Percentage of humidity (satura- tion = 100) ..	66	68	76	62
Cloudiness (scale 10 = overcast, 0 = clear) ..	5·8	5·9	6·4	4·8
Number of days of fog ..	26	18	39	5

AGRICULTURAL RESEARCH AND EDUCATION.

Department of Agriculture. This Department is controlled by a Minister of the Crown, under whom there is a large staff of experts with the Director of Agriculture as permanent head. These officers are actively engaged in supervising all matters relating to the Agricultural, Pastoral, Fruit and Dairying Industries of the State, and in giving instructions to those engaged therein. The Department publishes a monthly journal.

Government Experimental Farming. The great expansion in our rural industries during recent years has been largely brought about by the general adoption of better methods of farming, and by the introduction of more prolific wheats, and it is claimed that these improvements have been adopted as the result of the experimental and demonstration work of the Department of Agriculture. For many years the Department carried out research work on a large number of experimental plots on private farms throughout the State, but in 1912 the great majority of these plots were discontinued, and a commencement was made towards a policy of concentration in experimental investigation. In furtherance of this policy a Central Research Farm has been established at Werribee, and it is there that the initiative with regard to all experimental and research work is undertaken. The State farms at Rutherglen, Longerenong, and Wyuna are used as district experimental stations for the North-East; the Wimmera, and the Goulburn Valley respectively. The problems investigated on these farms are fully described in the 1915-16 issue of this work.

Agricultural Colleges. An Act for the establishment of Agricultural Colleges was passed in 1884, and 14,460 acres, comprising 5,975

acres at Dookie, 2,386 acres at Longerenong, 2,500 acres at Gunyah, 2,800 acres at Olangolah, and 817 acres at Bullarto, were reserved as sites for colleges and experimental farms. An additional area of 800 acres has been purchased for cultivation purposes at Dookie. The areas at Dookie and Longerenong are being used for the purpose for which they were reserved, but the other three are devoted to other uses.

In addition to the college and farm lands, provision was made by the Act of 1884 to permanently reserve from sale an area of not more than 150,000 acres of Crown lands, and to vest it in trustees to be appointed, who should hold it in trust for the benefit of and by way of an endowment for State agricultural colleges and experimental farms. The land so reserved now amounts to 71,412 acres, which are let for grazing and agricultural purposes.

The fees for students in residence at the agricultural colleges are :— Maintenance—£20 per annum; medical attendance and medicines, £1 5s. per annum; stationery, laundry, and other charges, including sports fees, bring the total cost to £25 per annum. No charge is made for instruction. Accommodation is provided at Dookie for 100 and at Longerenong for 40 students.

This institution is situated in the Burnley Gardens, close to the Hawthorn and Heyington railway stations. The Hawthorn electric trams from Princes-bridge pass the gates.

The classes are open to male and female students above fourteen years of age. The Course for the Certificate in Horticulture occupies two years, and is intended for those who propose to follow orchard or garden work as a profession. Several of the female students who have completed the course are now occupied in gardening or nursery work. A practical training is obtained in the orchards, gardens, and nursery connected with the school; the course also includes lectures and demonstrations by various expert teachers. The students in this class attend daily (Saturdays excepted). The fees are £5 per annum.

A part-time class in gardening for men and women is held on Tuesday and Thursday afternoons. The members of this class attend also the demonstrations on poultry management, bee-keeping, and fruit-preserving. The fees are £2 per annum.

Pupils from the secondary schools attend classes for the study of the principles of primary agriculture. These classes are held primarily for students taking the subject of agriculture for the intermediate and leaving examinations at the Melbourne University. The class from each school attends on a separate half-day each week and the instruction is free.

Excursions to up-to-date farms, orchards, and nurseries form part of the work in all the classes.

For 1919, the students enrolled numbered 41 in the Horticultural and 117 in the Agricultural class.

Various particulars relating to the State Experimental Farms and Agricultural Colleges are embodied in the next statement.

GOVERNMENT EXPERIMENTAL FARMS AND
AGRICULTURAL COLLEGES, 1918.

Particulars.	Central Research Farm, Werribee.	Wyuna. Irrigation Farm.	Ruther- glen Farm, &c.	Dookie Agri- cultural College.	Longe- rong Agri- cultural College.	School of Primary Agricul- ture, etc.	Bamawm Experi- mental Nursery, &c.
	No.	No.	No.	No.	No.	No.	No.
Professional Staff ..	1	1	2	12	6	3	..
Hands employed ..	27	10	45	33	14	9	8
Students ..	20	1	13	92	49	158	..
Value of plant and machinery ..	£ 2,477	£ 1,122	£ 1,371	£ 3,400	£ 1,750	£ 150	£ 110
Value of produce for year ..	12,000	1,500	2,000	8,528	6,100	795	750
Receipts ..	..	..	..	1,477	895	139	..
Fees ..	..	..	..	..	..	..	..
Sale of produce, &c. ..	5,259	1,490	2,781	6,200	4,620	73	749
Other ..	83	14	25	..	..	830	..
Total receipts	5,342	1,504	2,806	7,677	5,515	1,042	749
Expenditure—							
Salaries—							
Professional Staff	300	208	560	3,171	1,369	625	..
General Staff ..	3,970	769	5,114	2,737	1,460	1,168	1,053
Buildings and maintenance ..	1,517	484	1,427	2,912	1,010	404	45
Other ..	2,390	600	1,742	3,988	3,406	169	130
Total expendi- ture ..	8,177	2,061	8,843	12,808	7,245	2,366	1,228
Area under—	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Cereals for Grain	612	40	295	280	407	..	..
Hay ..	450	62	60	175	118	..	..
Fruit trees, &c. ..	..	1	3½	20	17	14	30½
Vines ..	..	½	58	26	10	½	..
Green fodder ..	60	14	200	15	54	..	4
Other crops ..	170	35	24	27	..	1	..
Total area under crop ..	1,292	152½	640½	543	606	15½	34½
Area of land in fallow	400	80	128	397	370	..	..
Area under artifi- cially sown grasses	45	2	20	..	..	7	..
Area resting ..	387	265½	162	738	609	..	..
Total area of arable land ..	2,124	500	950½	1,678	1,585	22½	34½
Balance of area	85	40	362½	4,235	801	10½	3
Total area of farm ..	2,209	540	1,313	5,913	2,386	33	37½
Live Stock—	No.	No.	No.	No.	No.	No.	No.
Horses ..	80	28	35	91	50	1	2
Dairy cows ..	70	24	13	40	27	3	..
All other cattle	79	15	19	96	21	..	..
Sheep ..	1,250	40	536	2,080	940	..	..
Pigs ..	..	40	41	120	69	3	..

The orchards, nurseries, and gardens of the State are systematically inspected by the officers of the Vegetation Inspection of Orchards, Nurseries, &c. Diseases Branch of the Department of Agriculture. Nurseries are inspected every six months, and certified to by the departmental supervisor if clean and free from disease. Old, worn-out, and infected orchards are destroyed.

There has been considerable alteration in the departmental policy with respect to experimental orchards. The small and comparatively valueless demonstration orchards are being replaced by larger areas on which experimental and demonstration works have been concentrated. Two of these orchards have been commenced—one at Bamawm and the other at Creswick.

Experiments are carried out in the treatment of diseases; lectures and demonstrations are given on the various phases of horticulture; and sites are selected on the farms of intending fruit-growers, to whom advice is given as to the most suitable varieties to be planted and their subsequent treatment.

The fear of introducing the fruit-flies *Tephritis tryoni* and *Halterophora capitata* and diseases arising from other causes has necessitated a thorough examination of fruit from Queensland, New South Wales, and elsewhere. The fruit-fly question is a very grave one, and, should either of the above-named insects obtain a footing in Victoria, a great portion of the large and important fruit industry of our State would be practically ruined.

Plants and cuttings coming from foreign parts are fumigated if a certificate that they have been treated at the port of shipment does not accompany the consignment. Even when they have been thus certified, the Senior Fruit Inspector has the right of examination and, if necessary, of ordering a second fumigation.

The State has about 12,000,000 acres of woodland, and of this area 4,160,342 acres are set aside as climatic reserves and for the production of timber. Of the State forest domain, some 3,000,000 acres are situated on the slopes of high mountain ranges, and their protection is essential for the maintenance of streams and springs; over half-a-million acres are situated in the extreme Eastern part of the State and, owing to difficulties of transport, are not at present accessible for practical working; half-a-million acres, chiefly in the central district, which have been cut over, are closed for the protection of the young timber; while in the remaining area (over 500,000 acres) timber cutting is carried on in various parts.

The timbers of commercial value in Victoria number twenty, all species of the eucalyptus family. Alarmist statements to the effect that there is an increasing scarcity of commercial timber here are ill-founded, as large supplies of hardwood are assured for many years to come.

A forest nursery, with provision for an annual output of from four to five million tree plants, has been completed at Creswick, the nursery at Macedon has been remodelled, and a large new nursery has been established at Broadford. The plantations at Creswick, Lara, and Mt. Alexander are being gradually extended, and large new plantations have been formed in the Wimmera district, in southern Gippsland, and in coastal areas near Frankston. In the past much of this work was experimental, but the experience gained in the propagation and growing of Australian hardwoods, as well as exotic conifers, has proved of great benefit to the community. Transplants are

distributed to farmers, municipalities, and State schools. Farmers particularly benefit by planting trees around their homesteads, as the home is thereby protected from wind and weather, and shelter and shade are afforded to live stock, thus insuring healthier flocks and herds and increased returns. In addition to the three nurseries, there are 23 plantations having a total area of 21,740 acres.

The persons employed in connexion with the State forests and nurseries comprise administrative and professional staff, 15; protective and general staff, 92; and nursery staff, 43. The revenue from licences and royalties in 1918 amounted to £61,178. The expenditure was £58,204, of which sum about 50 per cent. was devoted to the improvement of the natural forests and the extension of plantations.

It is estimated that the quantity of timber produced in the rough in 1918 was 69,637,000 super. feet. In addition, 272,542 tons measurement of fuel timber were produced.

The State has rendered substantial assistance to the various branches of the agricultural and pastoral industries during past years. The appended table summarizes for the last five years the items of State expenditure from consolidated revenue in this direction, and shows the amount of revenue received by the Department of Agriculture, which consists chiefly of payments by exporters for packing produce for export:—

EXPENDITURE AND REVENUE CONNECTED WITH
AGRICULTURE, ETC., 1913-14 to 1917-18.

	1913-14.	1914-15.	1915-16.	1916-17.	1917-18.
<i>Expenditure.</i>	£	£	£	£	£
Department of Agriculture ..	25,211	26,297	23,622	25,102	24,726
Grants to Agricultural and Horticultural Societies, &c. ..	4,473	7,880	1,163	826	675
Development of Export Trade	40,505	34,275	33,622	33,409	39,959
Viticultural Education and Inspection of Vineyards ..	5,917	3,642	3,479	3,996	4,988
Maffra Beet Sugar Factory ..	32,493	25,228	18,693	42,414	45,042
Fruit Cool Stores ..	3,650	4,115	3,342	7,817	1,756
Technical Agricultural Education, &c. ..	18,478	21,451	19,479	21,585	23,008
Publishing Agricultural Reports	2,834	2,555	2,290	2,700	2,700
Advances to Settlers on account of Losses by Bush Fires, &c.	182	6,157	..	..	..
Rabbit and Vermin Extirpation ..	29,596	32,211	24,257	24,388	30,847
Stock and Dairy Supervision	23,602	23,813	20,953	21,190	22,038
Scab Prevention and Stock Diseases ..					
Labour Colonies ..	..	500	500	375	375
State Forests and Nurseries ..	60,977	72,757	54,018	67,411	60,193
Miscellaneous ..	1,885	2,160	3,229	2,029	2,079
Total ..	249,803	263,041	208,647	253,242	258,386
<i>Revenue.</i>					
Department of Agriculture ..	49,320	54,410	36,252	54,210	61,063
State Forests ..	60,733	65,840	53,430	55,192	61,495

In addition to the expenditure shown, various sums have been advanced from loans and votes for the purpose of aiding closer settlement, for the resumption of mallee lands, for relief to farmers on account of bush fires and flood losses, and for purchase of seed wheat and fodder, which advances are gradually being repaid.

The loan expenditure in 1917-18 was £273,494 on account of closer settlement (including £170,000 under the Discharged Soldiers Settlement Act), and £9,472 on account of wire netting.

A special article on "Agriculture and Live Stock in Victoria," which was contributed by the Victorian Department of Agriculture, appeared in the *Year-Book* for 1916-17, page 707.

Special Article
on Agriculture
and Live
Stock.

AGRICULTURE.

Progress of cultivation. All divisions of the State are suitable for cultivation, but the Wimmera, Mallee, Northern, and Western are the principal wheat-growing districts and furnish about 95 per cent. of the total area under this crop. It was only comparatively recently that the Mallee was devoted to agriculture and that a new, fertile, and important wheat area was added to the resources of the State. The addition of this district is due to the fact that good and payable wheat returns are obtainable with a rainfall which was at one time considered to be wholly inadequate, to the extension of railway lines and to the great improvements in agricultural machinery. Its growing importance is indicated by figures for recent periods, which show that of the wheat produced in the State the proportion obtained from the Mallee was nearly 29 per cent. in 1918-19, as against slightly less than 5 per cent. in 1891-2. The area under cultivation in the Mallee last season was 1,582,468 acres.

The area cultivated in the State in 1918-19 was 5,491,020 acres as against an annual average of 6,340,531 acres for the previous five seasons, 3,860,108 acres for the seasons 1900-05 and 2,648,213 acres for the seasons 1890-95. Notwithstanding the great increase in the area cultivated the dairying and pastoral industries show a considerable expansion. The value of butter and cheese exported to overseas countries increased from £537,978 in 1893 to £1,900,467 in 1918-19, while the value of overseas exports of meat increased from £74,732 to £1,788,187 in the same period.

The increase in cultivation has been associated with new and improved farming methods. The chief of these are the practice of fallowing, the use of fertilizers, the selection of suitable seeds and the increasing attention given to crop rotation. The more general adoption of improved methods in recent years has contributed greatly to the production of the State. The following table shows the progress of cultivation from period to period during the past 64 years :—

ACREAGE CULTIVATED ANNUALLY 1855 TO 1919.

Period ended March.	Crop, Annual Average.	Fallow, Annual Average.	Total Cultivation, Annual Average.
	Acres.	Acres.	Acres.
1855-60	233,245	3,444	236,689
1860-65	418,108	20,848	438,956
1865-70	548,952	40,693	589,645
1870-75	699,802	73,855	773,657
1875-80	982,421	103,958	1,086,379
1880-85	1,631,420	171,114	1,802,534
1885-90	1,986,028	312,976	2,299,004
1890-95	2,232,625	415,588	2,648,213
1895-1900	2,838,381	395,734	3,234,115
1900-05	3,207,447	652,661	3,860,108
1905-10	3,375,273	1,029,071	4,404,344
1910-11	3,952,070	1,434,177	5,386,247
1911-12	3,640,241	1,469,608	5,109,849
1912-13	4,079,356	1,627,223	5,706,579
1913-14	4,391,321	1,738,572	6,129,893
1914-15	4,622,759	1,346,545	5,969,304
1915-16	5,711,265	1,358,343	7,069,608
1916-17	4,851,335	1,899,559	6,750,894
1917-18	4,110,225	1,672,729	5,782,954
1918-19	3,942,899	1,548,121	5,491,020

Areas under principal crops compared.

The principal crops grown in the State are wheat, oats, barley, potatoes and hay. The annual acreage of these for five-year periods from 1855 to 1910 and for each of the last nine seasons are given in the next table:—

ANNUAL ACREAGE OF FIVE PRINCIPAL CROPS, 1855 TO 1919.

Period ended March.	Average Annual Area of—				
	Wheat.	Oats.	Barley.	Potatoes.	Hay.
	Acres.	Acres.	Acres.	Acres.	Acres.
1855-60	79,079	50,148	3,723	21,129	70,489
1860-65	158,923	116,444	5,963	27,118	89,746
1865-70	230,505	123,435	16,024	35,460	110,293
1870-75	325,650	135,334	22,501	38,028	124,493
1875-80	537,238	129,317	28,354	38,517	170,777
1880-85	1,014,824	165,369	54,022	39,661	282,774
1885-90	1,140,327	206,962	65,267	46,210	434,175
1890-95	1,332,675	214,840	63,354	49,808	440,000
1895-1900	1,794,131	301,317	61,090	45,669	495,337
1900-05	2,002,429	380,597	44,568	44,817	585,608
1905-10	1,965,320	379,078	56,016	52,897	743,167
1910-11	2,398,089	392,681	52,687	62,904	832,669
1911-12	2,164,066	302,238	53,541	47,692	860,205
1912-13	2,085,216	439,242	71,631	47,575	1,203,728
1913-14	2,565,861	442,060	83,351	74,574	977,684
1914-15	2,863,535	434,815	62,492	65,495	895,755
1915-16	3,679,971	353,932	61,400	56,910	1,330,455
1916-17	3,125,692	441,598	93,015	73,618	897,186
1917-18	2,690,216	293,214	84,931	66,966	748,808
1918-19	2,214,490	342,867	100,198	51,620	984,479

**Production of
Principal
Crops.**

The annual production of the five principal crops for quinquennial periods from 1855 to 1910 and for each of the last nine seasons was as follows :—

ANNUAL PRODUCTION OF PRINCIPAL CROPS, 1855 TO 1919.

Period ended March.	Average Annual Production of—				
	Wheat.	Oats.	Barley.	Potatoes.	Hay.
	Bushels.	Bushels.	Bushels.	Tons.	Tons.
1855-60 ..	1,734,895	1,444,018	97,042	61,048	110,220
1860-65 ..	2,662,854	2,693,278	110,108	64,399	113,392
1865-70 ..	4,298,676	2,902,655	352,265	99,490	149,110
1870-75 ..	4,472,952	2,370,839	428,410	124,110	158,594
1875-80 ..	6,547,299	2,688,761	618,456	128,156	219,352
1880-85 ..	10,639,318	3,906,176	981,421	143,073	334,190
1885-90 ..	10,948,554	4,391,916	1,209,948	164,068	504,758
1890-95 ..	13,589,257	4,906,870	1,164,066	177,743	589,427
1895-1900 ..	11,631,934	5,229,188	973,661	133,122	563,809
1900-05 ..	16,432,357	8,069,719	921,499	135,593	732,155
1905-10 ..	22,052,448	8,063,570	1,182,288	149,022	1,006,061
1910-11 ..	34,813,019	9,699,127	1,340,387	163,312	1,292,410
1911-12 ..	20,891,877	4,585,326	1,024,534	119,092	1,032,288
1912-13 ..	26,223,104	8,323,639	1,744,527	191,112	1,572,933
1913-14 ..	32,936,245	8,890,321	1,812,890	176,602	1,350,374
1914-15 ..	3,940,947	1,608,419	600,599	189,225	568,956
1915-16 ..	58,521,706	9,328,894	1,734,511	173,821	2,342,094
1916-17 ..	51,162,438	8,289,289	1,799,784	187,992	1,232,721
1917-18 ..	37,737,552	6,141,287	1,970,650	182,195	949,545
1918-19 ..	25,239,871	5,274,984	2,028,635	137,533	1,113,861

Principal crops in Districts. The percentage of total area under the principal crops in each district during last season was as given below :—

PERCENTAGE OF TOTAL AREA UNDER EACH PRINCIPAL CROP IN EACH DISTRICT, 1918-19.

District.	Percentage in each District of Area under—					
	Wheat.	Oats.	Barley.	Potatoes.	Hay.	Other Crops.
Central	·35	5·80	37·65	50·55	18·66	37·15
North-Central	·40	2·85	4·88	18·27	5·70	3·08
Western	3·18	11·42	16·33	16·26	12·82	7·05
Wimmera	27·49	30·00	5·74	·31	18·79	2·23
Mallee	42·54	20·23	5·41	·02	14·63	8·62
Northern	24·86	26·39	16·88	·05	19·17	14·83
North-Eastern	1·04	1·97	·49	2·66	5·27	6·68
Gippsland	·14	1·34	12·62	11·88	4·96	20·36

NOTE.—For counties contained in each District, see table on page 429.

The area under the principal crops in proportion to the total area under crop in each district during last season was as follows :—

RELATIVE AREAS DEVOTED TO DIFFERENT CROPS IN EACH DISTRICT, 1918-19.

District.	Percentage of Total Area of all Crops under—					
	Wheat.	Oats.	Barley.	Potatoes.	Hay.	Other Crops.
Central	2·11	5·41	10·26	7·09	49·96	25·17
North-Central	9·16	10·11	5·04	9·75	58·02	7·92
Western	25·35	14·07	5·88	3·02	45·36	6·32
Wimmera	67·04	11·33	·63	·02	20·37	·61
Mallee	79·68	5·86	·46	·00	12·18	1·82
Northern	62·30	10·24	1·92	·00	21·36	4·18
North-Eastern	22·94	6·76	·49	1·37	51·80	16·64
Gippsland	2·44	3·65	10·04	4·87	38·72	40·28
Total for Victoria ..	56·16	8·70	2·54	1·31	24·97	6·32

NOTE.—For counties contained in each District, see table on page 429.

The area and produce of the principal crops per head of population are given in the next table for the past eighteen years.

**AREA AND PRODUCTION PER HEAD OF POPULATION
OF FIVE PRINCIPAL CROPS, 1901-2 TO 1918-19.**

Year ended March.	Area per Head of Population.				
	Wheat.	Oats.	Barley.	Potatoes.	Hay.
	Acres.	Acres.	Acres.	Acres.	Acres.
1902	1.45	.27	.03	.03	.54
1903	1.65	.36	.03	.04	.48
1904	1.62	.36	.04	.04	.61
1905	1.88	.28	.04	.04	.37
1906	1.70	.26	.03	.04	.49
1907	1.66	.31	.04	.04	.51
1908	1.47	.32	.05	.04	.54
1909	1.40	.33	.05	.04	.75
1910	1.63	.30	.05	.05	.67
1911	1.83	.30	.04	.05	.64
1912	1.62	.23	.04	.04	.64
1913	1.54	.32	.05	.03	.89
1914	1.84	.32	.06	.05	.70
1915	2.01	.31	.04	.05	.63
1916	2.58	.25	.04	.04	.93
1917	2.22	.31	.07	.05	.64
1918	1.91	.21	.06	.05	.53
1919	1.56	.24	.07	.04	.69
Produce per Head of Population.					
	Bushels.	Bushels.	Bushels.	Tons.	Tons.
1902	10.01	5.56	.57	.10	.73
1903	2.12	3.63	.46	.14	.50
1904	23.60	11.11	1.01	.14	1.02
1905	17.47	5.14	.72	.08	.42
1906	19.22	5.94	.87	.10	.71
1907	18.43	7.21	1.02	.14	.72
1908	9.62	4.13	.84	.11	.54
1909	18.33	8.74	1.19	.12	1.11
1910	22.42	6.16	.80	.14	.92
1911	26.63	7.42	1.03	.13	.99
1912	15.62	3.43	.77	.09	.77
1913	19.36	6.15	1.29	.14	1.16
1914	23.64	6.38	1.30	.13	.97
1915	2.77	1.13	.42	.13	.40
1916	41.04	6.54	1.22	.12	1.64
1917	36.30	5.88	1.28	.13	.87
1918	26.85	4.37	1.40	.13	.68
1919	17.76	3.71	1.43	.10	.78

Except in the three seasons 1895-6, 1902-3, and 1914-15, the wheat produced during each year since 1870 has been more than sufficient to supply home consumption.

Values of
five principal
crops.

The following table gives the annual values of the five principal crops, based upon prices realized upon farms, for each of the past ten years; also the value of each crop per acre on the average of the five years 1910-14, and for each of the years 1915 to 1918:—

VALUES OF FIVE PRINCIPAL CROPS.

Year.	Annual Value of—				
	Wheat.	Oats.	Barley.	Potatoes.	Hay.
	£	£	£	£	£
1909	5,501,605	777,547	165,181	517,775	2,432,840
1910	5,512,060	909,295	227,382	534,515	2,455,560
1911	3,547,266	663,916	261,443	614,540	3,200,109
1912	4,343,202	953,750	332,430	678,448	4,010,979
1913	5,352,141	777,903	236,804	573,227	2,565,740
1914	1,391,647	397,078	161,899	800,269	4,181,827
1915	10,972,820	942,607	294,597	1,017,563	4,098,664
1916	10,232,488	828,929	299,481	550,086	2,033,990
1917	7,547,510	965,973	373,379	519,605	2,801,158
1918	5,994,469	1,175,882	461,056	1,079,496	4,622,523
Value per acre 1910-14, average ..	£ s. d. 1 13 4	£ s. d. 1 16 10	£ s. d. 3 15 5	£ s. d. 10 14 8	£ s. d. 3 8 10
Value per acre 1915	2 19 7	2 13 3	4 16 0	17 17 7	3 1 7
„ „ 1916	3 5 6	1 17 6	3 4 5	7 9 5	2 5 4
„ „ 1917	2 16 1	3 5 11	4 7 11	7 15 2	3 14 10
„ „ 1918	2 14 2	3 8 7	4 12 0	20 18 3	4 13 11

The value of the five principal crops was £13,333,426 in 1918, as against £12,207,625 in the previous year, £13,944,974 in 1916, £17,326,251 in 1915, and £8,936,686 on the average of the five years 1910 to 1914.

On the experience of the past five seasons the area under wheat for grain represented 63 per cent. of the total under crop. The acreage, the total production, and the yield per

Wheat
production.

acre are given in the next table for quinquennial periods from 1860 to 1905, and for each of the past fourteen seasons :—

WHEAT PRODUCTION, 1860 TO 1919.

Season ended March.	Wheat.		
	Acres, Annual Average.	Total Production, Annual Average.	Yield per Acre.
		Bushels.	Bushels.
1860-65	158,923	2,662,854	16·76
1865-70	230,505	4,298,676	18·65
1870-75	325,650	4,472,952	13·74
1875-80	537,238	6,547,299	12·19
1880-85	1,014,824	10,639,318	10·48
1885-90	1,140,327	10,948,554	9·60
1890-95	1,332,675	13,589,257	10·20
1895-1900	1,794,131	11,631,934	6·48
1900-1905	2,002,429	16,432,357	8·21
1906	2,070,517	23,417,670	11·31
1907	2,031,893	22,618,043	11·13
1908	1,847,121	12,100,780	6·55
1909	1,779,905	23,345,649	13·12
1910	2,097,162	28,780,100	13·72
1911	2,398,089	34,813,019	14·52
1912	2,164,066	20,891,877	9·65
1913	2,085,216	26,223,104	12·58
1914	2,565,861	32,936,245	12·84
1915	2,863,535	3,940,947	1·38
1916	3,679,971	58,521,706	15·90
1917	3,125,692	51,162,438	16·37
1918	2,690,216	37,737,552	14·03
1919	2,214,490	25,239,871	11·40

Although a large area in districts of limited rainfall has been brought under cultivation for wheat growing during late years, the yield per acre for the State on the average of the past fourteen seasons was 11·75 bushels, which is better than the corresponding averages for quinquennial periods of earlier date back to 1880. This satisfactory result is largely due to the use of more prolific varieties of seed and to the more general practice of fallowing and fertilizing. In addition to the area shown for grain, 274,320 acres of wheat were cut for hay last season, so that the total area sown under wheat in 1918-19 was 2,488,810 acres.

The production of wheat in the other Australian States in 1918-19 was as follows :—New South Wales, 17,832,910 bushels, South Australia, 22,936,925 bushels, Western Australia, 8,845,387 bushels, Queensland, 104,509 bushels, and Tasmania 186,570 bushels. The total production for the Commonwealth was 75,146,172 bushels.

The principal wheat growing areas are the Wimmera, Mallee, and Northern districts. Although other districts provide only small proportions of the area they are not

Wheat
growing in
counties.

to be regarded as unsuitable for wheat growing, as their average yield per acre is usually greater than in the areas mentioned. The production of wheat in different counties for each of the past three seasons is shown in the following table:—

WHEAT YIELDS IN COUNTIES FOR THE LAST THREE SEASONS.

Districts and Counties.	Year ended March.								
	Area.			Produce.			Average per Acre.		
	1917.	1918.	1919.	1917.	1918.	1919.	1917.	1918.	1919.
	Acres.	Acres.	Acres.	Bushels.	Bushels.	Bushels.	Bush.	Bush.	Bush.
Central—									
Bourke ..	13,800	8,416	2,198	177,699	131,443	28,177	12·88	15·62	12·82
Grant ..	25,468	19,740	5,314	369,745	278,139	73,918	14·51	14·09	13·91
Mornington ..	2,264	466	225	7,671	2,693	1,505	3·39	5·78	6·69
Evelyn ..	688	165	39	3,852	1,598	451	5·60	9·68	11·56
North-Central—									
Anglesey ..	2,404	2,192	542	29,850	21,731	4,317	12·42	9·91	7·96
Dalhousie ..	4,116	3,032	731	59,332	30,161	7,007	14·41	9·95	9·59
Talbot ..	21,794	16,899	7,594	390,738	203,603	61,594	17·93	12·05	8·11
Western—									
Grenville ..	40,213	28,184	11,893	443,991	399,885	140,242	11·04	14·19	11·79
Polwarth ..	1,126	628	59	14,869	6,170	669	13·21	9·82	11·34
Heytesbury ..	122	49	30	1,766	613	787	14·48	12·51	26·23
Hampden ..	31,216	25,344	13,053	356,277	255,404	143,564	11·41	10·08	11·00
Ripon ..	74,491	72,203	38,864	993,144	958,350	391,114	13·33	13·27	11·06
Villiers ..	2,854	1,927	829	37,860	14,082	6,120	13·27	7·31	7·38
Normanby ..	2,158	691	498	31,574	8,878	7,604	14·63	12·85	15·27
Dundas ..	11,671	9,042	5,192	143,103	81,380	50,245	12·26	9·00	9·68
Follett ..	709	254	113	14,975	1,244	2,171	21·12	4·90	19·21
Wimmera—									
Lowan ..	179,678	174,394	146,393	3,221,407	2,881,353	2,310,696	17·93	16·52	15·78
Borong ..	377,319	367,858	338,320	8,485,152	8,322,352	6,766,642	22·49	22·62	20·01
Kara Kara ..	149,700	145,731	123,996	2,942,951	2,576,594	1,784,083	19·66	17·68	14·39
Mallee—									
Millewa ..	2,935	3,141	2,609	45,372	45,103	24,258	15·46	14·36	9·30
Weeah ..	232,409	185,923	192,324	3,384,045	1,897,545	1,227,607	14·56	10·21	6·38
Karkaroc ..	595,041	459,250	457,884	8,793,665	5,024,466	3,274,192	14·78	10·94	7·15
Tatchera ..	415,376	320,880	289,295	6,563,338	3,946,538	2,729,812	15·80	12·30	9·44
Northern—									
Gunbower ..	63,365	58,540	38,432	1,007,076	833,156	336,026	15·89	14·23	8·74
Gladstone ..	145,547	135,392	108,096	2,742,139	1,918,096	1,245,275	19·10	14·17	11·52
Bendigo ..	183,847	173,111	120,159	3,145,898	2,398,255	1,360,945	17·11	13·85	11·33
Rodney ..	150,018	134,997	85,750	2,203,710	1,710,544	925,769	14·69	12·67	10·80
Moir ..	308,378	284,412	198,024	4,454,077	3,236,386	2,118,078	14·44	11·38	10·70
North-Eastern—									
Delatite ..	19,445	6,791	2,805	224,276	41,096	22,426	11·53	6·05	8·00
Bogong ..	47,024	34,947	19,956	520,379	225,243	147,336	11·07	6·45	7·38
Benambra ..	1,296	639	186	22,012	10,962	1,972	16·98	17·16	10·60
Wonnangatta ..	38	4	15	540	24	280	14·21	6·00	18·67
Gippsland									
Croajingolong ..	57	32	2	912	464	19	16·00	14·50	9·50
Tambo ..	683	406	95	10,275	5,338	634	15·04	13·12	6·67
Dargo ..	873	407	124	13,365	6,841	771	15·31	16·81	6·22
Tanjil ..	15,983	11,958	2,257	247,102	222,016	37,059	15·46	18·57	16·42
Bain Eulin ..	3,586	2,171	594	58,301	39,806	6,506	16·26	18·34	10·95
Total ..	3,125,692	2,690,216	2,214,490	51,162,438	37,737,552	25,239,871	16·37	14·03	11·40

In all of the principal wheat growing counties, except Weeah, the area under wheat was smaller in 1918-19 than in the previous season. The reduction was more marked in the Northern District than in other centres.

The table which follows gives the average yield of wheat per acre in the principal wheat growing counties for each of the last ten years :—

AVERAGE YIELD OF WHEAT PER ACRE IN WHEAT GROWING COUNTIES, 1909-10 to 1918-19.

District and County.	Average Yield of Wheat per Acre (in Bushels) during Year ended March.									
	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.
Western District—										
Ripon	14.77	15.97	8.14	19.96	15.50	5.03	21.58	13.33	13.27	10.06
Wimmera District—										
Lowan	12.77	9.80	9.93	13.69	16.24	1.84	16.78	17.93	16.52	15.78
Borong	17.06	15.79	11.92	14.81	18.16	.95	19.27	22.49	22.62	20.01
Kara Kara ..	14.60	14.80	12.11	14.70	17.23	1.09	19.36	19.66	17.68	14.39
Mallee District—										
Weeah	11.66	12.52	4.95	10.03	4.89	.18	12.26	14.56	10.21	6.38
Karkaroo ..	10.17	11.41	5.84	7.58	5.44	.35	10.62	14.78	10.94	7.15
Tatchera ..	10.34	12.44	6.48	7.03	8.66	.37	10.09	15.80	12.30	9.44
Northern District—										
Gunbower ..	12.90	16.12	9.91	10.54	12.26	.23	15.33	15.89	14.23	8.74
Gladstone ..	14.28	14.15	11.63	13.00	17.38	1.52	17.94	19.10	14.17	11.52
Bendigo	16.71	18.92	12.22	14.37	15.60	.72	19.18	17.11	13.85	11.33
Rodney	15.21	15.23	11.50	14.60	14.75	1.05	20.15	14.69	12.67	10.80
Moir	14.49	16.25	10.83	14.52	16.14	1.74	17.88	14.44	11.38	10.70

The figures show that in all of the principal wheat growing counties the yields in 1918-19 were lower than in the previous two seasons.

The weight of an imperial bushel of wheat is 60 lbs., but the actual weight of a bushel of Victorian wheat of the fair average quality standard annually fixed by the Chamber of Commerce was nearly 62 lbs. on the average of the past ten years. The following statement shows the variation in the f.a.q. standard weight of a bushel of Victorian wheat for each season since 1900-01 :—

F.A.Q. WHEAT STANDARD, 1902 to 1919.

Season ended March.			Weight of Bushel (f.a.q.).	Season ended March.			Weight of Bushel (f.a.q.).
			lbs.				lbs.
1902	..	..	62½	1911	..	..	62½
1903	..	..	61	1912	..	..	61½
1904	..	..	60½	1913	..	..	63
1905	..	..	61½	1914	..	..	62½
1906	..	..	63	1915	..	..	62
1907	..	..	62½	1916	..	..	61
1908	..	..	62½	1917	..	..	60½
1909	..	..	62½	1918	..	..	60
1910	..	..	62½	1919	..	..	62½

Stocks of
wheat and
flour.

It is estimated that about 10,000,000 bushels of wheat are required locally for food and seed. The stocks of wheat and flour in the State at 30th June, 1919, and at the same date in each of the previous nine years, were as follows:—

WHEAT AND FLOUR ON HAND, 30TH JUNE, 1910 TO 1919.

At 30th June.					Quantity in Bushels.		
					Wheat.	Flour (equivalent in Wheat).	Total.
1910	..	..	..	..	9,698,000	652,200	10,350,200
1911	..	..	..	..	15,388,600	746,400	16,135,000
1912	..	..	..	..	7,337,316	786,926	8,124,242
1913	..	..	..	..	8,780,673	585,688	9,366,361
1914	..	..	..	..	8,002,311	940,138	8,942,449
1915	..	..	..	..	582,448	510,300	1,092,748
1916	..	..	..	..	42,578,379	519,162	43,097,541
1917	..	..	..	..	63,852,078	1,078,875	64,930,953
1918	..	..	..	..	70,031,000	1,658,000	71,689,000
1919	..	..	..	..	53,023,000	3,284,000	56,307,000

Wheat
marketing
scheme.

Owing to the insufficiency of freight to transport the large wheat harvest of 1915-16, it became necessary for the Governments of Victoria and the other wheat producing States to make arrangements for providing a market for the grain. A scheme was, therefore, entered into between the Governments of the Commonwealth and of the States of New South Wales, Victoria, South Australia and Western Australia with the object of securing for all the wheat-growers of the States equitable participation in both overseas and local markets.

For this purpose it was agreed that the system of chartering overseas vessels inaugurated by the Commonwealth should be availed of for the purposes of overseas realizations, and that available freight should be allotted to the States in proportion to their several exportable surpluses, also that overseas sales should be operated by the Australian Wheat Board which should determine from time to time the Australian price for local consumption on the basis of f.o.b. Australian ports.

The Australian Wheat Board was constituted originally of a Minister of the Commonwealth and of each of the States, but at a later date representatives of the wheat-growers, one for each State, were added. Overseas sales are effected by the Board operating through a Selling Agency in London and assisted and advised by the Australian heads of certain large wheat selling houses, which, prior to the scheme, had handled the great bulk of the export wheat of Australia.

In this State, legislative sanction was given to the scheme by the *Wheat Marketing Act* 1915, which, by successive Acts, has with certain modifications and amendments been extended to the succeeding harvests. Under these Acts, the Minister administering the Acts is empowered to buy and sell wheat and in effect carry on this operation of a wheat merchant, and the buying and selling of wheat except by and to the Minister is forbidden. The Victorian Government, through

the Minister, purchases wheat from growers at a price to be determined by the ultimate net realizations by the Government of the wheat so acquired, and makes advance payments from time to time on account of the expected net realizations and a final payment when these have been ascertained.

In effect the Australian Wheat Board realizes all exported wheat of a season in one pool for that season and returns to each State that proportion of the net realizations which the wheat exported from the State bears to the whole. The State then brings into account all net local realizations and thereby determines the net price per bushel payable to farmers for the quantities acquired by it from each. The whole of the handling and storage and shipping operations are conducted by each State as regards its own wheat, and no State is affected by the success or want of success attending such operations in another State.

The position of the wheat pool as regards Victoria for the four seasons—1915-16, 1916-17, 1917-18, and 1918-19—was as follows on 10th November, 1919.—

	1915-16.	1916-17.	1917-18.	1918-19.
Total number of bushels received to 10th November, 1919	59,902,000	50,407,000	36,233,000	23,028,000
Amount paid to growers (cash at station) to 10th November, 1919 ..	£12,342,000	£9,236,000	£6,559,000	£4,571,000
Total receipts for sales (delivered) from all pools to 10th November, 1919 ..	..	£33,223,000	..	..
Bank overdraft at 10th November, 1919 .. ..	..	£1,828,000	..	..

In connexion with the 1915-16 harvest, advances had, at the date mentioned, been made to the extent of 4s. 9d. per bushel from which there had been deducted freight and handling charges. Advances to the amount of 4s. per bushel less freight had been paid on account of the 1916-17 and 1917-18 harvests, and of 4s. 4d. less freight on the harvest of 1918-19.

Reliable information relating to the wheat production of the world in 1916, 1917, and 1918 is not available. In 1915 the quantity produced was 4,371,058,000 bushels as against 3,645,437,000 bushels in 1914, 4,128,711,000 bushels in 1913, 3,791,951,000 bushels in 1912, and 3,551,795,000 bushels in 1911. On the average of the five years 1911 to 1915 the production was 3,898 million bushels, as compared with a yearly average yield of 3,332 million bushels in 1905-9 and 3,008 million bushels in the period 1900-4.

In 1918-19 the area harvested for oats in Victoria was 342,867 acres, from which a yield of 5,274,984 bushels was obtained, giving an average of 15·38 bushels to the acre. The following statement shows the harvest results for this crop for each of the past fourteen seasons and for five-year periods prior thereto back to 1865 :—

**Wheat
production of
the world.**

Oats.

OATS GROWN, 1865 to 1919.

Period ended March.				Area under Crop (Annual Average).	Produce (Annual Average).	Average per Acre.
				Acres.	Bushels.	Bushels.
1865-70	..	..	..	123,435	2,902,655	23·52
1870-75	..	..	..	135,334	2,370,839	17·52
1875-80	..	..	..	129,317	2,688,761	20·79
1880-85	..	..	..	165,369	3,906,176	23·62
1885-90	..	..	..	206,962	4,391,916	21·22
1890-95	..	..	..	214,840	4,906,870	22·84
1895-1900	..	..	..	301,317	5,229,188	17·35
1900-05	..	..	..	380,597	8,069,719	21·20
1906	..	..	..	312,052	7,232,425	23·18
1907	..	..	..	380,493	8,845,654	23·25
1908	..	..	..	398,749	5,201,408	13·04
1909	..	..	..	419,869	11,124,940	26·50
1910	..	..	..	384,226	7,913,423	20·60
1911	..	..	..	392,681	9,699,127	24·70
1912	..	..	..	302,238	4,585,326	15·17
1913	..	..	..	439,242	8,323,639	18·95
1914	..	..	..	442,060	8,890,321	20·11
1915	..	..	..	434,815	1,608,419	3·70
1916	..	..	..	353,932	9,328,894	26·36
1917	..	..	..	441,598	8,289,289	18·77
1918	..	..	..	293,214	6,141,287	20·94
1919	..	..	..	342,867	5,274,984	15·38

In addition to the area for grain shown for last season there were 691,808 acres of oats cut for hay, so that the total area sown with oats in 1918-19 was 1,034,675 acres. During 1918-19 there were exported from Victoria to overseas countries 124,100 bushels of oats and 1,707,814 lbs. of oatmeal.

The area under barley in 1918-19 was 100,198 acres, of which 52,222 were under malting, and 47,976 under other barley. The figures in the subjoined table show the acreage, production and yield per acre for the last ten years :—

CULTIVATION OF BARLEY, 1909-10 to 1918-19.

Year ended March.	Area under Crop.		Produce.		Average per Acre.		
	Malting.	Other.	Malting.	Other.	Malting.	Other.	Total.
	Acres.	Acres.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1910	38,762	19,841	658,105	365,279	16·98	18·41	17·46
1911	30,609	22,078	804,893	535,494	26·30	24·25	25·44
1912	36,748	16,793	725,803	298,781	19·75	17·79	19·14
1913	52,311	19,320	1,269,634	474,893	24·27	24·58	24·35
1914	44,584	38,767	971,334	841,556	21·79	21·71	21·75
1915	31,268	31,224	368,647	231,952	11·79	7·43	9·61
1916	29,473	31,927	868,879	865,632	29·48	27·11	28·25
1917	43,131	49,884	806,280	993,504	18·69	19·91	19·35
1918	41,065	43,866	980,219	990,431	23·87	22·58	23·20
1919	52,222	47,976	1,081,256	947,379	20·70	19·75	20·25

During 1918-19, 1,777,527 bushels of barley were used locally in the production of 1,759,743 bushels of malt.

The area planted with potatoes in 1918-19 was 51,620 acres, and the production was 137,533 tons, which represented a yield of 2·66 tons per acre, as compared with 2·72 tons in the previous season and 2·55 tons in 1916-17. The following table shows the potato returns for the past fourteen years and for earlier years in five-year periods back to 1860 :—

POTATO PRODUCTION, 1860 TO 1919.

Period ended June.				Area under Crop (Annual Average).	Produce (Annual Average).	Average per Acre.
				Acres.	Tons.	Tons.
1860-65	..	..	..	27,118	64,399	2·37
1865-70	..	..	..	35,460	99,490	2·81
1870-75	..	..	..	38,028	124,110	3·26
1875-80	..	..	..	38,517	128,156	3·33
1880-85	..	..	..	39,661	143,073	3·61
1885-90	..	..	..	46,210	164,068	3·55
1890-95	..	..	..	49,808	177,743	3·57
1895-1900	..	..	..	45,669	133,122	2·91
1900-05	..	..	..	44,817	135,593	3·03
1906	..	..	..	44,670	115,352	2·58
1907	..	..	..	55,372	166,839	3·01
1908	..	..	..	54,149	135,110	2·50
1909	..	..	..	47,903	152,840	3·19
1910	..	..	..	62,390	174,970	2·80
1911	..	..	..	62,904	163,312	2·60
1912	..	..	..	47,692	119,092	2·50
1913	..	..	..	47,575	191,112	4·02
1914	..	..	..	74,574	176,602	2·37
1915	..	..	..	65,495	189,225	2·89
1916	..	..	..	56,910	173,821	3·05
1917	..	..	..	73,618	187,992	2·55
1918	..	..	..	66,966	182,195	2·72
1919	..	..	..	51,620	137,533	2·66

The estimated value of the potatoes produced last season was £1,079,496, as against £519,605 for the preceding year, and £550,086 for the year 1916-17.

Hay. In 1918 the production of hay amounted to 1,113,861 tons, as against 949,545 tons in the previous year and 1,232,721 tons in 1916. The quantity of straw returned for the season 1918-19 was 47,509 tons as against 52,424 tons for the previous year. The hay returns for five-year periods from 1860 to 1909 and for each of the past nine seasons are shown in the following table :—

HAY PRODUCTION, 1860 to 1918.

Period.				Area cut for Hay (Annual Average).	Produce (Annual Average).	Average per Acre.
				Acres.	Tons.	Tons.
1860-64	..	..	..	89,746	113,392	1·26
1865-69	..	..	..	110,293	149,110	1·35
1870-74	..	..	..	124,493	158,594	1·27
1875-79	..	..	..	170,777	219,352	1·28
1880-84	..	..	..	282,774	334,190	1·18
1885-89	..	..	..	434,175	504,758	1·16
1890-94	..	..	..	440,000	589,427	1·34
1895-99	..	..	..	495,337	563,809	1·14
1900-04	..	..	..	585,608	782,155	1·34
1905-09	..	..	..	743,167	1,006,061	1·35
1910	..	..	..	832,669	1,292,410	1·55
1911	..	..	..	860,205	1,032,288	1·20
1912	..	..	..	1,203,728	1,572,933	1·31
1913	..	..	..	977,684	1,350,374	1·38
1914	..	..	..	895,755	568,956	·64
1915	..	..	..	1,330,455	2,342,094	1·76
1916	..	..	..	897,186	1,232,721	1·37
1917	..	..	..	748,808	949,545	1·27
1918	..	..	..	984,479	1,113,861	1·13

The estimated value of hay was £4,622,523 for 1918, as compared with £2,801,158 for 1917, and £2,033,990 for 1916. Of the total hay produced in 1918, 796,616 tons were oaten, 287,928 tons were wheaten, and 29,317 tons were made from lucerne and other crops, and the yields per acre were 1·15, 1·05, and 1·60 tons respectively.

The following information regarding prices in February and March, except that relating to potatoes, has been procured direct from the growers. The table gives the average price of each product for the last seventeen years :—

PRICES OF PRODUCE, 1903 TO 1919.

Year.	Average Price in February and March.						
	Wheat.	Oats.	Barley.		Hay.	Potatoes.	
			Malting.	Other.		Early Crop.	Main Crop (after March).
	Per bushel. s. d.	Per bushel. s. d.	Per bushel. s. d.	Per bushel. s. d.	Per ton. s. d.	Per ton. s. d.	Per ton. s. d.
1903 ..	6 0	3 2½	4 5½	3 8	100 1	91 3	47 1
1904 ..	2 8	1 1½	2 10½	1 9½	27 2	52 6	26 1
1905 ..	2 11½	1 6	3 2½	2 1	33 6	110 0	84 0
1906 ..	2 10½	1 10½	3 11	2 8½	38 0	115 6	101 5
1907 ..	2 9	1 10¼	4 2	2 2¾	38 2	59 1	37 6
1908 ..	4 0½	3 0½	4 11½	3 7	88 7	70 4	54 11
1909 ..	3 9½	1 9¼	3 9½	2 5	46 0	80 0	51 0
1910 ..	3 9½	1 11½	3 8¼	2 4¾	41 0	78 0	57 0
1911 ..	3 2	1 10½	4 3½	2 0½	38 0	82 0	63 0
1912 ..	3 4½	2 10½	5 7	3 11¼	62 0	116 0	101 0
1913 ..	3 3½	2 3½	4 1	3 1	51 0	116 0	66 0
1914 ..	3 3	1 9	3 1½	2 0¼	38 0	81 0	62 0
1915 ..	7 0½	4 11¼	5 8½	4 10¼	147 0	80 0	85 0
1916 ..	3 9	2 0¼	3 11½	2 10	35 0	201 0	106 0
1917 ..	4 0	2 0	3 11¼	2 10	33 0	114 0	53 0
1918 ..	4 0	3 1½	4 2½	3 4¼	59 0	79 0	55 0
1919 ..	4 9	4 4	5 0½	3 11½	83 0	210 0	149 0

The area under other than principal crops and the production since March, 1913, are shown in the subjoined table:—

OTHER THAN PRINCIPAL CROPS, 1913-14 to 1918-19.

Crop.	Area.	Production.	Area.	Production.	Area.	Production.
1913-14.			1914-15.		1915-16.	
Maize.. ..	Acres.	Bushels.	Acres.	Bushels.	Acres.	Bushels.
Beet, Carrots, Parsnips, and Turnips ..	17,962	800,529	19,433	1,018,419	22,258	999,886
Rye	1,779	19,029	1,955	13,415	3,137	42,857
Peas	11,774	206,846	12,159	114,493	8,221	147,488
Mangel-wurzel ..	952	15,642	893	8,921	1,091	13,067
Onions	470	3,166	563	2,249	758	4,938
Green Forage ..	6,121	24,755	8,937	31,528	9,294	37,587
Grass and Clover Seeds ..	98,963	..	139,654	..	60,426	..
Hops .. ..	..	Bushels.	..	Bushels.	..	Bushels.
Tobacco	1,452	16,349	149	1,100	2,435	24,087
Vines—Grapes ..	117	Cwt.	115	Cwt.	107	Cwt.
Flax	284	961	196	903	160	855
Gardens and Orchards ..	2,435	2,037	21,801	1,192	160	596
Minor Crops ..	22,435	836,493	620,876	22,353	1,084,766	..
Land in Fallow ..	1,046	1,096 fibre	671	1,385 fibre	361	1,987 fibre
Artificial Grasses	3,768 seed	..	1,827 seed	..	1,370 seed	..
1916-17.			1917-18.		1918-19.	
Maize.. ..	Acres.	Bushels.	Acres.	Bushels.	Acres.	Bushels.
Beet, Carrots, Parsnips, and Turnips ..	23,076	1,172,330	20,987	1,152,787	22,559	711,679
Rye	3,481	42,953	1,597	17,021	982	7,428
Peas	9,642	154,964	11,058	191,856	11,021	142,835
Mangel-wurzel ..	860	10,307	690	7,826	581	9,818
Onions	524	2,025	500	2,809	407	2,412
Green Forage ..	6,324	28,163	5,134	21,745	5,512	24,211
Grass and Clover Seeds ..	49,667	..	55,903	..	73,641	..
Hops .. ..	..	Bushels.	..	Bushels.	..	Bushels.
Tobacco	1,769	13,174	2,312	22,059	2,152	15,443
Vines—Grapes ..	87	Cwt.	64	Cwt.	71	Cwt.
Flax	73	975	82	838	167	522
Gardens and Orchards ..	23,264	1,013,197	25,236	759,570	26,072	1,019,379
Minor Crops ..	443	1,371 fibre	419	925 fibre	1,420	3,800 fibre
Land in Fallow ..	1,481 seed	..	1,337 seed	..	5,200 seed	..
Artificial Grasses	93,833	..	95,180	..	96,724	..
	7,183	..	6,923*	..	7,936*	..
	1,899,559	..	1,672,729	..	1,548,121	..
	1,292,817	..	1,268,310	..	1,269,493	..

* For details see page 447. † Not available.

Maize. The area under maize for grain in 1918-19 was 22,559 acres, and the production was 711,679 bushels, which represented a yield of 31·55 bushels per acre, as compared with 54·93 bushels in the preceding season and 50·80 bushels in 1916-17. Of the total production for last season 83 per cent. was obtained from the Gippsland district. The area, total production, and produce per acre are given in the next table for each of the past fourteen seasons and for five-year periods prior thereto back to 1890 :—

MAIZE PRODUCTION, 1890 to 1919.

Period ended June.				Area under Maize for Grain (Annual Average).	Total Production (Annual Average).	Produce per Acre.
				Acres.	Bushels.	Bushels.
1890-5	..	..	..	7,483	376,844	50·36
1895-1900	..	..	..	9,894	528,970	53·46
1900-5	..	..	..	10,704	699,630	65·36
1906	..	..	..	11,785	641,216	54·41
1907	..	..	..	11,559	704,961	60·99
1908	..	..	..	10,844	508,761	46·92
1909	..	..	..	14,004	650,462	46·45
1910	..	..	..	19,112	1,158,031	60·59
1911	..	..	..	20,151	982,103	48·74
1912	..	..	..	18,223	792,660	43·50
1913	..	..	..	19,986	715,299	35·79
1914	..	..	..	17,962	800,529	44·57
1915	..	..	..	19,433	1,018,419	52·41
1916	..	..	..	22,258	999,886	44·92
1917	..	..	..	23,076	1,172,330	50·80
1918	..	..	..	20,987	1,152,787	54·93
1919	..	..	..	22,559	711,679	31·55

On the average of the past five seasons the yield per acre was 46·9 bushels, as against 65·4 in 1900-5, and 53·5 in 1895-1900. The relatively light yield per acre for the latest five-year period was probably due to the cultivation of new areas which are less fertile than the rich river flats upon which this cereal was grown in earlier periods.

Rye. The area under rye in 1918-19 was 982 acres, from which 7,428 bushels of grain were obtained. The production was 17,021 bushels in the previous season, and 42,593 bushels in 1916-17. Rye was grown principally in the counties of Delatite, Bogong, Normanby, and Talbot last season. The area under this crop in the four counties mentioned was about 67 per cent. of the total for the whole State.

Peas. The area under peas in 1918-19 was 11,021 acres, and the return 142,835 bushels, the former being 37 acres less and the latter 49,021 bushels less than in the previous year. Last season peas were grown to some extent in all districts. The counties from which the largest returns were obtained were Grant 40,062 bushels, Bourke 19,980 bushels, Buln Buln 16,179 bushels, Mornington 14,674 bushels, and Tanjil 7,444 bushels. The production of peas in the five

counties mentioned was equal to 69 per cent. of the total for the whole State.

Mangel-wurzel. In 1918-19 there were 581 acres under mangel-wurzel, as against 690 in the previous season, 860 in 1916-17, 1,091 in 1915-16, 893 in 1914-15, 952 in 1913-14, and 1,121 in 1912-13. The production last year was 9,818 tons, as compared with an average of 11,153 tons for the preceding five-year period. Mangolds are grown principally in the counties of Villiers, Grenville, Grant, Buln Buln, Mornington, and Heytesbury. The production for last season in the counties mentioned represented 86 per cent. of the total for the State.

Beet, carrots, parsnips, and turnips. The cultivation of beet, carrots, parsnips and turnips, exclusive of those grown in market gardens, showed a decrease in area as compared with the previous season. In 1918-19 the extent of land sown was 407 acres, as against 500 in the preceding year, 524 in 1916-17, 758 in 1915-16, 563 in 1914-15, 470 in 1913-14, and 627 in 1912-13. The produce for last year was 2,412 tons, as compared with 2,809 tons in the previous season, and 2,025 tons in 1916-17.

Onions. Onions are grown in nearly every county south of the Dividing Range. The returns for last season show that in Bourke the yield was 4,360 tons from 872 acres; in Grenville, 4,515 tons from 1,324 acres; in Villiers, 4,422 tons from 629 acres; in Buln Buln, 2,992 tons from 728 acres; in Mornington, 2,247 tons from 445 acres; in Grant, 1,449 tons from 551 acres; and in Polwarth, 3,784 tons from 884 acres. The following is a statement showing the area and yield for the last twenty years:—

ONION CULTIVATION, 1899-1900 TO 1918-19.

Year.	Area.	Produce.	Year.	Area.	Produce.
	Acres.	Tons.		Acres.	Tons.
1899-1900 ..	4,436	19,905	1909-10 ..	6,434	31,715
1900-1 ..	2,815	12,766	1910-11 ..	6,161	37,484
1901-2 ..	4,151	20,859	1911-12 ..	3,652	20,911
1902-3 ..	5,565	27,467	1912-13 ..	4,977	28,641
1903-4 ..	4,176	25,218	1913-14 ..	6,121	24,755
1904-5 ..	2,862	12,969	1914-15 ..	8,937	31,528
1905-6 ..	4,889	25,597	1915-16 ..	9,294	37,587
1906-7 ..	4,705	28,000	1916-17 ..	6,324	28,163
1907-8 ..	4,249	22,649	1917-18 ..	5,134	21,745
1908-9 ..	5,340	24,384	1918-19 ..	5,512	24,211

The value of onions grown was £236,451 in 1918-19, as compared with £141,343 in the previous season and £118,423 in 1916-17.

Green forage. The area devoted to green forage in 1918-19 was 73,641 acres, as compared with 55,903 in the previous season, 49,667 in 1916-17, 60,426 in 1915-16, 139,654 in 1914-15, 98,963 in 1913-14, and 84,460 in 1912-13.

Ensilage. The practice of preserving forage in a green state has existed in Victoria for many years, but only a small number of farmers have adopted it. The returns for the past ten seasons are given in the next table.

ENSILAGE RETURNS FOR TEN YEARS.

Year ended March.				Number of Farms on which made.	Number of Silos (Pits and Stacks).	Weight of Materials used.
						Tons.
1910	..	..	..	518	656	27,280
1911	..	..	..	460	555	25,969
1912	..	..	..	371	450	20,888
1913	..	..	..	287	385	17,877
1914	..	..	..	270	362	19,505
1915	..	..	..	161	221	9,055
1916	..	..	..	269	353	16,356
1917	..	..	..	179	223	10,974
1918	..	..	..	117	158	9,852
1919	..	..	..	95	157	8,249

Grass and clover seed. The area harvested for grass and clover seed last season was 2,152 acres, as compared with 2,312 in the previous year, 1,769 in 1916-17, 2,435 in 1915-16, 149 in 1914-15, and 1,452 in 1913-14. The production in 1918-19 was 15,443 bushels, as against 22,059 in the previous year, 13,174 in 1916-17, 24,087 in 1915-16, 1,100 in 1914-15, and 16,349 in 1913-14.

Hops. The hop-growing industry attained its maximum development in 1883-4, when 1,758 acres yielded 15,717 cwt. In 1918-19 the return from 71 acres was 522 cwt., the area cultivated being the second smallest since 1871-2. Delatite, Bogong, Dargo, Polwarth, and Buln Buln were the only counties in which hops were grown last season.

Flax. The area sown to flax in 1918-19 was 1,420 acres as compared with 419 in the previous season, 441 in 1916-17, and 361 in 1915-16. The whole of the flax grown last season was purchased by the Commonwealth Flax Committee under a Government guarantee of £5 per ton for unthreshed flax of standard quality delivered at the nearest mill. The value of the fibre, linseed, and tow obtained

from the 1918-19 flax crop is estimated at £22,800. Particulars of the crop for the last ten years are given in the following statement :—

FLAX : 1909-10 to 1918-19.

Year.	No. of Growers.	Area under Crop.	Seed Produced.	Fibre Produced.	Straw awaiting Treatment.
		Acres.	Cwt.	Cwt.	Tons.
1909-10	106	1,213	1,515	676	836
1910-11	33	600	2,457	748	235
1911-12	29	443	1,958	1,327	75
1912-13	55	648	4,536	1,189	615
1913-14	62	1,046	3,768	1,096	652
1914-15	49	671	1,827	1,318	25
1915-16	22	361	1,370	1,987	..
1916-17	13	443	1,481	1,371	..
1917-18 .. ..	..	419	1,337	925	..
1918-19 .. ..	..	1,420	5,200	3,800*	..

* Including 2,000 cwt. of tow.

In 1918-19 imports into Victoria from countries outside Australia included linseed to the value of £3,210, linseed oil worth £9,348, and fibre worth £175,600.

Tobacco. Tobacco production reached its maximum in 1880-1, when 17,333 cwt. of dry leaf was produced. The subsequent sixteen years were marked by great variations in area and produce, and since 1896-7 the industry has fallen to small proportions. The area devoted to tobacco last year was 167 acres, of which 115 were in Delatite, and 52 in Bogong. Particulars relating to the cultivation of tobacco for the last twenty years are as follows :—

CULTIVATION OF TOBACCO, 1899-1900 to 1918-19.

Year.	Number of Growers.	Area.	Produce.
		Acres.	Cwt. (dry).
1899-1900	28	155	1,365
1900-1	16	109	311
1901-2	17	103	345
1902-3	24	171	781
1903-4	25	129	848
1904-5	20	106	1,112
1905-6	31	169	1,405
1906-7	30	133	603
1907-8	49	345	2,764
1908-9	60	413	2,647
1909-10	50	321	2,704
1910-11	57	329	1,090
1911-12	58	356	3,686
1912-13	54	138	661
1913-14	67	284	2,037
1914-15	46	196	1,192
1915-16	39	160	596
1916-17	26	73	410
1917-18 .. ..	..	82	526
1918-19 .. ..	..	167	..

Vines, wine, raisins, &c. During the period 1904-1915 the area under vines decreased by 6,712 acres, or by nearly 24 per cent., and the number of growers decreased by 521, or by 23 per cent. Since 1915 there has been a fairly large increase in the area and the number of growers. Vineyards are distributed fairly well over the State, and there are certain districts where the principal industries are connected with vine-growing. The Shire of Mildura produced last season 852,265 cwt. of grapes; Rutherglen, 55,751 cwt.; Swan Hill, 22,185 cwt.; Stawell, 7,945 cwt.; Ararat, 8,405 cwt.; Rodney, 14,435 cwt.; and Shepparton, 6,414 cwt. At Mildura the crop is principally dried for raisins and currants. The results of fifteen years' operations are given below:—

VINE PRODUCTION, 1905 TO 1919.

Year ended June.	Number of Growers.	Area.	Produce.			
			Grapes gathered.	Wine made.	Raisins made.	Currants made.
		Acres.	Cwt.	Gallons.	Cwt.	Cwt.
1905 ..	2,253	28,016	452,433	1,832,386	30,295	5,974
1906 ..	2,009	26,402	498,590	1,726,444	42,975	6,403
1907 ..	1,860	25,855	752,826	2,044,833	98,127	11,730
1908 ..	1,967	26,465	535,804	1,365,600	68,617	10,440
1909 ..	1,637	24,430	561,679	1,437,106	69,536	11,929
1910 ..	1,606	22,768	548,828	991,941	81,044	27,408
1911 ..	1,652	23,412	592,438	1,362,420	79,318	26,394
1912 ..	1,650	24,193	683,250	983,423	102,924	46,789
1913 ..	1,808	24,579	733,579	1,206,111	109,677	48,337
1914 ..	1,776	22,435	836,493	1,121,491	120,303	62,098
1915 ..	1,739	21,801	620,876	605,633	111,006	28,527
1916 ..	1,700	22,353	1,084,766	1,380,367	180,104	70,556
1917 ..	1,751	23,264	1,013,197	1,302,660	142,970	66,449
1918 ..	1,843	25,236	759,570	800,068	104,911	53,799
1919 ..	1,826	26,072	1,091,379	1,349,309	135,060	68,234

Of the total quantity of grapes gathered in 1919, 215,255 cwt. was used for making wine, 763,087 cwt. for raisins and currants, and 41,037 cwt. for table consumption and export. Of the 135,060 cwt. of raisins made, 95,095 cwt. were sultanas almost entirely from Mildura.

Raisins are produced in Victoria upon a scale far in excess of the State's requirements. It is estimated that a year's consumption of raisins is about 20,000 cwt.; consequently, about 115,000 cwt. of the production in 1919 is available for Inter-State or oversea export. A year's consumption of currants is about 30,000 cwt., which would enable approximately 38,000 cwt. of last season's production to be exported to other States or oversea.

Orchards. The total number of persons in the State growing fruit for sale was 7,620 in 1918-19, as against 7,314 in the previous season, 7,309 in 1916-17, 7,319 in 1915-16, and 6,811 in 1914-15. The area under orchards in each of those years was 82,151, 80,508, 79,247, 76,382, and 70,392 acres respectively. The orchards are dis-

tributed fairly evenly over the whole State. The counties having the largest areas last season were as follows:—Evelyn, 15,090 acres; Bourke, 14,097 acres; Mornington, 13,544 acres; Rodney, 9,164 acres; Moira, 5,347 acres; Talbot, 3,663 acres; Bendigo, 3,301 acres; Karkaroc, 2,713 acres; Borung, 1,868 acres; Grant, 1,848 acres; Tatchera, 1,516 acres; and Bogong, 1,457 acres.

In the following table will be found a statement of the number of bearing and non-bearing fruit trees and plants for the seasons 1913-14 and 1916-17:—

RETURN SHOWING THE NUMBER OF FRUIT TREES, PLANTS, ETC., IN ORCHARDS AND GARDENS WHERE FRUIT WAS GROWN FOR SALE, 1913-14 AND 1916-17.

Fruit.	Number of Trees, Plants, &c.					
	1913-14.			1916-17.		
	Not Bearing.	Bearing.	Total.	Not Bearing.	Bearing.	Total.
Apples ..	989,176	1,606,321	2,595,497	1,060,675	1,818,520	2,879,195
Pears ..	398,290	445,276	843,566	455,822	580,476	1,036,298
Quinces ..	30,010	66,040	96,050	35,073	72,147	107,220
Plums ..	137,246	350,887	488,133	162,335	396,282	558,617
Cherries ..	67,331	250,229	317,560	62,489	230,388	292,877
Peaches ..	321,991	353,134	675,125	446,638	582,402	1,029,040
Apricots ..	99,985	255,413	355,398	154,413	278,926	433,339
Nectarines ..	6,418	6,266	12,684	9,636	11,198	20,834
Oranges ..	136,657	54,698	191,355	284,643	101,493	386,136
Lemons ..	33,335	38,687	72,022	84,363	48,421	132,784
Loquats ..	1,503	5,060	6,563	2,031	3,847	5,878
Medlars ..	82	153	235	37	176	213
Figs ..	13,213	27,835	41,048	17,827	28,837	46,664
Passion-fruit ..	10,356	8,794	19,150	9,301	18,514	27,815
Guavas ..	538	1,081	1,619	44	251	295
Pomegranates ..	130	87	217	47	116	163
Persimmons ..	243	486	729	185	460	645
Total Large Fruits ..	2,246,504	3,470,447	5,716,951	2,785,559	4,172,454	6,958,013
Raspberries ..	..	558,288	558,288	..	636,749	636,749
Strawberries ..	..	3,458,859	3,458,859	..	3,894,479	3,894,479
Gooseberries ..	..	227,858	227,858	..	230,244	230,244
Mulberries ..	782	1,037	1,819	342	1,104	1,446
Olives ..	3,886	4,198	8,084	3,006	6,351	9,357
Currants (Red, White, and Black) ..	5,470	59,259	64,729	7,507	34,409	41,916
Almonds ..	11,039	19,022	30,061	11,115	21,348	32,463
Walnuts ..	8,988	4,044	13,032	7,524	5,909	13,433
Filberts ..	439	3,800	4,239	835	649	1,484
Chestnuts ..	451	600	1,051	570	427	997
Total Nuts ..	20,917	27,466	48,383	20,044	28,333	48,377

The area of orchards growing fruit for sale in 1918-19 was 82,151 acres, which is the largest area recorded. The striking feature of the figures relating to the production of orchards in 1918-19, as compared with the previous year, is the increase in the quantities of pears, peaches, cherries, oranges and almonds, and the reduction in the quantities of apples and apricots gathered. Details of the produce from orchards growing fruit for sale for each of the past ten years are as follows :—

ORCHARDS GROWING FRUIT FOR SALE, 1909-10

TO 1918-19.

Year ended March.	Number of Fruit-growers.	Area of Gardens and Orchards.	LARGE FRUITS GATHERED.			
			Apples.	Pears.	Quinces.	Plums.
		Acres.	Bushels.	Bushels.	Bushels.	Bushels.
1910 ..	5,647	51,578	1,121,702	253,195	50,559	232,657
1911 ..	5,780	53,325	1,667,271	640,436	86,355	325,677
1912 ..	5,955	55,769	1,330,961	239,431	54,425	151,936
1913 ..	6,285	59,119	2,036,756	669,898	90,119	260,830
1914 ..	6,498	63,058	1,653,035	476,430	67,799	292,389
1915 ..	6,811	70,392	509,697	401,301	32,949	88,698
1916 ..	7,319	76,382	2,953,968	601,357	100,566	337,154
1917 ..	7,309	79,247	617,929	661,962	80,093	258,218
1918 ..	7,314	80,508	1,864,508	414,721	72,436	242,598
1919 ..	7,620	82,151	807,573	756,688	65,885	220,546

Large Fruits Gathered—continued.

	Cherries.	Peaches.	Apricots.	Oranges.	Lemons.	Figs.	Others.
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1910 ..	100,054	291,766	292,496	34,027	51,130	22,675	10,566
1911 ..	121,756	317,317	160,884	59,723	71,041	31,054	21,200
1912 ..	96,663	260,258	281,460	48,982	65,833	17,891	10,259
1913 ..	152,257	289,731	138,881	44,039	48,170	25,223	19,496
1914 ..	151,262	361,414	308,307	63,542	57,562	23,764	15,639
1915 ..	48,411	277,435	109,301	83,220	66,704	17,362	16,040
1916 ..	98,382	303,992	256,229	63,434	56,569	21,433	16,546
1917 ..	40,024	787,406	217,424	59,985	53,940	25,063	25,650
1918 ..	69,743	430,770	238,420	75,315	76,296	26,885	30,521
1919 ..	109,298	569,639	127,131	100,553	80,521	18,492	23,097

Production.

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ORCHARDS GROWING FRUIT FOR SALE, 1909-10 TO 1918-19— *continued.*

Year ended March.	SMALL FRUITS GATHERED.					NUTS GATHERED.			
	Rasp-berries.	Straw-berries.	Goose-berries.	Currants, Red, Black, & White.	Others.	Almonds.	Walnuts.	Filberts.	Chest-nuts.
	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	lbs.	lbs.	lbs.	lbs.
1910	6,143	6,472	5,876	1,428	1,738	81,008	25,368	1,760	5,003
1911	9,231	7,788	6,430	1,334	2,607	126,877	24,242	3,209	8,546
1912	6,658	6,103	4,173	1,429	1,333	100,982	26,329	1,473	8,821
1913	5,207	3,839	3,874	876	1,179	90,317	22,127	1,220	8,305
1914	4,580	4,351	4,912	802	1,233	92,621	21,649	2,143	11,361
1915	6,011	2,290	223	183	1,072	70,139	26,026	2,664	9,316
1916	3,534	3,347	5,061	491	2,069	62,148	18,173	660	8,344
1917	4,996	4,960	3,902	273	1,822	53,590	7,895	2,339	11,384
1918	7,539	5,175	5,052	443	2,080	47,900	16,673	1,510	14,788
1919	3,272	2,317	3,723	305	3,876	84,313	36,976	1,098	12,164

The following return shows the average produce per bearing tree for the seasons 1910-11, 1913-14, and 1916-17:—

PRODUCE OF FRUIT TREES, 1910-11, 1913-14, AND 1916-17.

Fruit Trees.	AVERAGE PER BEARING TREE.		
	1910-1911.	1913-1914.	1916-17.
	Bushels.	Bushels.	Bushels.
Apples	1·15	1·03	·34
Pears	1·76	1·07	1·14
Quinces	1·49	1·03	1·11
Plums	·92	·83	·65
Cherries	·50	·80	·17
Peaches	1·09	1·02	1·35
Apricots	·68	1·21	·78
Nectarines	1·11	1·13	1·41
Oranges	1·49	1·16	·59
Lemons	1·48	1·49	1·11
Loquats	1·19	·24	·29
Medlars	·14	·29	·07
Figs	·88	·85	·87
Passion Vines	·98	·75	·44
Guavas	·14	·02	·42
Pomegranates	1·73	·54	·32
Persimmons	1·50	·68	·82
	lbs.	lbs.	lbs.
Almonds	6·03	4·87	2·51
Walnuts	5·43	5·35	1·34
Filberts	·88	·56	3·60
Chestnuts	6·65	18·94	26·66

In addition to the fruits shown, large quantities of melons, rhubarb and tomatoes were produced in the orchards, the following being the

quantities returned for 1918-19—Melons, 14,096 cwt.; rhubarb, 20,568 dozen bundles; and tomatoes, 91,929 bushels. There were also 2,979 acres laid down in gardens growing fruit for private use, the value of the produce from which was estimated at about £14,895.

According to prices received by growers the value of fruit which reaches market was estimated to be £524,380 in 1910-11, £558,604 in 1911-12, £629,863 in 1912-13, £742,900 in 1913-14, £470,970 in 1914-15, £742,100 in 1915-16, £575,264 in 1916-17, £737,025 in 1917-18, and £868,000 in 1918-19. This, of course, does not represent the actual value of all the fruit grown, as large quantities are privately consumed in various ways. No very reliable estimate of the value of such fruit can be prepared, but it may be set down at about £40,000.

The area under market gardens for the year 1918-19 was 11,594 acres. As these gardens are generally situated near large centres of population, and the producers are consequently able to dispose of the bulk of their goods with a minimum loss from waste, &c., an average return of £35 per acre is regarded as a fair estimate. On this basis, the total value of the produce may be given as £405,790. This does not include crops of one acre and over of potatoes, onions, mangel-wurzel, beet, carrots, parsnips, and turnips grown in market gardens, such crops being tabulated under their respective heads in the returns relating to agriculture.

The quantity of dried fruit (weight after drying) was for the first time collected in 1895-6, when 179,460 lbs. were returned, and it increased to 636,294 lbs. in 1900-1, after which date the quantity, principally by reason of a reduction in apricots, declined to 306,603 lbs. in 1902-3. In 1909-10 the maximum production—811,935 lbs.—was recorded. In 1918-19 the production was 319,073 lbs. The details for the last ten seasons are as follows:—

DRIED FRUIT, 1909-10 TO 1918-19.

Year ended June.	Apples.	Prunes.	Peaches.	Apricots.	Figs.	Pears.	Total.
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
1910 ..	46,767	76,015	109,661	539,910	22,160	17,422	811,935
1911 ..	26,391	80,123	84,211	334,111	9,554	31,819	566,209
1912 ..	21,929	72,400	143,112	492,041	31,027	16,502	777,011
1913 ..	48,853	84,053	56,151	61,465	27,274	38,633	316,429
1914 ..	39,899	155,031	118,187	363,356	33,151	7,900	717,524
1915 ..	16,817	28,788	70,897	43,606	31,981	55,581	247,670
1916 ..	290,258	128,520	61,667	69,215	33,939	22,224	605,823
1917 ..	27,109	118,999	357,329	149,940	10,567	108,379	772,323
1918 ..	134,342	221,728	88,241	235,534	47,201	38,257	765,303
1919 ..	3,229	131,684	73,638	45,002	36,866	28,654	319,073

A striking feature of the returns for the last season was the decrease in apples and apricots. The bulk of the dried fruit, except prunes and apples, comes from Mildura, where in 1918-19 there were made, in addition to fruits included above, 14,608,944 lbs. of raisins.

The following is a return of the minor crops for the last two seasons. The items do not in all cases represent the whole of the respective crops grown, but refer only to such as were taken cognisance of by the collectors. The return, therefore, indicates the nature of the crops rather than the full extent of their cultivation.

MINOR CROPS, 1917-18 AND 1918-19.

Crop.	1917-18.		1918-19.	
	Area.	Produce.	Area.	Produce.
	Acres.		Acres.	
Beans	841	21,984 bushels	1,377	17,584 bushels
Chicory	664	518 tons (dry)	536	485 tons (dry)
Flowers	164	..	147	..
Garlic	8	290 cwt.	4	100 cwt.
Herbs	5	..	56	..
Millet—Broom ..	921	{ 4,562 cwt. fibre 3,318 cwt. seed }	1,876 {	4,794 cwt. fibre 2,037 cwt. seed }
„ Japanese ..	156	543 cwt. seed	50	200 cwt. seed
Mustard	72	29 cwt.	345	279 cwt.
Nursery	1,247	..	1,020	..
Opium poppies ..	1	3½ lbs.	1	3 lbs.
Pumpkins	1,464	14,679 tons	1,161	6,405 tons
Seeds—Agricultural and Garden ..	109	..	296	..
Sugar Beet	1,200	14,487 tons beet	1,009	12,290 tons beet
Sunflowers	76	863 cwt.	58	489 cwt.
Total	6,928	..	7,936	..

While the fallowing of land in Victoria commenced in 1858, and increased in popularity in later years, it is only within the past fourteen years that this method of cultivation has become fairly general throughout the State. The area fallowed in 1918-19 was 1,548,121 acres, as compared with 853,829 acres in 1904-5, and 517,242 acres in 1898-9. The acreage so treated in each of the last twenty years was as follows:—

LAND IN FALLOW.

Year ended March.			Acres.	Year ended March.			Acres.
1900	..	..	509,244	1910	..	..	1,175,750
1901	..	..	602,870	1911	..	..	1,434,177
1902	..	..	681,778	1912	..	..	1,469,608
1903	..	..	492,305	1913	..	..	1,627,233
1904	..	..	632,521	1914	..	..	1,738,572
1905	..	..	853,829	1915	..	..	1,346,545
1906	..	..	1,049,915	1916	..	..	1,358,343
1907	..	..	990,967	1917	..	..	1,899,559
1908	..	..	894,300	1918	..	..	1,672,729
1909	..	..	1,034,422	1919	..	..	1,548,121

Nearly all of the fallowed area is devoted to wheat production. Of the 1,548,121 acres in fallow last season 581,332 were in the Wimmera, 416,670 in the Northern, and 400,027 in the Mallee District. The area for these three districts represented 90 per cent. of the total for the State.

The increase in the proportion of farmers using manure indicates the popularity and the value of this method of treating the soil. Last year the number of farmers who used manure was 32,589, as compared with 21,586 in 1905, and 7,318 in 1898. The following table shows the number of farmers using manure, and the quantity used in each of the last fifteen years :—

MANURE USED FOR FERTILIZATION, 1904 TO 1918.

Year.	Farmers using.	Area used on.	Manure used—	
			Natural.	Artificial.
		Acres.	Tons.	Tons.
1904	20,167	1,521,946	190,903	45,940
1905	21,586	1,791,537	210,507	54,674
1906	23,072	1,985,148	205,906	60,871
1907	23,733	2,018,079	232,394	62,337
1908	24,437	2,053,987	235,492	64,715
1909	26,690	2,407,331	197,446	77,579
1910	27,845	2,714,854	203,884	86,316
1911	26,159	2,676,408	205,739	82,581
1912	29,524	3,029,418	222,253	94,010
1913	30,610	3,401,013	219,423	105,612
1914	31,874	3,728,279	209,534	117,935
1915	33,378	4,336,252	187,602	128,667
1916	33,165	3,870,742	181,268	117,812
1917	30,109	3,336,418	167,114	106,119
1918	32,589	3,222,822	162,165	104,993

The area on which manure was used represented only 7 per cent. of that under crop in 1898, but since then the proportion manured has rapidly increased. In 1901, it was 19 per cent. ; in 1903, 36 per cent. ; in 1905, 56 per cent. ; in 1909, 66 per cent. ; in 1913, 77 per cent. ; and in 1918, 82 per cent. During 1918-19 the quantity of manure imported into Victoria from oversea countries was 74,003 tons, valued at £190,578. This included 62,831 tons of rock phosphates, of which 35,004 tons, valued at £78,251, were obtained from Ocean Island, and 27,827 tons, valued at £61,111, from Nauru Island.

**Characteristics
of Victorian
soils.**

This subject is fully dealt with in the Year-Book for 1915-16, page 740.

**Persons
employed on
Farming,
Dairying, and
Pastoral
Holdings.**

Information is obtained by the collectors of agricultural statistics each year as to the number of persons ordinarily employed upon the land occupied. For the last ten years the numbers were as follows :—

**NUMBER OF PERSONS EMPLOYED UPON FARMING,
DAIRYING, AND PASTORAL HOLDINGS, 1909 TO 1918.**

Year.	Males.	Females.	Total.
1909	96,873	52,782	149,655
1910	99,948	54,083	154,031
1911	100,689	55,040	155,729
1912	100,665	52,868	153,533
1913	101,353	51,837	153,190
1914	98,354	49,242	147,596
1915	98,617	49,038	147,655
1916	95,535	50,964	146,499
1917	95,890	51,992	147,882
1918	95,584	52,548	148,132

Persons absent from their farms for the greater portion of the year following other occupations, as well as temporary hands engaged in harvesting, &c., are not included in the above tabulation, neither are domestic servants nor cooks; but females partly engaged in outdoor duties in connexion with the holdings are included therein. It is estimated that the temporary labour employed on farms and pastoral holdings is equivalent to about 30,000 men employed continuously throughout the year.

In the next return will be found particulars of the rates of wages paid (with rations) upon farms and pastoral holdings during 1918-19. The information has been furnished by the occupiers of holdings:—

WAGES, AGRICULTURAL AND PASTORAL, 1918-19.

Occupations.	Range.	Prevailing Rate.
Ploughmen	30s. to 60s. per week ..	35s. per week
Farm labourers	25s. to 40s. per week ..	32s. 6d. per week
Threshing machine hands ..	10d. to 15d. per hour ..	1s. per hour
Harvest hands	7s. to 11s. per day ..	9s. per day
Milkers	25s. to 40s. per week ..	30s. per week
Maize pickers (without rations)	5d. to 9d. per bag ..	6d. per bag
Hop pickers " "	3d. to 5d. per bushel ..	4d. per bushel
Married couples	40s. to 60s. per week ..	50s. per week
Female servants	12s. to 25s. per week ..	17s. 6d. per week
Men cooks	30s. to 60s. per week ..	40s. per week
Stockmen	£78 to £156 per annum ..	£91 per annum
Generally useful men ..	25s. to 40s. per week ..	30s. per week
Shearers, hand*	25s. to 40s. per 100 sheep	30s. per 100 sheep
" machine*	25s. to 40s. per 100 sheep	30s. per 100 sheep
Gardeners, market	25s. to 50s. per week ..	30s. per week
" orchard	25s. to 50s. per week ..	30s. per week
Vineyard hands	25s. to 50s. per week ..	30s. per week

* It is believed that in the case of some of the highest rates rations are not found.

PASTORAL AND DAIRYING INDUSTRIES.

The pastoral and dairying industries have always been **Live Stock.** important sources of wealth to the State, and their increasing value in recent years, despite the larger areas devoted to cultivation, indicates that both pastures and stock are, on the whole, steadily improving. The progress of stock breeding for 58 years is shown in the next table, which gives the numbers of horses, dairy cows, other cattle, sheep and pigs, and their numbers per head of population and per square mile in each of the last six census years and 1919.

LIVE STOCK IN VICTORIA, 1861 to 1919.

Year.	Horses (including Foals).	Cattle—		Sheep.	Pigs.
		Dairy Cows.	Other.		
	Number.	Number.	Number.	Number.	Number.
1861	76,536	197,332	525,000	5,780,896	61,259
1871	209,025	212,193	564,534	10,477,976	180,109
1881	275,516	329,198	957,069	10,360,285	241,936
1891	436,469	395,192	1,387,689	12,692,843	282,457
1901	392,237	521,612	1,080,772	10,841,790	350,370
1911	472,080	668,777	878,792	12,882,665	333,281
1919	523,788	592,079	1,004,465	15,773,902	267,819
<i>Per Head of Population.</i>					
1861	·14	·37	·97	10·70	·11
1871	·29	·29	·77	14·32	·25
1881	·32	·38	1·11	12·01	·28
1891	·38	·35	1·22	11·13	·25
1901	·33	·43	·90	9·03	·29
1911	·36	·51	·67	9·79	·25
1919	·36	·41	·69	10·87	·18
<i>Per Square Mile.</i>					
1861	·87	2·25	5·97	65·78	·70
1871	2·38	2·41	6·42	119·22	2·05
1881	3·14	3·75	10·89	117·88	2·75
1891	4·97	4·50	15·79	144·43	3·21
1901	4·46	5·94	12·30	123·36	4·00
1911	5·37	7·61	10·00	146·59	3·79
1919	5·96	6·74	11·43	179·49	3·05

By reducing horses and cattle to an equivalent in sheep on the assumption that one of the former will eat as much as ten, and one of

the latter as much as six sheep, interesting comparisons of the carrying capacity of the land at different periods may be instituted. Calculations made on this basis show that each square mile carried an equivalent of 348 sheep in 1919 as against 306 in 1911 and 237 in 1881—an increase of nearly 47 per cent. in the carrying capacity of the land in 38 years.

Information relating to land occupied and cultivation and live stock thereon was collected in March, 1919. The land privately owned was summarized according to different sized holdings, and in the instances where Crown lands were held in conjunction therewith these were, regardless of size, scheduled with the holdings to which they were attached. The particulars are given in the two succeeding tables:—

SIZE OF HOLDINGS SHOWING AREAS UNDER CULTIVATION AND PASTURE, MARCH, 1919.

Privately-owned Land.			Crown Land held in conjunc- tion with that privately owned.	Total Area Occupied.	Area under—	
Size of Holdings. (In Acres.)	Number of Holdings.	Area Occupied.			Cultiva- tion.	Pasture, &c.
		acres.	acres.	acres.	acres.	acres.
1 and under	5	3,645	9,127	35,799	1,853	33,946
5 "	15	6,618	58,825	87,607	16,716	70,891
15 "	30	5,943	123,324	86,192	209,516	172,627
30 "	50	4,660	179,150	41,240	220,390	48,479
50 "	100	8,036	572,349	164,491	736,840	137,867
100 "	200	10,732	1,524,805	315,181	1,839,986	299,057
200 "	300	6,215	1,504,190	344,984	1,849,174	287,625
300 "	321	2,982	938,382	179,951	1,118,333	220,752
321 "	400	2,965	1,059,459	332,657	1,393,116	205,218
400 "	500	3,351	1,490,282	280,234	1,779,516	337,983
500 "	600	2,631	1,432,024	166,267	1,598,291	338,607
600 "	641	2,884	1,808,460	691,249	2,499,709	608,668
641 "	700	1,263	844,243	99,873	944,116	222,118
700 "	800	1,904	1,412,875	399,628	1,812,503	362,574
800 "	900	1,330	1,119,318	315,059	1,434,377	249,316
900 "	1,000	1,212	1,146,895	256,602	1,403,497	271,859
1,000 "	1,500	3,162	3,810,699	1,053,247	4,863,946	839,395
1,500 "	2,000	1,218	2,086,245	507,274	2,593,519	362,089
2,000 "	2,500	630	1,394,731	739,944	2,134,675	177,763
2,500 "	3,000	348	941,466	325,157	1,266,623	123,172
3,000 "	4,000	360	1,230,241	315,317	1,545,558	109,495
4,000 "	5,000	147	654,148	75,771	729,919	37,759
5,000 "	7,500	197	1,189,200	322,225	1,511,425	63,445
7,500 "	10,000	93	807,406	56,652	864,058	19,569
10,000 "	15,000	77	928,195	25,732	953,927	21,185
15,000 "	20,000	40	693,265	7,871	701,136	6,390
20,000 "	30,000	23	561,055	88,381	649,436	7,109
30,000 "	40,000	7	233,111	831	233,942	642
40,000 "	50,000	5	222,681	1,230	223,911	653
Total	72,679	29,976,151	7,258,694	37,234,845	5,414,237	31,820,608

Size of
holdings and
live stock
thereon.

The last table shows the areas devoted to cultivation and grazing on different-sized holdings in March, 1919, whilst the next table, which is a supplementary one, gives the numbers of horses, cattle, sheep, and pigs on these holdings at the same date.

SIZE OF HOLDINGS AND LIVE STOCK THEREON, MARCH, 1919.

Size of Holdings. (In Acres.)			Live Stock on Land Occupied.				
			Horses.	Cattle.		Sheep.	Pigs.
				Dairy Cows.	Other Cattle.		
1 and under	5	..	3,841	3,698	3,559	2,364	1,571
5	15	..	9,610	10,669	9,317	6,237	7,232
15	30	..	11,169	13,655	12,656	15,197	8,885
30	50	..	11,717	17,094	15,377	27,268	10,414
50	100	..	26,410	52,643	50,827	94,046	29,153
100	200	..	48,937	112,768	116,237	392,328	53,337
200	300	..	36,650	75,952	92,007	505,332	32,026
300	321	..	20,962	30,565	42,541	323,686	13,728
321	400	..	23,050	38,070	51,344	445,405	15,465
400	500	..	28,738	37,257	60,366	609,441	14,842
500	600	..	25,170	28,679	48,825	612,436	12,224
600	641	..	28,956	16,657	33,517	518,208	9,111
641	700	..	13,041	9,073	18,548	321,299	3,992
700	800	..	20,695	15,071	31,805	569,303	6,839
800	900	..	15,710	12,997	32,260	549,443	5,552
900	1,000	..	16,262	11,999	28,249	573,028	4,488
1,000	1,500	..	47,959	28,439	87,024	2,104,287	11,018
1,500	2,000	..	21,672	14,012	46,997	1,351,246	4,218
2,000	2,500	..	11,258	8,063	28,145	998,875	2,906
2,500	3,000	..	6,855	4,515	21,419	591,827	1,184
3,000	4,000	..	7,530	4,964	28,666	882,403	1,451
4,000	5,000	..	3,134	2,362	17,496	468,856	387
5,000	7,500	..	5,840	2,825	32,833	954,084	689
7,500	10,000	..	2,802	1,191	17,969	641,654	161
10,000	15,000	..	4,468	1,216	18,737	823,402	297
15,000	20,000	..	1,963	915	8,974	561,238	128
20,000	30,000	..	1,346	468	6,639	455,373	299
30,000	40,000	..	540	201	1,879	130,413	14
40,000	50,000	..	384	86	642	135,742	6
Total	..	..	456,669	556,104	964,855	15,664,421	251,617

The figures in the last two tables are exclusive of live stock travelling and those in cities, towns, &c.; also of 1,651 holdings containing 899,289 acres of Crown lands not held in conjunction with any private land, on which there were 76,783 acres of cultivation, 5,373 horses,

13,147 cattle, 76,775 sheep, and 3,629 pigs. The position disclosed was that 66,372 persons holding up to 1,000 acres each of private land occupied in the aggregate 15,223,708 acres of such land, as well as 3,739,062 acres of Crown land—a total of 18,962,770 acres, or 51 per cent. of the total area in occupation. These occupiers controlled 67 per cent. of the total cultivation and 48 per cent. of the pasture, and possessed 75 per cent. of the horses, 88 per cent. of the dairy cows, 67 per cent. of the other cattle, 91 per cent. of the pigs, and 36 per cent. of the sheep.

Size of holdings in 1913 and 1919. Particulars of the size of holdings and cultivation thereon are given in the following table for the years 1913 and 1919:—

SIZE OF HOLDINGS AND CULTIVATION THEREON.

Privately-owned Land.				Crown Land held in conjunction with that privately owned.	Total Area Occupied.	Area under—	
Size of Holdings. (In acres.)	Year	Number of Holdings.	Area Occupied.			Cultivation.	Pasture, &c.
			Acres.	Acres.	Acres.	Acres.	Acres.
1 and under 100	1913	26,113	915,493	374,511	1,290,004	245,498	1,044,506
	1919	28,902	942,775	347,377	1,290,152	241,794	1,048,358
100 „ 321	1913	18,483	3,819,680	1,216,829	5,036,509	875,525	4,160,984
	1919	19,930	3,967,377	840,116	4,807,493	807,434	4,000,059
321 „ 641	1913	11,212	5,475,942	1,191,890	6,667,832	1,424,020	5,243,812
	1919	11,831	5,790,225	1,480,407	7,270,632	1,490,476	5,780,156
641 „ 1,000	1913	5,221	4,187,010	1,241,667	5,428,677	1,075,000	4,353,677
	1919	5,709	4,523,331	1,071,162	5,594,493	1,105,867	4,488,626
1,000 „ 2,500	1913	4,544	6,748,985	1,852,529	8,601,514	1,546,611	7,054,903
	1919	5,010	7,291,675	2,300,465	9,592,140	1,379,247	8,212,893
2,500 „ 5,000	1913	820	2,803,419	1,085,769	3,889,188	352,258	3,536,930
	1919	855	2,825,855	716,245	3,542,100	270,426	3,271,674
5,000 „ 10,000	1913	247	1,825,862	342,848	2,168,710	111,910	2,056,800
	1919	290	1,906,606	378,877	2,375,483	83,014	2,292,469
10,000 and upwards	1913	151	2,652,966	404,710	3,057,676	39,606	3,018,070
	1919	152	2,638,307	124,045	2,762,352	35,979	2,726,373
Total	1913	66,811	28,429,357	7,710,753	36,140,110	5,670,428	30,469,682
	1919	72,679	29,976,151	7,258,694	37,234,845	5,414,237	31,820,608

The number of holdings of over 10,000 acres was 152 in 1919, as compared with 151 in 1913, 175 in 1910, and 195 in 1906, and the aggregate areas comprised therein in the corresponding years were 2,638,307 acres, 2,652,966 acres, 3,298,227 acres, and 4,134,067 acres. The reduction in the period of thirteen years between March, 1906, and March, 1919, was equivalent to 22 per cent. in the number and 36 per cent. in the acreage of such estates. In all other holdings of the sizes mentioned in the above table there were increases in both numbers and acreage in the thirteen years referred to.

To illustrate the uses to which the land was applied in 1913 and 1919, various percentages relating to holdings of different sizes are given for those years in the succeeding table, which also shows the live stock carried by the holdings, reduced to their equivalent in sheep :—

SIZE OF HOLDINGS AND HOW UTILIZED, 1913 AND 1919.

Size of Holdings of Private Land. (In Acres.)	Year.	Percentage in each Division to Total of—				Live Stock Grazed reduced to equivalent in Sheep.	
		Area Occupied.	Area under Cultivation.	Area used for Pasture, &c.	Equivalent in Sheep Grazed.	Total.	Per Acre used for Grazing, &c.
1 and under	100 {	1913 3·57	4·33	3·43	7·08	1,766,873	1·69
		1919 3·46	4·47	3·29	6·50	1,909,552	1·82
100 "	321 {	1913 13·94	15·44	13·66	17·67	4,410,283	1·06
		1919 12·91	14·91	12·57	17·40	5,107,256	1·28
321 "	641 {	1913 18·45	25·12	17·21	17·14	4,278,079	·82
		1919 19·53	27·53	18·17	17·48	5,132,920	·89
641 "	1,000 {	1913 15·02	18·95	14·29	12·15	3,031,015	·70
		1919 15·03	20·43	14·11	12·37	3,630,165	·81
1,000 "	2,500 {	1913 23·80	27·27	23·15	20·34	5,076,868	·72
		1919 25·76	25·47	25·81	22·28	6,539,378	·80
2,500 "	5,000 {	1913 10·76	6·22	11·61	9·22	2,300,276	·65
		1919 9·51	5·00	10·28	8·84	2,594,808	·79
5,000 "	10,000 {	1913 6·00	1·98	6·75	6·95	1,735,240	·84
		1919 6·38	1·53	7·20	6·85	2,011,066	·88
10,000 and upwards	{	1913 8·46	·69	9·90	9·45	2,358,478	·78
		1919 7·42	·66	8·57	8·28	2,431,720	·89
Total ..	.. {	1913 100·00	100·00	100·00	100·00	24,957,112	·82
		1919 100·00	100·00	100·00	100·00	29,356,865	·92

Horses and cattle have been reduced to an equivalent in sheep on the assumption that one head of the former will eat as much as ten, and one of the latter as much as six sheep. On this basis every 100 acres under pasture was carrying the equivalent of 92 sheep in 1919, as compared with 82 in 1913 and 78 in 1910. The carrying capacity of holdings of all sizes has increased during the past nine years. Dairying is carried on principally in the small holdings, and pigs are most numerous where dairying prevails. In 1919, 57 per cent. of the dairy cows and 62 per cent. of the pigs were on holdings of not more than 320 acres.

Land occupied
in different
districts.

The following tables show the land in occupation in March, 1919, in districts, and the uses to which the land was applied :—

LAND IN OCCUPATION IN EACH DISTRICT OF VICTORIA, MARCH, 1919.

(Areas of 1 acre and upwards.)

District.	Number of Occupiers.	Acres Occupied.				Total.
		For Agricultural Purposes.	For Pasture.		Other Purposes and Unproduc- tive.	
			Sown Grasses, Clover, or Lucerne.	Natural Grasses.		
Central ..	17,736	428,849	167,185	2,106,927	150,997	2,853,958
North-Central ..	5,833	110,425	51,567	1,955,224	50,240	2,167,456
Western ..	11,939	336,603	204,899	6,002,281	268,481	6,812,264
Wimmera ..	6,565	1,489,367	113,773	4,038,270	276,950	5,918,360
Mallee ..	6,156	1,582,468	5,317	3,350,664	778,451	5,716,900
Northern ..	12,024	1,300,241	51,537	3,933,053	31,081	5,315,912
North-Eastern ..	5,317	110,358	12,595	3,990,975	131,956	4,245,884
Gippsland ..	8,760	132,709	662,620	3,559,904	748,167	5,103,400
Total ..	74,330	5,491,020	1,269,493	28,937,298	2,436,323	38,134,134
PERCENTAGE OF TOTAL OCCUPIED IN EACH DISTRICT.						
Central ..	..	15·03	5·86	73·82	5·29	100·00
North-Central ..	..	5·09	2·38	90·21	2·32	100·00
Western ..	..	4·94	3·01	88·11	3·94	100·00
Wimmera ..	..	25·17	1·92	68·23	4·68	100·00
Mallee ..	..	27·68	·09	58·61	13·62	100·00
Northern ..	..	24·46	·97	73·99	·58	100·00
North-Eastern ..	..	2·60	·30	94·00	3·10	100·00
Gippsland ..	..	2·60	12·98	69·76	14·66	100·00
Total ..	..	14·40	3·33	75·88	6·39	100·00
PERCENTAGE IN EACH DISTRICT OF TOTAL IN STATE.						
Central ..	23·86	7·81	13·17	7·28	6·20	7·48
North-Central ..	7·85	2·01	4·06	6·76	2·06	5·69
Western ..	16·06	6·13	16·14	20·74	11·02	17·87
Wimmera ..	8·83	27·13	8·96	13·96	11·37	15·52
Mallee ..	8·28	28·82	·42	11·58	31·95	14·99
Northern ..	16·18	23·68	4·06	13·59	1·27	13·94
North-Eastern ..	7·15	2·01	·99	13·79	5·42	11·13
Gippsland ..	11·79	2·41	52·20	12·30	30·71	13·38
Total ..	100·00	100·00	100·00	100·00	100·00	100·00

It will be seen from these tables that the largest area under cultivation and the largest proportion of cultivation to land occupied are

found in the Northern, Wimmera, and Mallee districts. Of the occupied land, about 24 per cent. in the Northern, 28 per cent. in the Mallee, and 25 per cent. in the Wimmera districts are devoted to agriculture, and these divisions supply 80 per cent. of the cultivation in Victoria. In the North-Central, Western, and North-Eastern districts the land occupied is largely devoted to grazing; and in Gippsland considerable attention is given to the cultivation of grasses, 52 per cent. of all the sown grasses in the State being found in that district.

Areas occupied and stock thereon, in districts. The next table contains particulars of the distribution of horses, cattle, and sheep on agricultural and pastoral lands in March, 1919.

AREA OCCUPIED AND STOCK THEREON, 1919.

District.	Areas Occupied for—		Number of—		
	Agriculture.	Pasture.	Horses.	Cattle.	Sheep.
Central	428,849	2,274,112	107,329	264,031	1,391,355
North-Central ..	110,425	2,006,791	28,241	94,117	1,374,255
Western	336,603	6,207,180	71,988	355,535	4,854,243
Wimmera	1,489,367	4,152,043	75,337	56,763	2,442,365
Mallee	1,582,468	3,355,981	57,824	42,453	841,155
Northern	1,300,241	3,984,590	98,312	228,632	2,504,177
North-Eastern ..	110,358	4,003,570	36,597	211,507	1,039,886
Gippsland	132,709	4,222,524	48,160	343,506	1,326,466
Total	5,491,020	30,206,791	523,788	1,596,544	15,773,902

The area occupied does not include 2,436,300 acres which are mostly in an unproductive state. Cattle were more numerous than in the previous year in every district, and sheep were more numerous in all districts except the North-Eastern.

The following return shows the live stock in Victoria in each of the last five years. Tables showing the stock classified in conjunction with holdings and sheep classified in different-sized flocks in March, 1919, are given on pages 452 and 465 :—

LIVE STOCK IN VICTORIA, 1915 to 1919.

Live Stock.	1915.	1916.	1917.	1918.	1919.
Horses (including foals)	552,053	493,779	514,403	514,061	523,788
Cattle—					
Dairy Cows	610,517	451,088	488,086	534,388	592,079
Other (including calves)	752,025	592,516	687,012	836,661	1,004,465
Sheep	12,051,685	10,545,632	12,576,587	14,760,013	15,773,902
Pigs	243,196	192,002	254,436	323,159	267,819

In the subjoined table will be found a statement of the average and the range of prices ruling in Melbourne during the years 1917 and 1918-19 for live stock. The information has been extracted from the *Melbourne Stock and Station Journal* :—

PRICES IN MELBOURNE OF LIVE STOCK, 1917 AND 1918-19.

Stock.	Prices in 1917.			Prices in 1918-19.		
	Average.	Range.		Average.	Range.	
		£ s. d.	£ s. d.		£ s. d.	£ s. d.
<i>Horses.</i>						
Extra heavy draught	40 5 0	35 0 0 to	43 0 0	35 15 0	30 0 0 to	40 10 0
Medium draught ..	29 17 6	27 0 0 to	32 10 0	27 15 0	24 0 0 to	32 10 0
Delivery cart ..	22 7 6	20 0 0 to	23 10 0	20 0 0	18 10 0 to	22 0 0
Saddle and harness	8 17 6	7 15 0 to	10 10 0	9 0 0	7 0 0 to	10 0 0
Ponies ..	12 17 6	10 10 0 to	14 0 0	14 5 0	12 0 0 to	15 10 0
<i>Fat Cattle.</i>						
<i>Bullocks—</i>						
Extra prime ..	25 5 0	22 10 0 to	29 15 0	26 11 0	21 12 0 to	30 10 0
Prime ..	22 5 0	19 9 0 to	26 16 0	23 2 0	19 2 0 to	26 5 0
Good ..	19 10 0	17 8 0 to	23 17 0	19 10 0	15 15 0 to	22 15 0
Good light and handy weights	17 10 0	15 16 0 to	20 17 0	16 16 0	13 0 0 to	20 7 0
Second ..	16 0 0	13 18 0 to	19 0 0	14 8 0	9 10 0 to	18 17 0
<i>Cows—</i>						
Best ..	16 16 0	14 0 0 to	22 5 0	17 0 0	13 17 0 to	21 10 0
Others ..	13 2 0	10 4 0 to	17 1 0	12 11 0	9 7 0 to	16 10 0
<i>Dairy Cattle.</i>						
Best milkers	20 15 0	15 18 0 to	25 0 0	20 2 0	16 5 0 to	24 0 0
Springers, best ..	17 2 0	13 12 0 to	20 5 0	15 10 0	12 17 0 to	21 2 0
<i>Fat Sheep.</i>						
<i>Wethers (cross)—</i>						
Extra prime ..	2 2 11	1 14 7 to	2 15 6	1 18 6	1 8 6 to	2 16 6
Prime ..	1 18 1	1 11 7 to	2 9 6	1 13 6	1 4 0 to	2 8 9
Good ..	1 13 2	1 7 0 to	2 2 9	1 9 0	1 0 6 to	2 1 6
<i>Ewes (cross)—</i>						
Extra prime ..	1 18 4	1 13 5 to	2 7 6	1 14 9	1 5 6 to	2 15 4
Prime ..	1 14 0	1 8 8 to	2 3 6	1 9 8	1 0 6 to	2 5 1
Good ..	1 9 8	1 4 7 to	1 19 4	1 4 4	0 16 3 to	1 16 10
<i>Wethers (merino)—</i>						
Extra prime ..	1 16 8	1 8 10 to	2 8 9	1 14 0	1 5 6 to	2 8 10
Prime ..	1 12 3	1 6 3 to	2 3 0	1 9 8	1 1 3 to	2 3 9
Good ..	1 7 9	1 2 8 to	1 17 3	1 4 9	0 17 6 to	1 18 6
Ewes (merino) best	1 4 0	0 19 6 to	1 13 6	1 3 0	0 16 9 to	1 14 6
<i>Fat Lambs.</i>						
Extra prime ..	1 14 3	1 6 0 to	2 2 0	1 8 7	1 1 10 to	2 1 9
Prime ..	1 9 5	1 3 0 to	1 16 4	1 4 1	0 18 0 to	1 13 9
Good ..	1 4 5	0 19 0 to	1 10 0	0 19 6	0 13 9 to	1 8 6
Second ..	1 1 0	0 16 6 to	1 6 3	0 15 4	0 9 6 to	1 4 6
<i>Pigs.</i>						
<i>Back Fatters—</i>						
Extra heavy prime	7 11 0	5 5 0 to	10 5 0	6 9 0	5 0 0 to	8 15 0
Extra prime and weighty ..	5 5 0	3 9 0 to	7 10 0	4 11 0	4 0 0 to	5 10 0
<i>Baconers—</i>						
Extra prime ..	4 6 0	3 15 0 to	5 0 0	4 2 0	3 11 0 to	5 0 0
Prime ..	3 9 0	2 17 0 to	3 18 0	3 11 0	2 13 0 to	4 10 0
Porkers ..	2 7 0	1 17 0 to	2 13 0	2 6 0	1 15 0 to	2 16 0

The average prices of all classes of fat sheep and lambs were lower in 1918-19 than in 1917.

The following is a statement of the stock slaughtered on farms and stations, as well as in municipal abattoirs, during each of the last ten years :—

STOCK SLAUGHTERED, 1909 TO 1918.

Year.	Number Slaughtered.		
	Sheep and Lambs.	Cattle.	Pigs.
1909	3,708,512	287,548	210,613
1910	4,245,881	319,665	257,287
1911	4,348,363	347,926	345,547
1912	4,153,269	368,512	331,364
1913	4,742,231	410,694	286,931
1914	4,550,272	470,011	260,017
1915	2,973,803	356,174	216,003
1916	2,647,200	247,781	214,228
1917	2,499,002	217,480	298,073
1918	3,581,460	223,340	377,390

The purposes for which the slaughtered animals were used were as follows :—

PURPOSES FOR WHICH STOCK WERE SLAUGHTERED, 1909 to 1918.

Year.	For Butcher and Private Use.			For Freezing.			For Preserving and Salting.			For Boiling Down.		
	Sheep.	Cattle.	Pigs.	Sheep.	Cattle.	Pigs.	Sheep.	Cattle.	Pigs.	Sheep.	Cattle.	Pigs.
1909	2,718,344	276,759	67,117	941,309	7,399	225	10,962	2,235	143,206	37,897	1,155	65
1910	2,592,514	302,282	91,850	1,573,516	13,009	1,557	41,420	3,624	163,844	38,431	750	36
1911	2,678,517	321,251	134,546	1,578,132	17,354	1,609	69,486	7,640	209,177	22,228	1,681	215
1912	2,610,663	344,706	148,394	1,409,243	10,793	3,120	104,472	10,129	179,717	28,889	2,884	133
1913	2,587,895	355,868	107,089	2,107,180	36,692	..	41,034	15,383	179,710	6,122	2,751	132
1914	2,783,802	385,548	76,464	1,710,152	64,838	1,713	34,141	15,276	181,756	22,177	4,349	84
1915	2,910,848	338,475	86,580	47,546	175	..	9,762	12,082	129,259	5,647	5,442	164
1916	2,206,952	233,910	46,922	418,418	8,243	156	20,925	4,850	167,003	905	778	147
1917	2,168,582	209,909	99,053	196,267	1,124	971	133,140	5,540	197,880	1,013	907	169
1918	2,353,153	195,328	174,689	668,970	3,520	615	553,090	23,580	201,900	6,247	912	186

The increase which took place in the number of sheep and lambs slaughtered for freezing, until it was checked by a drought in 1914, shows the growing importance of the frozen meat trade of the State. Of the 4,742,231 sheep and lambs slaughtered in Victoria in 1913, 2,107,180, or 44 per cent., were frozen, as compared with 651,914, or 23 per cent., in 1906. In 1918-19 the overseas exports included 35,160,629 lbs. of mutton and lamb, valued at £745,893.

The soil and climate of Victoria are well suited to the economical production of both mutton and lamb, and, as there is practically no limit to the demand for these products in Europe, the possibilities for those engaged in raising sheep for export are very great, especially as the number of sheep in the world is not keeping pace with the increase in population. The importance of this

Mutton and Lamb frozen for Export.

export trade to Victorian sheep owners is evidenced by the figures in the appended statement showing the numbers of carcasses frozen for export in 1894, a few years after the inception of the trade, and in each of the past eight years. The quantity frozen for export in the four years 1915 to 1918 was small in comparison with previous years. The chief reasons for this were, in 1915, the drought of the preceding year and, in 1916, 1917, and 1918, the scarcity of shipping.

MUTTON AND LAMB FROZEN FOR EXPORT.

Year.	Number of Carcasses frozen for Export.		
	Mutton.	Lamb.	Total.
1894	250,000	..	250,000
1911	624,940	953,192	1,578,132
1912	566,541	842,702	1,409,243
1913	948,162	1,159,018	2,107,180
1914	653,329	1,056,823	1,710,152
1915 .. ..	..	47,546	47,546
1916	52,724	365,694	418,418
1917	66,730	129,537	196,267
1918	401,382	267,588	668,970

Dairying. The dairying industry is one of the principal sources of the wealth of the community. The value of dairy produce for 1918 was £8,521,590, as compared with £7,213,950 in the previous year, £6,898,630 in 1916, £4,952,846 in 1915, £4,937,610 in 1914, and £5,163,416 in 1913. The following table shows the numbers of cowkeepers and cows, and the total production of butter and cheese, in each of the last ten years :—

DAIRYING, 1909 TO 1918.

Year.	Number of Cow-keepers.	Number of Dairy Cows at end of Year.	Butter made.	Cheese made.
			lbs.	lbs.
1909	50,870	625,063	55,166,555	5,025,834
1910	52,610	668,777	70,603,787	4,530,893
1911	53,319	699,555	86,500,474	4,549,843
1912	54,447	655,939	67,655,834	4,176,778
1913	55,423	656,080	73,381,567	4,856,321
1914	55,553	610,517	62,421,288	4,395,502
1915	53,381	451,088	42,345,113	3,497,278
1916	53,940	488,086	59,568,771	5,869,562
1917	54,348	534,388	64,405,711	5,285,003
1918	58,766	592,079	66,240,403	6,055,964

The reduction in the figures for 1915 was due to a severe drought which occurred in the preceding year.

Butter and
cheese made
on farms.

The next table shows the quantities of butter and cheese made on farms in each of the past ten years :—

BUTTER AND CHEESE MADE ON FARMS.

Year.					Butter.	Cheese.
					lbs.	lbs.
1909	..	..	..	..	5,611,927	1,857,879
1910	..	..	..	..	5,540,271	1,823,263
1911	..	..	..	..	5,233,355	1,502,582
1912	..	..	..	..	5,428,690	2,004,865
1913	..	..	..	..	5,679,670	2,008,370
1914	..	..	..	..	4,845,529	1,722,506
1915	..	..	..	..	4,750,866	1,367,243
1916	..	..	..	..	5,080,408	1,680,929
1917	..	..	..	..	4,704,151	1,311,893
1918	..	..	..	..	5,116,733	1,031,514

Butter and
cheese made
in factories.

The quantities of butter, cheese, and concentrated, condensed, and powdered milk made, and of cream sold, in factories during each of the last ten years were as follows :—

BUTTER, CHEESE, ETC., MADE IN FACTORIES, 1909 TO 1918-19.

Year.					Butter made.	Cream sold.	Cheese made.	Concentrated, Condensed and Powdered Milk made
					lbs.	gallons.	lbs.	lbs.
1909	..	..	..	..	49,554,628	19,417	3,167,955	3,894,859
1910	..	..	..	..	65,063,516	29,910	2,707,630	3,004,842
1911	..	..	..	..	81,267,119	34,028	3,047,261	13,697,691
1912	..	..	..	..	62,227,144	41,952	2,171,913	18,456,094
1913	..	..	..	..	67,701,897	45,762	2,847,951	21,479,263
1914	..	..	..	..	57,575,759	54,388	2,672,996	19,093,750
1915	..	..	..	..	37,594,247	27,934	2,130,035	16,690,426
1916-17	..	..	..	..	54,488,363	68,842	4,188,633	33,280,635
1917-18	..	..	..	..	59,701,560	60,890	3,973,110	37,805,070
1918-19	..	..	..	..	61,123,670	77,830	5,024,450	48,581,340

NOTE.—In addition, 1,014,450 lbs. of casein were made in 1918-19.

The quantities of milk in gallons received at factories and creameries were 116,034,058 in 1909, 149,490,103 in 1910, 191,128,362 in 1911, 150,079,730 in 1912, 166,339,178 in 1913, 144,317,040 in 1914, 93,846,750 in 1915, 138,746,860 in 1916-17, 151,615,600 in 1917-18, and 157,814,940 in 1918-19.

Exports of
butter and
cheese.

In 1918-19 there were exported from Victoria to countries outside Australia 23,969,104 lbs. of butter, valued at £1,860,415, all of which was Australian produce. The quantity sent to the United Kingdom was 18,462,568 lbs., valued at

£1,377,259. The quantity of cheese exported to oversea countries was 798,808 lbs., and the value thereof £40,052.

Information relating to the wool clip is obtained direct from the growers, and an allowance is made for the wool on Victorian skins, both stripped and exported. On this basis the production of wool in 1918-19 and earlier seasons was as follows:—

VICTORIAN WOOL CLIP AND ESTIMATED TOTAL PRODUCTION FOR THE SEASON, 1918-19.

Districts.		Wool Clip, 1918-19.			
		Sheep.	Lambs.	Total.	
		lbs.	lbs.	lbs.	
Central	..	7,298,474	719,422	8,017,896	
North-Central	..	7,479,178	846,228	8,325,406	
Western	..	28,548,439	2,509,606	31,058,045	
Wimmera	..	15,965,255	1,393,213	17,358,468	
Mallee	..	5,844,357	564,115	6,408,472	
Northern	..	15,479,899	1,535,175	17,015,074	
North-Eastern	..	5,293,754	604,726	5,898,480	
Gippsland	..	6,185,081	719,509	6,904,590	
Total Clip	1918-19	92,094,437	8,891,994	100,986,431	
	1917-18	80,379,680	9,426,152	89,805,832	
	1916-17	70,647,862	8,199,062	78,846,924	
	1915-16	55,801,193	3,725,255	59,526,448	
	1914-15	65,005,305	5,085,597	70,090,902	
	1913-14	74,157,932	5,868,688	80,026,620	
	1912-13	65,666,190	4,170,780	69,836,970	
	1911-12	81,902,229	6,504,990	88,407,219	
	1910-11	73,959,226	6,115,044	80,074,270	
	1909-10	71,006,003	5,673,606	76,679,609	
		1915-16.	1916-17.	1917-18.	1918-19.
		lbs.	lbs.	lbs.	lbs.
Wool clip	..	59,526,448	78,846,924	89,805,832	100,986,431
Wool stripped from Victorian skins (estimated)	}	22,803,750	15,998,100	15,618,850	25,660,630
Wool on Victorian skins exported (estimated)					
Total production	..	82,330,198	94,845,024	105,424,682	126,647,061
Total value	..	£4,066,003	£5,927,814	£6,410,077	£7,621,413

The wool produced last season was 20 per cent. more than in the previous season. In 1918 there were 12,425,095 sheep and 3,843,701

**Weight of
a fleece.**

WEIGHT OF A FLEECE, 1909 TO 1918.

Year.	Production.		Used in Manufactures.		Available for Export.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	lbs.	£	lbs.	£	lbs.	£
1909 ..	95,332,829	4,044,755	5,239,806	180,036	90,093,023	3,864,719
1910 ..	101,803,644	4,318,100	5,309,730	186,648	96,493,914	4,131,452
1911 ..	110,463,041	4,142,747	5,774,870	228,920	104,688,171	3,913,827
1912 ..	88,762,612	3,751,083	5,535,483	247,943	83,227,129	3,503,140
1913 ..	106,833,690	4,032,954	5,917,410	240,395	100,916,280	3,792,559
1914 ..	95,406,867	3,410,913	6,118,450	254,935	89,288,417	3,155,978
1915 ..	82,330,198	4,066,003	11,052,250	460,510	71,277,948	3,605,493
1916 ..	94,845,024	5,927,814	8,669,460	433,473	86,175,564	5,494,341
1917 ..	105,424,682	6,410,077	7,344,030	397,800	98,080,652	6,012,277
1918 ..	126,647,061	7,621,413	7,823,050	423,748	118,824,011	7,197,665

The following information as to the average prices of wool per lb. which have prevailed during the past three seasons has been obtained from Melbourne wool brokers:—

PRICES OF WOOL, 1916-17 to 1918-19.

Class of Wool.	Average Price per lb. in—		
	1916-17.	1917-18.	1918-19.
GREASY MERINO.			
Extra Super (Western District)	30d. to 33½d.	28d. to 31½d.	28d. to 31½d.
Super	26d. to 29d.	24d. to 27d.	24d. to 27d.
Good	18d. to 24d.	18d. to 23d.	18d. to 23d.
Average	15d. to 17d.	15d. to 17d.	15d. to 17d.
Wasty and Inferior	9d. to 12d.	10d. to 12d.	10d. to 12d.
Extra Super Lambs	22d. to 25½d.	23d. to 26½d.	24d. to 27½d.
Super Lambs	18d. to 21d.	18d. to 22d.	19d. to 23d.
Good Lambs	15d. to 17d.	15d. to 17d.	15d. to 18d.
Average Lambs	11d. to 14d.	11d. to 14d.	11d. to 14d.
Inferior Lambs	6d. to 9d.	6d. to 9d.	6d. to 9d.
GREASY CROSSBRED.			
Extra Super Comebacks	26d. to 30½d.	26d. to 29½d.	27d. to 30½d.
Super Comebacks	23d. to 27d.	23d. to 27d.	23d. to 27d.
Fine Crossbred	18d. to 22d.	20d. to 24d.	20d. to 24d.
Medium Crossbred	14d. to 17d.	15d. to 19d.	15d. to 19d.
Coarse Crossbred and Lincoln	13d. to 15d.	13d. to 15d.	13d. to 15d.
Super Fine Crossbred Lambs ..	18d. to 22d.	16d. to 20d.	16d. to 20d.
Good Crossbred Lambs	12d. to 15d.	12d. to 15d.	12d. to 15d.
Coarse and Lincoln Lambs ..	9d. to 11d.	10d. to 12d.	10d. to 12d.
SCOURED.			
Extra Super Fleece	42d. to 45½d.	42d. to 47½d.	42d. to 48d.
Super Fleece	36d. to 40d.	38d. to 41d.	38d. to 41d.
Good Fleece	32d. to 34d.	34d. to 37d.	34d. to 37d.
Average Fleece	28d. to 30d.	28d. to 33d.	28d. to 33d.
RECORD PRICES FOR THE SEASON.			
Greasy Merino Fleece	33½d.	31½d.	31½d.
„ Comeback Fleece	30½d.	29½d.	30½d.
„ Merino Lambs	25½d.	26½d.	27½d.
„ Comeback Lambs	24d.	24½d.	23½d.
Scoured Fleece	45½d.	47½d.	48d.

**Flocks of
sheep in
districts.**

Returns which were collected in March, 1919, give full information in regard to the flocks of sheep in Victoria. The numbers of flocks and of sheep at that time in the different districts were as follows :—

NUMBERS OF FLOCKS AND OF SHEEP IN DISTRICTS, 1919.

District.	Number of—		Average Number of Sheep to a Flock.	Percentage of—	
	Flocks.	Sheep.		Flocks.	Sheep.
Central	3,384	1,377,304	407	11·94	8·75
North-Central	2,434	1,371,189	563	8·59	8·71
Western	6,080	4,848,391	797	21·46	30·80
Wimmera	4,282	2,440,595	570	15·11	15·50
Mallee	1,514	840,734	555	5·34	5·34
Northern	5,286	2,499,582	473	18·65	15·88
North-Eastern	2,449	1,038,230	424	8·64	6·60
Gippsland	2,909	1,325,171	455	10·27	8·42
Total	28,338	15,741,196	555	100·00	100·00

The figures do not include 32,706 sheep which were travelling on roads or were located in cities and towns. Flocks were more numerous in all districts, and their average size was greater in every district, except the Central, in 1919 than in 1913. In the six years referred to the number of flocks increased by 895 in the Central, 357 in the North-Central, 506 in the Western, 251 in the Wimmera, 156 in the Mallee, 562 in the Northern, 301 in the North-Eastern, and 476 in the Gippsland districts, the total increase for the State being 3,504, or 14 per cent. The average number of sheep to a flock showed a very marked increase in the North-Central, Wimmera, Mallee, Northern, and North-Eastern districts, and a slight increase in the Western and Gippsland districts, while there was a small reduction in the Central district. The average number of sheep in a flock was 555 in 1919, as

compared with 477 in 1917, 478 in 1913, 531 in 1910, 642 in 1908, and 706 in 1906. The number of sheep in the State increased from 11,892,224 in 1913 to 15,773,902 in 1919. All divisions of the State showed substantial increases during the six years under review.

Excluding sheep travelling and those in cities and towns, the following table contains a classification for the whole State of sheep according to sizes of flocks :—

Sizes of
Flocks.

SHEEP ACCORDING TO SIZES OF FLOCKS, 1919.

Size of Flocks.	Number of—		Percentage of—	
	Flocks.	Sheep.	Flocks.	Sheep.
Under 500	20,430	3,185,381	72·10	20·24
500 to 1,000	4,339	2,972,551	15·31	18·88
1,000 „ 2,000	2,233	3,005,850	7·88	19·10
2,000 „ 5,000	955	2,733,598	3·37	17·35
5,000 „ 10,000	247	1,691,768	·87	10·75
10,000 „ 20,000	111	1,516,830	·39	9·64
Over 20,000	23	635,218	·08	4·04
Total	28,338	15,741,196	100·00	100·00

A comparison of the above figures with those for 1913 shows that flocks of less than 500 sheep had increased by 848, those of 500 to 1,000 by 1,323, 1,000 to 2,000 by 931, 2,000 to 5,000 by 327, 5,000 to 10,000 by 56, and those of 10,000 to 20,000 by 21. Flocks of 20,000 and over had decreased by 2. During the six years under review the number of sheep in flocks of from 1,000 to 2,000 increased from 1,844,901 to 3,005,850, or by 63 per cent. The increase in the number of sheep in the whole State in the same period was 33 per cent. Twenty-one of the 23 largest and 70 of the 111 second largest flocks in 1919 were in the Western District.

Areas of holdings and numbers and sizes of flocks of sheep.

The numbers and sizes of flocks of sheep on holdings of various areas in March, 1919, are given in the next table. The striking feature of this return is the large number of flocks which were depastured on farms of from 100 to 500 acres. The flocks on these farms numbered 12,093 or 43 per cent. of the total for the State.

AREAS OF HOLDINGS AND NUMBERS AND SIZES OF FLOCKS THEREON, 1919.

Area of Holdings. (Acres.)	Number and Size of Flocks.															
	Under 500.		500 to 1,000.		1,000 to 2,000.		2,000 to 5,000.		5,000 to 10,000.		10,000 to 20,000.		Over 20,000.		Total.	
	Number of Flocks.	Number of Sheep.	Number of Flocks.	Number of Sheep.	Number of Flocks.	Number of Sheep.	Number of Flocks.	Number of Sheep.	Number of Flocks.	Number of Sheep.	Number of Flocks.	Number of Sheep.	Number of Flocks.	Number of Sheep.	Number of Flocks.	Number of Sheep.
1 and under 50	1,470	48,405	6	4,075	..	..	..	..	..	..	..	..	..	..	1,476	52,480
50 " 100	1,504	86,145	7	4,120	2	2,370	1	2,140	..	..	..	..	..	..	1,514	94,775
100 " 500	11,133	1,577,198	853	543,918	95	116,890	9	25,001	2	14,300	1	10,800	..	..	12,093	2,288,107
500 " 1,000	4,939	1,112,085	1,914	1,306,431	515	635,267	37	90,921	2	14,672	..	..	..	..	7,407	3,159,376
1,000 " 5,000	1,376	359,730	1,552	1,109,341	1,593	2,210,053	813	2,278,234	63	381,850	4	53,679	1	38,763	5,402	6,431,640
5,000 " 10,000	3	935	6	4,130	26	38,830	91	325,992	142	967,385	23	269,407	..	..	291	1,606,679
10,000 " 20,000	3	703	1	536	1	1,340	3	9,260	37	305,961	68	951,823	5	115,808	118	1,385,431
20,000 " 50,000	2	180	..	..	..	..	1	2,050	1	7,600	15	231,121	17	480,657	36	721,608
50,000 " 100,000	..	..	..	..	1	1,100	..	..	..	..	..	..	..	..	1	1,100
Total	20,430	3,185,381	4,330	2,972,551	2,233	3,005,850	955	2,733,598	247	1,691,768	111	1,516,830	23	635,218	28,338	15,741,196

Live Stock
in Australia
and
New Zealand.

In the following statement are given the numbers of horses, cattle, sheep and pigs in the various Australian States and New Zealand, according to returns dated March, 1919, for Victoria and Tasmania; December, 1918, for Queensland and Western Australia; June, 1918, for New South Wales and June, 1919, for South Australia. The returns for the Northern Territory are for December, 1917, and those for New Zealand relate to April, 1919, in the case of sheep, and to January, 1919, in the case of other stock.

LIVE STOCK IN AUSTRALASIA.

State, &c.	Horses.	Cattle.		Sheep.	Pigs
		Dairy Cows.	Other.		
Victoria ..	523,788	592,079	1,004,465	15,773,902	267,819
New South Wales ..	742,247	888,217	2,273,500	38,621,196	396,157
Queensland ..	759,726	381,505	5,405,239	18,220,985	140,966
South Australia ..	269,255	103,230	239,538	6,625,184	79,078
The Northern Territory ..	26,231	..	638,431*	54,709	124
Western Australia ..	180,094	42,133	901,714	7,183,747	85,863
Tasmania ..	41,221	..	218,234*	1,841,924	44,328
New Zealand ..	363,902	820,451	2,201,330	25,828,554	235,222

* Including dairy cows.

BEE-KEEPING.

The returns for 1918-19 show that there were in that year 4,374 bee-keepers, who owned 42,717 frame and 10,065 box hives, producing 1,575,492 lbs. and 68,955 lbs. of honey respectively, and 25,286 lbs. of beeswax. The number of bee-keepers owning 20 hives and upwards was 553 as compared with 632 in the previous season. The quantity of honey produced in the Wimmera, the chief producing district, was 806,754 lbs. in 1918-19, as compared with 1,631,171 lbs. in the previous season, 800,505 lbs. in 1916-17, 390,494 lbs. in 1915-16, 345,747 lbs. in 1914-15, and 691,263 lbs. in 1913-14. The more important particulars of the industry for the past ten years are given below:—

BEE-KEEPING, 1909-10 to 1918-19.

Season ended May.	Number of Bee-keepers.	Number of Hives.	Honey produced.	Beeswax produced.
			lbs.	lbs.
1910	3,976	42,632	1,611,284	22,369
1911	4,043	52,762	2,308,405	34,695
1912	3,787	53,711	1,635,260	28,405
1913	4,796	52,723	3,277,590	45,354
1914	5,643	55,565	1,961,746	37,323
1915	2,639	35,051	700,672	20,017
1916	3,633	31,233	933,933	18,707
1917	3,661	36,561	1,547,023	22,131
1918	4,427	58,146	4,974,888	64,980
1919	4,374	52,782	1,644,447	25,286

The poor results for the seasons 1914-15 and 1915-16 were due to the prolonged drought of 1914.

POULTRY FARMING.

The numbers of the various kinds of poultry in the State, in March, 1911, were as follows :—

Fowls	..	..	..	3,855,538
Ducks	..	..	..	288,413
Geese	..	..	..	59,851
Turkeys	..	..	..	190,077

Taking the above figures as a basis, it is estimated that the gross value of poultry and egg production for the year 1918 was £2,738,620.

The following table shows the numbers of poultry and poultry-owners as ascertained in each of the last four census years :—

POULTRY AND POULTRY-OWNERS: 1881, 1891, 1901, AND 1911.

Census.	Poultry-owners.	Fowls.	Ducks.	Geese.	Turkeys.
1881	97,152	2,332,529	181,698	92,654	153,078
1891	142,797	3,487,989	303,520	89,145	216,440
1901	132,419	3,619,938	257,204	76,853	209,823
1911	144,162	3,855,538	288,413	59,851	190,077

Relatively to population poultry-owners and poultry were fewer in 1911 than in the previous census year.

RABBITS, HARES, AND WILD-FOWL.

Active operations for the destruction of rabbits, &c., on Crown lands were first undertaken by the Government in 1880, and from that date to 30th June, 1918, sums amounting to £765,911 had been expended in connexion therewith, including subsidies to Shire Councils for the destruction of wild animals. The following are the amounts spent since 1879 :—

EXPENDITURE ON DESTRUCTION OF RABBITS, ETC.

	£		£
1879-80 to 1888-9 ..	142,963	1912-13	27,309
1889-90 to 1898-9 ..	208,638	1913-14	29,596
1899-1900 to 1908-9 ..	170,050	1914-15	32,211
1909-10	23,005	1915-16	24,257
1910-11	23,123	1916-17	24,388
1911-12	29,524	1917-18	30,847

In addition to the expenditure of £765,911 referred to above, a loan of £150,000 for the purchase of wire-netting to be advanced to land-holders was allocated to shires in 1890, and one of £50,000 in 1896, both of which have been repaid. Further sums amounting to £45,850 in 1908-9, £10,734 in 1909-10, £43,648 in 1910-11, £21,116 in 1911-12, £54,061 in 1912-13, £62,428 in 1913-14, £19,731 in 1914-15, £3,078 in 1915-16, £3,203 in 1916-17, and £9,472 in 1917-18, were

advanced from loans for the purchase of wire-netting for supply to municipalities and land-owners. A complete system, administered by an officer called the Chief Inspector under the Vermin Destruction Act, exists for effectually keeping the rabbits under control.

The quantity of rabbits, hares, and wild-fowl sold at the Melbourne Fish Market during each of the past ten years was as shown in the following statement :—

RABBITS, HARES, AND WILD-FOWL SOLD AT THE
MELBOURNE FISH MARKET, 1909 TO 1918-19.

Year.	Rabbits.	Hares.	Wild-fowl.
	pairs.	brace.	brace.
1909	235,548	163	42,240
1910	245,208	130	34,180
1911	320,292	222	24,420
1912	480,192	363	29,562
1913	605,724	93	23,598
1914	732,444	488	19,614
1915	508,324	51	6,934
1916-17	580,368	132	17,448
1917-18	746,160	256	28,062
1918-19	622,896	50	19,224

Large quantities of frozen rabbits and hares and of rabbit and hare skins have been exported to the United Kingdom and other oversea countries, the numbers and values for the last ten years being as follows :—

RABBITS AND HARES AND RABBIT AND HARE SKINS
EXPORTED OVERSEA.

Year.	Frozen Rabbits and Hares.		Rabbit and Hare Skins.	
	Quantity.	Value.	Quantity.	Value.
	pairs.	£	lbs.	£
1909	1,675,578	82,182	3,293,652	161,156
1910	1,372,087	68,469	3,395,383	199,562
1911	1,373,501	69,426	3,435,928	156,877
1912	1,111,902	57,233	3,904,379	221,614
1913	2,044,501	107,818	4,182,044	271,463
1914-15	2,478,273	127,721	1,827,557	68,777
1915-16	1,420,182	90,588	1,195,455	44,325
1916-17	1,426,888	111,632	493,137	35,361
1917-18	3,701,662	280,422	938,874	108,765
1918-19	1,176,106	87,333	1,932,217	134,900

The quantity of rabbit and hare skins exported oversea in 1918-19 was the largest for five years.

FISHERIES.

Numbers of
men and boats
engaged in
fishing.

The numbers of men and boats engaged in the fishing industry at the different fishing stations throughout the State are given in the following table for the year 1918-19:—

VICTORIAN FISHERIES—MEN AND BOATS EMPLOYED,
1918-19.

Fishing Stations.	Number of Men.	Boats.		Value of Nets and other Plant.
		Number.	Value.	
Anderson's Inlet	4	4	£ 140	£ 115
Barwon Heads and Ocean Grove ..	10	5	795	35
Brighton	4	6	62	89
Corner Inlet, Welshpool, and Toora ..	46	27	4,195	1,593
Dromana	18	17	850	230
Frankston	9	9	411	115
Geelong	72	30	1,797	632
Gippsland Lakes	230	230	12,500	6,000
Kerang	7	7	38	145
Lorne	4	3	27	16
Mallacoota	18	7	2,574	1,054
Mentone	10	8	108	57
Mordialloc	17	16	771	150
Mornington	19	21	1,110	439
Portarlington and St. Leonards ..	67	54	3,037	1,026
Portland	32	20	1,860	418
Port Albert	39	37	1,879	713
Port Fairy	41	32	4,010	400
Port Melbourne	60	51	2,068	553
Queenscliff	89	75	9,460	474
Sandringham	5	4	674	25
Sorrento, Portsea, and Rye	19	16	1,272	170
St. Kilda	12	6	79	147
Warrnambool	11	9	375	210
Western Port (Cowes, Hastings, Grant- ville, Flinders, San Remo, and Tooradin)	121	94	7,165	1,935
Williamstown	17	10	641	150
Total	981	798	57,898	16,891

Melbourne Fish Market. The quantities and values of fish sold in the Melbourne Fish Market during each of the years 1917-18 and 1918-19 were as shown in the next table:—

FISH SOLD IN THE MELBOURNE FISH MARKET, 1917-18 AND 1918-19.

		1917-18.		1918-19.	
		Quantity.	Value.	Quantity.	Value.
			£		£
Fresh Fish (Victorian)	lbs.	9,677,485	114,516	10,458,460	142,061
Crayfish	doz.	28,473	16,087	27,943	25,288
Imported Fish (fresh or frozen) ..	lbs.	2,205,505	41,353	1,340,610	26,533
Oysters	bags	14,324	18,340	15,406	28,765
Total			190,296		222,647

In addition to the above, 2,559 cwt. of smoked fish, and 436 baskets of prawns were sold in this market in 1918-19.

Victorian fish sold. The quantity and value of fish caught in Victorian waters and sold in the Melbourne and Ballarat markets and elsewhere in 1918-19 were as follows:—

VICTORIAN FISH SOLD IN 1918-19.

Markets.	Quantity.		Value.	
	Fish.	Crayfish.	Fish.	Crayfish.
	lbs.	doz.	£	£
Melbourne	10,458,460	12,460	142,061	11,276
Ballarat	490,850	1,620	5,068	720
Other	171,400	1,080	2,328	977
Total	11,120,710	15,160	149,457	12,973

Fish imported. In connexion with this subject, the quantities and values of the different classes of fish imported are of interest. The available figures for 1909 and 1918-19 are appended:—

FISH IMPORTED, 1909 AND 1918-19.

	1909.—Interstate.		1909.—Oversea.		1918-19.—Oversea,	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Fish—		£		£		£
Fresh or Frozen lbs.	1,772,999	22,720	758,545	11,076	432,563	8,546
Smoked ..	127,016	662	99,793	3,322	16,803	1,712
Fresh Oysters cwt.	16,941	8,529	7,935	4,145	2,321	1,617
Potted, &c. ..	..	41	..	4,559	..	2,088
Preserved in tins, &c. .. lbs.	117,177	3,266	4,823,366	116,931	1,454,251	70,847
N.E.I. .. cwt.	214	356	5,815	9,434	392	1,549
Total		35,574		149,467		86,359

The most important item in this table is fish preserved in tins and other air-tight vessels, of which 1,362,538 lbs. came from the United States and Canada in 1918-19.

Imports by
United
Kingdom
of staple
articles
produced
in Victoria.

In Victoria the natural conditions are eminently suitable for agricultural and pastoral pursuits, and there is room for considerable expansion in these avenues of production. There is little need to fear over-production, as the United Kingdom offers an almost unlimited market for many articles which could be supplied from this State. This is readily seen from the figures in the subjoined table, which show the average annual values of certain articles imported into the United Kingdom from Australia, other British Possessions, and Foreign Countries for the pre-war period 1907 to 1913, and for the four years 1915 to 1918—years representing war conditions:—

AVERAGE ANNUAL IMPORTS OF CERTAIN ARTICLES INTO UNITED KINGDOM FROM AUSTRALIA, OTHER BRITISH POSSESSIONS, AND FOREIGN COUNTRIES, 1907-13, 1915-17, AND 1918.

Articles.	Period.	Annual Value of Imports into United Kingdom from—			
		Australia.	Other British Possessions.	Foreign Countries.	All Countries.
		£	£	£	£
Butter	1907-13	3,131,811	1,782,922	18,884,656	23,779,389
	1915-17	3,001,491	3,458,409	15,167,585	21,627,485
	1918	6,722,621	5,790,375	7,256,742	19,769,738
Cheese	1907-13	13,102	5,704,495	1,256,492	6,974,089
	1915-17	191,353	11,540,475	2,773,257	14,505,085
	1918	285,525	11,556,609	4,063,724	15,905,858
Wheat	1907-13	4,497,088	14,371,951	23,170,834	42,039,873
	1915-17	3,924,848	20,237,080	47,113,420	71,275,348
	1918	1,895,057	15,171,590	36,031,306	53,097,953
Wheatmeal and Flour	1907-13	216,477	1,512,672	4,384,282	6,113,431
	1915-17	970,890	3,891,044	6,920,987	11,782,921
	1918	2,366,294	7,773,693	25,542,710	35,682,697
Meat	1907-13	4,108,980	6,651,731	34,457,389	45,218,100
	1915-17	7,324,870	19,114,539	67,277,641	93,717,050
	1918	4,536,476	26,683,033	142,167,278	173,386,787
Fruit—Fresh, Dried, and Preserved	1907-13	395,110	1,409,440	12,933,186	14,737,736
	1915-17	532,761	1,591,593	13,712,508	15,836,862
	1918	104,265	1,359,422	15,800,239	17,263,926
Wine	1907-13	127,388	29,076	3,848,344	4,004,808
	1915-17	91,426	39,069	2,813,691	2,944,186
	1918	53,471	29,413	7,167,308	7,250,192
Wool	1907-13	13,621,012	13,085,172	5,697,694	32,403,878
	1915-17	21,442,126	18,078,919	3,609,577	43,030,622
	1918	20,104,417	14,541,733	1,693,326	36,339,476
Skins, Furs, and Hides	1907-13	1,928,626	4,105,504	7,937,906	13,972,036
	1915-17	1,564,269	6,408,838	8,022,717	15,995,824
	1918	1,563,958	6,706,520	10,981,848	19,252,326
Tallow and Stearine	1907-13	1,352,280	725,532	1,464,682	3,542,494
	1915-17	934,827	782,234	747,380	2,464,441
	1918	415,489	163,515	1,118,898	1,697,902
Leather	1907-13	409,128	3,034,535	6,498,824	9,942,487
	1915-17	782,178	5,008,776	8,023,793	13,814,747
	1918	237,139	4,414,541	5,078,384	9,725,064
Total—Eleven Articles	1907-13	29,801,002	52,393,030	120,534,289	202,728,321
	1915-17	40,761,039	90,150,976	176,082,556	306,994,571
	1918	38,284,712	94,190,444	256,896,763	389,371,919

The value of the above-mentioned articles imported into the United Kingdom from Australia amounted to £38,284,712 in 1918 as compared with £56,850,293 in 1917, £28,296,038 in 1916, £37,136,787 in 1915, and £29,801,002 on the average of the years 1907 to 1913.

Agriculture in
Victoria and
Great Britain.

The figures relating to agriculture and live stock in Victoria and Great Britain in 1918 are for comparative purposes placed side by side in the table which follows :—

AGRICULTURE AND LIVE STOCK IN VICTORIA AND GREAT BRITAIN, 1918.

	Victoria.	Great Britain.
Area acres	56,245,760	56,208,959
Wheat bushels	25,239,871	87,456,000
Oats "	5,274,984	166,368,000
Barley "	2,028,635	54,056,000
Peas "	142,835	3,513,360
Potatoes tons	137,533	5,360,000
Turnips and swedes "	2,412*	17,532,000
Mangolds "	9,818	8,280,000
Hay "	1,113,861	7,604,000
Horses No.	523,788	1,323,923†
Cattle "	1,596,544	7,437,007†
Sheep "	15,773,902	24,043,091†
Pigs "	267,819	2,051,486†

* Includes beet, carrots, and parsnips.

† Year 1917.

MINING.

The supervision of mining and the inspection of mines are regulated by Act of Parliament. Authority for all mining operations, whether on Crown or private lands, must be obtained in the prescribed manner, and mining leases giving the right to enter on private land for mining purposes may be issued to another than the owner.

Miners' Rights. The taking out of a "miner's right" entitles the holder to prospect for gold on Crown lands. The right may be had on payment of a sum of 2s. 6d. per annum and remains in force for any number of years not exceeding fifteen. It confers the privilege to take possession for mining purposes of a defined parcel of Crown lands, which is called a "claim." The revenue in 1917-18 from miners' rights was £2,329.

Mining Leases. Leases for the purpose of mining for gold are granted for a term not exceeding fifteen years at a yearly rental of 2s. 6d. per acre. For mining leases of land to be worked by means of

dredging or hydraulic sluicing the yearly rent is 5s. per acre. Other mineral and coal mining leases are also issued at varying rates. The revenue from these sources in 1917-18 was £5,024.

The area of Crown and private lands under occupation for mining purposes on 31st December, 1918, was 76,799 acres. The subjoined table shows the area being worked for different minerals :—

AREA UNDER OCCUPATION FOR MINING PURPOSES,
31ST DECEMBER, 1918 (CROWN LANDS AND PRIVATE
LAND).

Nature of Mineral, &c.	Area.
	acres.
Gold	61,404
Coal (ordinary)	4,022
Coal (brown)	359
Antimony	*
Bluestone	9
Clay Slum	54
Copper	187
Copper and Silver	71
Dolomite	1
Felspar	8
Granite	6
Gypsum	766
Infusorial Earth	59
Iron	1,373
Kaolin	115
Lime	40
Magnesite	130
Manganese	2,096
Marble	127
Molybdenite	659
Oil	102
Pigments and Clay	21
Pigments and Limestone	65
Pigments and oil	133
Porphyry	13
Quicksilver	55
Silicate of Alumina	51
Silver, Bismuth, Wolfram, and Phosphates	64
Silver and Lead	217
Slate	30
Tin	3,067
Wolfram	238
Wolfram and Tin	131
Water-right Licences	1,126
Total	76,799

* Included in certain gold mining leases.

Mining development. The mining industry has been well fostered by the Government, not only in the way of financial assistance but also by means of geological surveys and boring. Apart from the annual expenditure of the Mining Department from consolidated revenue, of which a statement is appended, loan moneys amounting to £511,074 (including £240,052 expended on the State Coal Mine), and portions of surplus revenues of past years amounting to £84,971, have been expended or advanced for developmental purposes since 1st July, 1904.

STATE EXPENDITURE ON MINING: 1913-14 to 1917-18.

	1913-14.	1914-15.	1915-16.	1916-17.	1917-18.
Expenditure from Consolidated Revenue.					
	£	£	£	£	£
Mining Department	26,921	26,922	26,550	24,154	22,453
State Coal Mine	201,578	211,415	202,953	238,213	263,730
Coal Mines Regulation—Sinking Fund and Depreciation Fund	36,653	55,204	41,468	2,951	29,068
Victorian Coal—Allowance to Railway Department on carriage of	9,006	9,063	7,621	6,994	2,368
Diamond drills for prospecting ..	14,576	16,945	9,901	8,816	8,889
Testing plants	4,283	6,457	10,081	4,639	3,553
Geological and underground surveys of mines	7,009	5,422	2,579	2,348	2,010
Mining Development—					
Advances to companies, &c., boring for gold, coal, &c. ..	14,877	26,010	31,460	29,868	74,173
Miscellaneous	2,729	2,606	2,148	4,816	3,258
	317,632	360,044	334,761	322,799	409,502
Expenditure from Surplus Revenue.					
Mining Development—					
Advances to companies, &c., boring for gold, coal, &c. ..	635	1,195	793	7	..
Expenditure from Loan Moneys.					
State Coal Mine	69,992	20,492	..	..	..
Total	388,259	381,731	335,554	322,806	409,502

Yearly grants are also made to Schools of Mines, particulars of which will be found on page 339 of this work. Since 1st July, 1896, £511,074 has been apportioned from loan receipts and expended on

mining development, details of which expenditure appear in the next statement:—

LOAN MONEY EXPENDED ON MINING DEVELOPMENT. £

Advances to companies—Development of mining	..	62,740
" " Boring for gold and coal, &c.	..	62,532
Construction of roads and tracks for mining	..	57,579
Plant for testing metalliferous material	..	12,357
Construction of races and dams	..	8,260
Advances to miners for prospecting	..	27,839
Purchase of cyanide process patent rights	..	20,000
Equipping Schools of Mines with mining appliances	..	9,975
State Coal Mine	..	240,052
Miscellaneous	..	9,740
Total	..	511,074

The advances from loan moneys and revenue to mining companies to 30th June, 1918, for the development of mining totalled £220,023, of which sum £24,215 had up to that date been repaid, £37,051 realized, and £103,277 written off, leaving £55,480 outstanding. Interest received during 1917-18 amounted to £1,110, and interest outstanding on 30th June, 1918, to £2,237.

The mineral production of the State is summarized in the subjoined statement, which contains particulars of the recorded production of all metals and minerals up to the end of the year 1918.

TOTAL MINERAL PRODUCTION TO 31st DECEMBER, 1918.

Metals and Minerals.	Recorded prior to 1918.		Recorded during 1918.		Total Recorded to end of 1918.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Gold ..	Fine ozs. 70,308,701	£ 298,651,651	Fine ozs. 158,827	£ 674,655	Fine ozs. 70,467,528	£ 299,326,306
Silver..	1,417,966*	213,804	6,333*	1,319	1,424,299*	215,123
Platinum	30,577	7,880	..	..	30,577	7,880
	311	1,671	..	..	311	1,671
Coal, black	tons. 7,350,007	3,825,244	tons. 439,575	349,696	tons. 7,789,582	4,174,940
" brown	123,807	39,234	66,200	17,944	190,007	57,178
Ore—copper	18,730	218,590	..	..	18,730	218,590
" tin	16,182	836,705	135	24,481	16,317	861,186
" antimony	87,197	486,747	2,960	24,020	90,157	510,767
" silver-lead	793	5,760	..	..	793	5,760
" iron	5,434	12,540	..	..	5,434	12,540
" manganese	247	919	..	..	247	919
Wolfram	104‡	10,302	4	728	108‡	11,030
Diamonds	..	128	..	..	..	128
Sapphires, &c.	..	630	..	..	..	630
Gypsum	27,681	21,569	731	434	28,412	22,003
Magnesite	803	2,457	225	675	1,028	3,132
Kaolin ..	10,646	17,218	3,251	3,544	13,897	20,762
Diatomaceous earth	6,917	27,577	140	560	7,057	28,137
Pigment clays	122	180	368	732	490	912
Phosphate rock	1,925	2,675	3,384	3,384	5,309	6,059
Molybdenite	50	500	6	180	56	680
Fluorspar	..	..	100	200	100	200
Bluestone, freestone, granite, &c.†	..	5,091,737	..	239,770	..	5,331,507
Limestone, &c.‡	..	..	..	..	..	..
Total	..	309,475,718	..	1,342,322	..	310,818,040

* Extracted from gold at the Melbourne Mint. † From 1866 only. ‡ Record from 1900.

Gold was first found in Victoria in 1849 in the Pyrenees Ranges, but it was not until 1851 that the first discovery of any importance took place. In the latter part of that year the Clunes, Anderson's Creek, Ballarat, and Bendigo fields were successively discovered and over 200,000 ounces of gold were produced. Next year the gold rush took place, and it is estimated that, in 1852, 40,000 men were camped at Ballarat, 25,000 at Castlemaine and 40,000 at Bendigo. The production of gold in 1852 amounted to 2,286,535 ounces, and in the ten years 1852-1861 it totalled over 25,000,000 ounces. The largest quantity produced in any one year was 3,053,744 ounces in 1856. The annual value of the output for the ten years 1852-1861 averaged over £10,000,000 sterling. The estimated value of gold produced from 1851 to 1918, as shown in the preceding statement, is £299,326,306. This sum is based on the average value of Victorian gold received at the Melbourne Mint, which in 1918 was £3 18s. 10d. per ounce.

The quantities of gold raised in Victoria in different periods are shown in the next table :—

Period.	Quantities (Fine Ozs.).	Period.	Quantities (Fine Ozs.).
1851-60	23,334,263*	1908	671,208
1861-70	16,276,566*	1909	654,222
1871-80	10,156,297*	1910	570,383
1881-90	7,103,448*	1911	504,000
1891-1900	7,476,038*	1912	480,131
1901	730,453	1913	434,932
1902	720,866	1914	413,218
1903	767,297	1915	329,068
1904	765,600	1916	256,643
1905	747,166	1917	201,872
1906	772,290	1918	158,827
1907	695,576		

* Gross ozs.

The yield has been on the down grade since 1906, the return for 1918 being the lowest for the State since 1851. The quantities raised in the other principal gold-producing States in 1918 were 876,512 ounces in Western Australia, 133,571 ounces in Queensland, and 87,045 ounces in New South Wales. The total production of gold in the world in 1917 was 20,414,000 ozs.

The yield of gold for the past two years in each mining district of the State, as estimated by the mining registrars, is shown in the following table. The quantities represented by the aggregate figures, which are given in gross

Mining
district
gold yields.

ounces, fall short of the total output of 1917 by 4,938 ounces, but exceed that of 1918 by 13,865 ounces.

DISTRICT YIELDS OF GOLD, ALLUVIAL AND QUARTZ, 1917 AND 1918.

Mining District.	1917.			1918.		
	Alluvial.	Quartz.	Total.	Alluvial.	Quartz.	Total.
	OZS.	OZS.	OZS.	OZS.	OZS.	OZS.
Ararat and Stawell ..	12,665	1,772	14,437	3,503	2,140	5,643
Ballarat ..	5,792	14,267	20,059	4,654	6,327	10,981
Beechworth ..	37,239	13,973	51,212	30,037	13,017	43,054
Bendigo ..	2,114	63,960	66,074	705	80,931	81,636
Castlemaine ..	9,479	29,373	38,852	7,728	17,227	24,955
Gippsland ..	4,450	3,954	8,404	3,133	3,117	6,250
Maryborough ..	11,727	1,389	13,116	11,090	1,526	12,616
Total ..	83,466	128,688	212,154	60,850	124,285	185,135

Gold-mining dividends. The amount of the dividends declared in each of the last five years by gold-mining companies operating in each mining district of the State was as follows:—

DIVIDENDS PAID BY GOLD MINING COMPANIES IN EACH MINING DISTRICT, 1914 TO 1918.

Mining District.	Amount Distributed.				
	1914.	1915.	1916.	1917.	1918.
	£	£	£	£	£
Ararat and Stawell ..	36,675	30,950	27,500	14,583	..
Ballarat ..	19,167	5,000	4,200	..	..
Beechworth ..	35,447	44,910	30,165	32,874	34,050
Bendigo ..	126,548	61,911	8,875	8,288	..
Castlemaine ..	47,225	39,300	19,760	28,225	17,100
Gippsland ..	750	1,350	450	675	525
Maryborough ..	5,000	10,000	7,600	2,500	1,250
Total ..	270,812	193,421	98,550	87,145	52,925

By comparison with 1917 the amount of the dividends declared in 1918 shows a decrease of 39 per cent.

The average number of men employed in mining is **Gold miners.** estimated annually by the Mines Department. The figures for the last ten years are given below :—

NUMBER OF MEN EMPLOYED IN GOLD MINING, 1909 TO 1918.

Year.				Alluvial Miners.	Quartz Miners.	Total.
1909	..	..	..	7,925	10,746	18,671
1910	..	..	..	6,638	9,915	16,553
1911	..	..	..	5,144	8,871	14,015
1912	..	..	..	4,156	7,700	11,856
1913	..	..	..	4,222	7,709	11,931
1914	..	..	..	3,637	6,761	10,398
1915	..	..	..	2,867	5,888	8,755
1916	..	..	..	2,587	3,815	6,402
1917	..	..	..	..	..	6,069
1918	..	..	..	..	..	3,547

The number of men employed in each mining district in 1918 was as follows :—Ararat and Stawell, 201 ; Ballarat, 239 ; Bendigo, 1,160 ; Beechworth, 876 ; Castlemaine, 536 ; Gippsland, 180 ; and Maryborough, 355.

The value of the mining plants employed in alluvial and quartz mining during each of the last five years was as shown hereunder :—

**Value of
machinery on
gold-fields.**

VALUE OF MACHINERY ON GOLD-FIELDS, 1914 TO 1918.

Year.				Approximate Value of Machinery Employed in—		
				Alluvial Mining.	Quartz Mining.	Total.
				£	£	£
1914	..	..	..	448,742	1,051,689	1,500,431
1915	..	..	..	479,004	1,011,300	1,490,304
1916	..	..	..	498,729	974,378	1,473,107
1917	..	..	..	..	..	825,450
1918	..	..	..	..	..	650,600

A feature of alluvial mining in Victoria for the past seventeen years has been the treatment in bulk of low-grade auriferous alluvial deposits and their overburden by bucket dredges and pump hydraulic sluicing plants on barges. In 1918 the

**Dredging
and sluicing.**

number of bucket dredges at work was 21, and the number of pump hydraulic sluices 12, in addition to which 29 jet elevators and 5 gravitation plants were operating. Particulars relating to these dredging and sluicing plants for the past five years are as follows :—

DREDGING AND SLUICING.

Year.			Number of Plants.	Area Worked.	Quantity of Material Treated.	Gold Obtained.	Tin Obtained.
				Acres.	Cub. yds.	Oz.	Tons.
1914	..	..	85	459	13,979,696	56,796	45
1915	..	..	73	366	11,788,247	50,152	87
1916	..	..	73	344	10,235,000	48,724	105
1917	..	..	73	306	10,038,688	44,756	120
1918	..	..	67	230	7,626,581	33,983	124

These plants employed 663 men in 1918. The yield of gold in that year per cubic yard of material was 2·1 grains, which was the same as in 1917. Since the inception of dredge mining 1,794,012 ounces of gold and 1,086 tons of tin have been won by this system.

The quantity of tailings treated at old lode and alluvial mines by the cyanide process and the yield of gold therefrom are shown in the subjoined table for the past five years :—

CYANIDATION.

Year.				Number of Plants.	Quantity of Tailings Treated.	Yield of Gold.	Value of Yield.
					Tons.	Oz.	£
1914	..	..	..	194	607,260	39,920	144,969
1915	..	..	..	140	317,636	21,511	79,160
1916	..	..	..	105	203,016	14,635	49,332
1917	..	..	..	66	127,012	8,930	34,369
1918	..	..	..	34	45,600	4,420	18,250

Records show that the total amount of tailings which have been treated by the cyanide and other processes is 15,800,510 tons, and that the gold that has been won thereby amounts to 1,255,531 ounces, which is equal to an average yield of 1 dwt. 14 grs. per ton.

A Sludge Abatement Board, appointed by the Government, is entrusted with the duty of regulating the disposal of mining sludge, and preventing the silting of streams and injury to lands by battery sand and infertile *débris*.

Government batteries. Batteries for testing small quantities of ore for prospectors have been erected by the Government in various mining districts. The number of these plants and their operations in the last five years were as follows :—

GOVERNMENT BATTERIES.

Year.					Number of Batteries.	Quantity of Ore Treated.	Yield of Gold.
						tons.	oz.
1914	..	..	..	..	27	2,128	1,321
1915	..	..	..	..	28	4,761	3,012
1916	..	..	..	..	30	4,511	2,450
1917	..	..	..	..	33	3,278	2,102
1918	..	..	..	..	33	4,092	2,905

Since 1897, the year in which the first battery was erected, 63,551 tons of ore have been crushed for 40,732 ounces.

Coal mining. Bituminous coal is found in three main areas in the southern portion of the State, viz., the Wannon, the Otway, and South Gippsland. The Wannon area is comparatively unprospected, owing to almost the whole of the land having been sold. In the Otway area bores have been sunk without disclosing seams of payable thickness. The South Gippsland area occupies about 2,000 square miles, and coal mining is being carried on at Wonthaggi, Kilcunda, Outtrim, Jumbunna, and Korumburra.

Brown coal. The brown coal beds of Victoria have an approximate area of 1,200 square miles, and are reputed to be the thickest known. At Morwell, 780 feet of coal were passed through in a bore 1,010 feet deep. It is estimated that the average thickness of the coal in the deposits at Morwell, Alberton, and Altona is 50 feet, and that the total deposits in the State amount to 30,000,000,000 tons. These deposits are practically untouched, as the total output of brown coal for all years has been only 190,007 tons, of which 66,200 tons were obtained in 1918. The quantity taken from the State Brown Coal Mine at Morwell in 1918 was 62,517 tons, valued at £17,944.

The State coal-field. There is a State coal mine at Wonthaggi, on the Powlett River Coal-field, the development of which was undertaken in November, 1909. In June, 1911, the control of the mine was transferred to the Railways Commissioners. The

area reserved for mining is about 17 square miles. Boring has proved that about 28,000,000 tons of coal existed in the central area of 5 square miles. The output of coal for the year ended 31st December, 1918, was 389,794 tons, valued at £302,311. The total output up to the end of 1918 was 3,880,422 tons, valued at £1,948,363. The average number of men employed at the mine throughout the year ended 30th June, 1918, was 1,226, and comprised 508 coal miners, 412 others below ground, and 306 surface men. The mine was worked 239 days during the year, and the earnings of the miners averaged 17s. 8d. per day after deducting the cost of explosives and lights.

Victorian
coal
production
and value.

The quantity of coal, exclusive of brown coal, raised in Victoria up to the end of 1918 was 7,789,582 tons, valued at £4,174,940. The total production prior to 1892, and the annual production for the years 1892 to 1918, together with the value per ton at the pit's mouth, are given in the following table :—

COAL PRODUCTION AND VALUE PER TON.

Period.	Production:	Value per ton at pit's mouth.	Period.	Production:	Value per ton at pit's mouth.
	tons.	s. d.		tons.	s. d.
Prior to 1892	77,914	18 8	1905	155,136	10 2
1892 ..	23,363	17 2	1906 ..	160,631	10 0
1893 ..	91,726	10 9	1907 ..	138,585	11 6
1894 ..	171,660	11 1	1908 ..	113,462	11 5
1895 ..	194,226	12 2	1909 ..	128,173	12 0
1896 ..	226,562	10 0	1910 ..	369,059	10 3
1897 ..	236,277	9 2	1911 ..	653,864	9 2
1898 ..	242,859	8 6	1912 ..	589,143	8 9
1899 ..	262,380	8 8	1913 ..	593,913	9 3
1900 ..	211,596	9 7	1914 ..	617,536	9 4
1901 ..	209,329	14 1	1915 ..	588,104	9 4
1902 ..	225,164	13 11	1916 ..	417,183	10 4
1903 ..	64,200	12 9	1917 ..	466,220	14 5
1904 ..	121,742	11 6	1918 ..	439,575	15 11

In addition to the above there were raised, up to the end of 1918, 190,007 tons of brown coal, valued at £57,178. The output in 1918 was 66,200 tons, valued at £17,944.

The quantities of coal produced in the other States in 1918 were as follows:—New South Wales 9,063,176 tons, Queensland 983,193 tons, Western Australia 337,039 tons, and Tasmania (in 1917) 63,412 tons.

The minimum wage, fixed by Wages Boards, for each of the principal occupations connected with coal and gold mining is given in the subjoined statement. The gold mining rates apply to the whole of Victoria except the mining districts of Ararat, Gippsland and Beechworth:—

MINIMUM WAGE OF MINERS.

Occupation.	Minimum wage per week of 48 hours.	Occupation.	Minimum wage per week of 48 hours.
Coal Mining—	s.	Gold Mining—	s.
Miners	60	Miners (quartz), shaft or	
„ in wet places	65	winze sinking—	
Shaft sinkers	66	Machine labour ..	64
„ in wet places	66*	Hand labour ..	62
Wheelers	50	Other Quartz miners—	
Timbermen and repairers ..	60	Machine labour ..	60
Blacksmiths	60	Hand labour ..	58
Carpenters	60	Miners (alluvial), shaft or	
Brushers	60	winze sinking—	
Bracemen	50	Machine labour ..	69
Winch drivers	49	Hand labour ..	67
Screen hands	46	Other alluvial miners—	
Labourers (underground) ..	49	Machine labour ..	62
„ (surface)	45	Hand labour ..	60
Engine-drivers	66	Other underground workers	52
		Retortmen	54
		Bracemen	55
		Winch drivers	55
		Timber dressers	57
		Timbermen repairing shafts	65
		Carpenters	63
		Blacksmiths	64
		Batterymen	54
		Engine-drivers	66

* Per week of 36 hours.

The wages of miners in coal mines are contract rates. As stated on page 482, the earnings of the miners in the State coal mine averaged 17s. 8d. per day in the year 1917-18, after deducting the cost of explosives and lights.

The numbers of fatal and non-fatal accidents in gold and coal mines during the last ten years are shown below. Only those non-fatal accidents have been recorded which rendered the injured unfit for work for a period of at least fourteen days.

MINING ACCIDENTS.

Year.	Gold Mines.			Coal Mines.		
	Miners Employed.	Persons Killed.	Persons Injured.	Miners Employed.	Persons Killed.	Persons Injured.
1909	18,671	15	99	607	7	..
1910	16,553	12	66	1,532	3	22
1911	14,051	19	65	1,754	..	23
1912	11,856	16	76	1,486	2	19
1913	11,931	9	61	1,377	4	24
1914	10,398	15	45	1,405	2	21
1915	8,755	10	34	1,312	3	20
1916	6,402	6	19	1,282	..	18
1917	6,069	5	17	1,885	3	24
1918	3,547	5	12	1,584	4	6

As a result of gold mining accidents during the past ten years 112 persons were killed and 494 were injured and rendered unfit for work for a period of at least fourteen days. These numbers were equivalent to annual rates of 1·03 and 4·56 respectively per 1,000 employed. Coal mining accidents during the same period accounted for 23 deaths and 177 injuries resulting in disablement for at least fourteen days, these being equal to yearly rates of 1·97 and 12·44 respectively per 1,000 employees.

The record of boring operations conducted by the Mines Department during the past five years is as follows :—

GOVERNMENT BORING OPERATIONS.

Year.	Drills worked by—		Bores put down for—			Total Depth Bored.
	Steam.	Other Power.	Gold.	Coal.	Total.	
1914	3	7	84	21	105	feet. 29,038
1915	1	15	153	2	155	28,780
1916	1	11	119	8	127	19,627
1917	1	14	21	115	136	25,400
1918	2	10	..	214	214	41,080

The most striking feature of the figures for 1918 is the large increase in the number of bores put down for coal.

Up to the end of 1918 the quantity of antimony ore produced in Victoria was 90,157 tons valued at £510,767.

Nearly the whole of it was obtained at Costerfield. The production for 1918 was 2,960 tons of ore, which yielded 1,201 tons of concentrates valued at £24,020. For the previous year the production was 12,052 tons of ore, which yielded 2,572 tons of concentrates of the value of £58,489.

The production of tin ore in the State up to the end of 1918 was 16,317 tons, valued at £861,186. In the year 1918 the quantity produced was 135 tons, as against 139 tons in the preceding year, and 122 tons in 1916. Of the tin won during the past four years nearly the whole was obtained in the Beechworth district.

The quantity of gypsum produced in the State in 1918 was 731 tons, nearly all of which was obtained at Lake Boga. The output for the previous year was 1,187 tons, which was obtained at Boort. Up to the end of 1918, the quantity raised in Victoria was 28,412 tons, valued at £22,003.

The quantity of kaolin produced in 1918 was 3,251 tons, of which 1,478 tons came from Egerton, 1,000 tons from Pyalong, 352 tons from Stawell, 234 tons from Carngham, 90 tons from Gordon, and 97 tons from other districts. The quantity raised in the previous year was 1,573 tons. Up to the end of last year the total output was 13,897 tons, valued at £20,762.

The quantity and value of stone raised from Victorian quarries during the last five years are set forth in the following table:—

QUARRIES: 1914 TO 1918-19.

Year.	Number of Quarries.	Quantity of Stone Operated on—				Approximate Total Value of Stone Raised.
		Bluestone.	Free-stone.	Granite.	Limestone.	
		c. yds.	c. yds.	c. yds.	c. yds.	£
1914 ..	93	914,310	2,886	953	57,733	183,376
1915 ..	102	1,157,280	1,384	1,392	49,121	209,539
1916-17 ..	103	628,155	22,796	1,365	43,998	125,106
1917-18 ..	103	744,630	24,190	2,250	44,450	171,992
1918-19 ..	99	837,080	1,282	1,760	47,854	189,770

In 1918-19 the number of persons employed in quarries was 1,242, and the wages paid amounted to £159,302. These figures include the employees and wages connected with stone-breaking and tar-paving works, most of which are carried on in conjunction with quarries and cannot be separated therefrom.

MANUFACTURING INDUSTRIES.**Industrial
progress.**

The earliest year for which there are statistical records of the factories of the State is 1850, at which date the number of manufacturing establishments is shown to have been 68. Subsequently fair and regular progress was made in the industry until in 1900, the year before Federation, there were 3,097 factories working. The years immediately following Federation were marked by increased industrial activity, which has been well maintained in the last ten years, during which period nearly all existing lines of manufacture have shown a notable expansion, and many industries new to the State have been firmly established. Since 1904 the number of factories has increased by 36 per cent., the number of persons employed by 60 per cent., the amount of salaries and wages paid by 194 per cent., the value of output by 247 per cent., the value of machinery and plant and premises by 100 per cent., and the engine power of factories by 275 per cent. The difference between the cost of materials used and the value of the output was equivalent to an added value of £229 12s. 11d. per person employed in 1918-19, as compared with £128 in 1904. This favorable economic result coincides with a larger proportion of establishments using mechanical power in 1918-19; when 78 per cent. were so equipped, as against 60 per cent. in 1904, and with the increased aggregate engine power of factories previously referred to. The increase in the added value relatively to employees, the larger proportion of factories using power, and the higher aggregate power of establishments as a whole connote increasing industrial efficiency. Concurrent with an increase in the output per person employed, there has been a decrease of 17 per cent. in the proportion of child labour in factories during the past ten years.

An interesting feature of manufacturing activities is the great increase in the strength of the largest sized factories. Since 1904 the number of factories employing over 100 hands has increased by 76 per cent., and the number of hands employed therein by 103 per cent., as against increases of 35 per cent., in the number of, and 39 per cent. in the hands engaged in factories employing less than 100. The figures relating to distinct industries show that a steady progress has been maintained in almost every class during recent years. This is most noticeable in industries associated with the manufacture of

clothing and textile fabrics (including boots) and with the preparation of food, &c.

The appended table summarizes the position of the industries at various stages since 1871, but except for the period 1904 to 1918-19 the information for different years is not strictly comparable, for the reason that it has not been compiled upon the same basis throughout.

GROWTH IN THE MANUFACTURING INDUSTRIES.

Year.	Number of Factories.	Number of Persons employed.	Amount of Salaries and Wages paid.	Value of Plant, Machinery, Land, and Buildings.	Value of Output.
			£	£	£
1871 ..	1,740	19,468	*	4,725,125	*
1881 ..	2,488	43,209	*	8,044,296	†13,370,836
1891 ..	3,141	52,225	*	16,472,859	‡22,390,251
1901 ..	3,249	66,529	*	12,298,500	\$19,478,780
1904 ..	4,208	76,287	4,794,365	13,668,185	23,126,180
1911 ..	5,126	111,948	8,911,019	18,257,889	41,747,863
1912 ..	5,263	116,108	10,102,244	19,457,795	45,410,773
1913 ..	5,613	118,744	10,714,336	20,775,738	47,936,647
1914 ..	5,650	118,399	11,099,940	21,975,646	49,439,985
1915 ..	5,413	113,834	11,036,345	22,529,072	51,466,093
1916-17 ..	5,445	116,970	11,833,517	23,784,289	60,047,284
1917-18 ..	5,627	118,241	12,502,601	25,460,282	67,066,715
1918-19 ..	5,720	122,349	14,080,403	27,318,735	80,195,677

* Particulars not available.

† 1880.

‡ 1890.

\$ 1900.

Factories and Wages Board Legislation.

The first Factories Act in Victoria was passed in 1873, and since that year many other Acts dealing with the subject have been placed upon the statute-book, the latest,

No. 2558, having come into force at the beginning of 1915. All these Acts were consolidated by the *Factories and Shops Act* 1915 (No. 2650). The general provisions of factory legislation, including "Wages Boards," are fully dealt with in Part "Social Condition" of this work.

In the year 1902 the classification of industries for statistical purposes, as shown in the next table, was adopted by the Statisticians of Australia. A factory was defined as an establishment employing on the average four persons or more, or an establishment employing less than four persons where machinery is worked by other than manual power, whether the business carried on is that of making or repairing for the trade (wholesale or retail), or for export. The following table shows for the year 1918-19 the number of factories in each industry, the power used, the number

Production of different industries, 1918-19.

of persons employed, the wages paid, the values of materials and fuel and light used, and the value of articles produced or work done:—

FACTORIES—POWER, WORKERS, WAGES, ETC., AND PRODUCTION, 1918-19.

Nature of Industry.	Number of Manufactories.	Actual Horse-power of Engines used.	Average Number of Persons Employed.				Value of—			
			Males.		Females.		Wages paid exclusive of Amounts drawn by Working Proprietors.	Fuel and Light used.	Materials Used.	Articles Produced or Work Done.
			Working Proprietors.	Employees.	Working Proprietors.	Employees.				
<i>Class I.—Treating Raw Material the product of Pastoral Pursuits, or Vegetable Products, not otherwise classed.</i>							£	£	£	£
Boiling down	16	141	10	112	..	..	16,576	5,755	167,120	204,338
Bone milling	16	579	20	91	..	1	13,772	9,758	59,232	95,101
Tanning	45	2,588	43	1,901	1	15	303,925	25,296	2,104,410	2,796,351
Fellmongering	36	1,447	30	985	..	9	151,623	28,740	3,545,590	4,121,919
Chaffcutting and grain crushing ..	191	2,336	167	620	..	8	54,675	8,907	529,111	691,053
Other	8	60	3	188	..	..	31,344	912	73,596	124,252
Total	312	7,151	273	3,897	1	33	571,915	79,368	6,479,059	8,033,014
<i>Class II.—Oils and Fats, Animal and Vegetable.</i>										
Oil, grease, glue	9	139	4	108	..	14	19,404	5,339	168,355	251,765
Soap and candle	15	431	12	541	..	128	92,663	26,009	638,057	957,295
Total	24	570	16	649	..	142	112,067	31,348	806,412	1,209,060

<i>Class III.—Processes relating to Stone, Clay, Glass, &c.</i>										
Brick, pottery, &c.	84	4,713	65	2,191	..	105	314,452	100,337	59,892	632,841
Cement, including cement pipes	12	1,569	7	295	..	2	41,310	29,325	56,513	190,539
Glass, including bottles	7	352	8	967	..	13	154,300	41,612	117,120	382,538
Glass bevelling	20	77	15	154	..	4	22,523	777	56,758	104,427
Marble and stone dressing	38	219	53	276	..	6	42,645	1,348	43,847	118,007
Modelling	6	6	5	78	..	1	11,250	223	14,273	28,718
Other	13	167	8	183	..	..	25,720	9,886	9,071	56,951
Total	180	7,103	161	4,144	..	131	612,200	183,408	357,474	1,514,021
<i>Class IV.—Working in Wood.</i>										
Cooperage	8	187	5	120	..	..	23,566	1,158	31,611	70,804
Saw-milling (forest)	187	3,536	228	2,268	..	10	319,547	1,360	15,270	657,880
Saw-milling, moulding, &c.	241	7,333	227	4,082	3	50	597,120	22,440	1,267,920	2,187,100
Mantelpiece	8	89	9	179	1	5	25,470	440	37,210	78,550
Wood carving, turning	29	465	32	252	..	8	34,333	1,895	46,395	102,960
Other	8	161	4	143	..	43	22,694	668	54,196	88,587
Total	481	11,771	505	7,044	4	116	1,022,730	27,961	1,452,602	3,185,881
<i>Class V.—Metal Works, Machinery, &c.</i>										
Agricultural implement	60	1,081	61	1,601	..	27	249,360	18,100	337,730	702,870
Engineering, iron foundry, &c.	402	8,694	423	6,997	1	116	1,077,720	134,440	1,578,990	3,359,580
Railway workshop	19	1,648	..	3,689	..	7	577,120	24,850	532,920	1,248,380
Nail	12	709	10	228	..	4	35,791	4,734	254,959	343,042
Sheet-iron, tin, &c.	74	429	58	1,032	..	177	144,181	6,721	480,154	727,380
Brass, copper smithing	69	580	78	818	2	45	106,760	8,890	144,320	322,270
Wireworking	17	277	14	194	..	9	27,014	1,138	96,295	164,100
Metallurgical, &c., cyanide	15	392	10	169	..	..	26,154	6,509	143,011	215,328
Oven, range	17	89	18	91	..	..	12,960	820	24,840	49,630
Other	42	586	41	335	2	4	48,857	4,630	128,250	224,740
Total	727	14,485	713	15,154	5	389	2,305,917	210,832	3,721,469	7,357,320

FACTORIES—POWER, WORKERS, WAGES, ETC., AND PRODUCTION, 1918-19—continued.

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Victorian Year-Book, 1918-19.

Nature of Industry.	Number of Manufactories.	Actual Horse-power of Engines used.	Average Number of Persons Employed.				Value of—			
			Males.		Females.		Wages paid exclusive of Amounts drawn by Working Proprietors.	Fuel and Light used.	Materials Used.	Articles Produced or Work Done.
			Working Proprietors.	Employees.	Working Proprietors.	Employees.				
<i>Class VI.—Connected with Food and Drink or the preparation thereof.</i>							£	£	£	£
Bacon curing	21	1,116	21	459	..	23	76,308	10,360	886,810	1,107,910
Butter, cheese, butterine	186	3,577	36	1,773	..	208	287,149	67,318	5,517,724	6,261,026
Meat freezing, preserving	17	5,551	4	2,006	..	67	298,996	58,416	3,266,161	3,871,086
Biscuit	7	378	7	878	2	688	149,865	15,297	546,254	847,256
Flourmilling	53	4,507	34	1,015	..	14	169,233	45,012	4,020,860	4,650,403
Jam, sauce, &c.	34	723	27	1,374	2	1,320	251,975	21,476	1,413,368	1,961,670
Oatmeal, starch, &c.	36	1,710	18	379	1	282	76,591	15,342	550,620	742,724
Sugar, confectionery, &c.	65	4,106	54	1,780	10	1,801	362,612	76,182	3,068,662	3,935,872
Aerated water, cordial, &c.	121	429	111	730	10	98	103,947	3,884	229,854	464,343
Malt	22	349	9	264	1	8	47,522	12,483	471,561	638,045
Brewing	17	3,717	8	929	..	3	194,195	41,400	719,982	1,476,335
Distilling	11	378	1	258	..	5	47,441	12,792	164,051	295,580
Condiments, coffee, cocoa, &c.	18	757	8	233	..	116	44,318	6,004	362,722	478,995
Tobacco, &c.	14	364	17	1,047	1	719	238,841	4,429	1,167,746	1,735,678
Other	29	1,272	19	281	1	25	43,771	12,198	56,141	171,417
Total	651	28,934	374	13,406	28	5,377	2,392,764	402,593	22,442,516	28,644,340

*Class VII.—Clothing and Textile
Fabrics, and Fibrous Material.*

Woollen mill	11	3,547	10	913	..	1,256	209,674	29,048	585,320	1,126,119
Clothing, tailoring, &c. ..	438	438	422	1,558	36	6,979	682,095	15,108	1,781,890	2,980,583
Dressmaking and millinery ..	452	346	106	226	271	8,039	514,182	9,354	1,119,428	1,891,802
Underclothing, shirt ..	176	636	96	229	97	5,066	345,054	11,161	1,150,039	1,832,183
Hat, cap	42	566	41	655	3	955	182,851	10,592	394,352	715,660
Hosiery	57	465	34	140	34	1,390	113,105	3,672	555,838	803,231
Oilskin, waterproof clothing ..	4	33	2	55	1	157	26,718	743	74,282	124,719
Boot, shoe	238	1,986	285	5,028	11	3,637	987,203	18,381	2,563,423	4,040,550
Fur	25	9	26	65	11	207	20,632	516	90,621	156,168
Rope, twine, &c.	10	1,503	12	479	..	356	88,397	7,764	459,163	687,538
Sail, tent, &c.	17	27	15	76	..	72	14,355	296	136,243	183,982
Other	30	134	24	246	5	413	61,913	3,246	238,135	343,153

Total	1,500	9,690	1,073	9,670	469	28,527	3,246,179	109,881	9,148,734	14,885,688
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*Class VIII.—Books, Paper, Printing,
Engraving, &c.*

Printing	364	3,414	407	4,483	8	1,412	880,250	26,580	1,411,012	3,014,240
Account-book, stationery, &c. ..	22	504	26	505	2	527	103,588	3,406	304,404	499,462
Fancy box	27	170	19	164	8	661	66,734	1,518	190,462	327,844
Die sinking, engraving, &c. ..	19	95	22	220	..	20	29,070	796	31,151	86,474
Other	16	2,034	12	498	..	57	81,747	29,517	203,387	434,320

Total	448	6,217	486	5,870	18	2,677	1,161,389	61,817	2,140,416	4,362,340
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Class IX.—Musical Instruments

..	12	151	8	233	..	14	36,252	726	30,058	82,769
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Class X.—Arms and Explosives

..	11	680	3	470	..	391	95,971	10,788	380,059	561,894
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FACTORIES—POWER, WORKERS, WAGES, ETC., AND PRODUCTION, 1918-19—continued.

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Victorian Year-Book, 1918-19.

Nature of Industry.	Number of Manufactories.	Actual Horse-power of Engines used.	Average Number of Persons Employed.				Value of—			
			Males.		Females.		Wages paid exclusive of Amounts drawn by Working Proprietors.	Fuel and Light used.	Materials Used.	Articles Produced or Work Done.
			Working Proprietors.	Employees.	Working Proprietors.	Employees.				
<i>Class XI.—Vehicles and Fittings, Saddlery, Harness, &c.</i>							£	£	£	£
Coachbuilding	295	711	352	2,046	1	19	253,306	9,773	328,897	729,316
Bicycle, &c.	216	761	211	1,568	..	55	206,504	7,051	198,287	516,376
Saddle, harness	45	44	49	395	1	100	61,848	549	131,896	223,401
Other	15	51	14	154	..	9	21,523	386	41,995	78,155
Total	571	1,567	626	4,163	2	183	543,181	17,759	701,075	1,547,248
<i>Class XII.—Shipbuilding, Fitting, &c.</i>	12	1,459	10	677	..	5	136,907	5,530	145,277	353,910
<i>Class XIII.—Furniture, Bedding, &c.</i>										
Upholstery, bedding, &c. .. .	48	359	29	371	1	221	65,343	1,939	195,332	310,786
Cabinet, including billiard table .. .	208	1,236	253	1,764	2	53	223,957	5,912	348,235	706,815
Picture frame	21	77	23	117	1	22	16,192	697	33,470	63,234
Other	9	101	5	151	..	10	21,677	1,331	50,548	86,447
Total	286	1,773	310	2,403	4	306	327,169	9,879	627,585	1,167,282

*Class XIV.—Drugs, Chemicals, and
By-products.*

Blacking, blue, &c.	19	219	10	162	..	165	34,916	1,950	236,697	325,030
Chemicals, drugs, &c.	40	807	28	588	2	372	121,040	15,396	401,530	691,271
Fertilizers	6	1,393	..	593	..	6	104,230	14,090	489,260	790,130
Other	47	219	62	263	2	15	30,424	1,244	97,361	171,049
Total	112	2,638	100	1,606	4	558	290,610	32,660	1,224,848	1,977,480

*Class XV.—Surgical and Scientific
Appliances*

32	43	27	121	..	11	14,980	647	13,984	41,508
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*Class XVI.—Timepieces, Jewellery,
and Plateware.. ..*

95	238	99	913	1	186	136,982	3,900	249,640	485,882
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*Class XVII.—Heat, Light, and
Energy.*

Electric apparatus	36	298	36	315	..	12	41,314	1,585	51,765	123,258
Electric light	77	48,777	2	1,105	..	42	190,280	204,080	2,630	835,190
Gas, coke	46	1,808	3	2,192	..	75	420,597	5,678	504,146	1,373,603
Other	7	1,146	2	159	..	346	50,138	5,672	182,716	324,458
Total	166	52,029	43	3,771	..	475	702,329	217,015	741,267	2,656,509

FACTORIES—POWER, WORKERS, WAGES, ETC., AND PRODUCTION, 1918-19—continued.

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Victorian Year-Book, 1918-19.

Nature of Industry.	Number of Manufactories.	Actual Horse-power of Engines used.	Average Number of Persons Employed.				Value of—			
			Males.		Females.		Wages paid exclusive of Amounts drawn by Working Proprietors.	Fuel and Light used.	Materials Used.	Articles Produced or Work Done.
			Working Proprietors.	Employees.	Working Proprietors.	Employees.				
<i>Class XVIII.—Leatherware (except Saddlery and Harness)</i>	40	307	45	419	2	296	£ 74,000	£ 2,120	£ 355,580	£ 494,870
<i>Class XIX.—Wires, not elsewhere included.</i>										
Umbrella	8	12	7	44	..	102	11,591	275	48,892	75,551
Rubber goods	14	6,443	13	1,383	..	450	233,680	47,750	935,720	1,379,620
Brush, broom	18	147	18	256	1	83	37,440	800	82,810	144,420
Basket, wickerware	20	..	22	132	..	1	14,150	67	13,270	35,070
Total	60	6,602	60	1,815	1	636	296,861	48,892	1,080,692	1,634,661
Grand Total	5,720	153,408	4,932	76,425	539	40,453	14,080,403	1,457,124	52,098,737	80,195,677

Increase in
value of out-
put of each
industry, 1913
and 1918-19.

Nearly every manufacturing industry in the State has shown a substantial increase in the value of output during the past five years. The output for the years 1913 and 1918-19 is shown in the following table, the industries being arranged in order of increase in value :—

OUTPUT OF INDUSTRIES, 1913 AND 1918-19.

Industry.	Value of Output.		Increase in Five Years.	
	1913.	1918-19.	Value.	Per cent.
	£	£	£	
Tanning and fellmongering ..	1,961,653	6,918,270	4,956,617	252·7
Butter, cheese, and butterine ..	3,614,648	6,056,342	2,441,694	67·6
Flour mills	2,633,604	4,656,403	2,022,799	76·8
Boot and shoe	2,094,866	4,040,550	1,945,684	92·9
Sugar, confectionery	1,997,209	3,935,872	1,938,663	97·1
Jam, sauce, &c.	858,881	1,961,670	1,102,789	128·4
Clothing, tailoring, &c. ..	2,037,106	2,980,583	943,477	46·3
Printing	2,156,384	3,014,240	857,856	39·8
Underclothing, shirt ..	1,050,428	1,832,183	781,755	74·4
Rubber goods	661,196	1,379,620	718,424	108·7
Forest saw-mills and moulding mills	2,180,177	2,844,980	664,803	30·5
Woollen mills	513,252	1,126,119	612,867	119·4
Chemicals, fertilizers ..	907,328	1,481,401	574,073	63·3
Hosiery	259,761	803,231	543,470	209·2
Engineering, iron foundry, &c.	2,824,892	3,359,580	534,688	18·9
Tobacco, cigars, &c. ..	1,234,107	1,735,678	501,571	40·6
Oil, grease, glue, soap, and candle	716,703	1,209,060	492,357	68·7
Dress, millinery	1,436,334	1,891,802	455,468	31·7
Brewing	1,024,708	1,476,335	451,627	44·1
Gas, coke	935,910	1,373,603	437,693	46·8
Electric supply	400,192	835,190	434,998	108·7
Paper, fancy box, &c. ..	229,555	650,955	421,400	183·6
Bacon curing	726,906	1,107,910	381,004	52·4
Rope, twine, &c.	359,001	687,538	328,537	91·5
Sheet iron, tin, &c. ..	421,290	727,380	306,090	72·7
Oatmeal, starch, &c. ..	449,480	742,724	293,244	65·2
Coach, cycle, and motor ..	957,158	1,245,692	288,534	30·1
Hat, cap	427,388	715,660	288,272	67·4
Arms and explosives ..	277,921	561,894	283,973	102·2
Biscuit	569,321	847,256	277,935	48·8
Ship, boat, dock, slip ..	106,759	353,910	247,151	231·5
Glass bottles	146,782	382,538	235,756	160·6
Distilling	61,727	295,580	233,853	378·9
Leatherware, excepting saddlery	282,566	494,870	212,304	75·1
Condiments, coffee, cocoa, &c.	272,609	478,995	206,386	75·7
Account book, &c.	296,917	499,462	202,545	68·2
Malt	439,515	638,045	198,530	45·2
Brick, tiles, pottery ..	479,096	632,841	153,745	32·1
Blacking blue, &c. ..	187,047	325,030	137,983	73·8

OUTPUT OF INDUSTRIES, 1913 AND 1918-19—*continued.*

Industry.	Value of Output.		Increase in Five Years.	
	1913.	1918-19.	Value.	Per cent.
	£	£	£	£
Cabinet, &c., including billiard table	569,411	706,815	137,404	24·1
Timepiece, jewellery, &c. ..	369,532	485,882	116,350	31·5
Sail, tent, &c. ..	77,876	183,982	106,106	136·2
Chaffcutting and grain crushing	595,675	691,053	95,378	16·0
Upholstery, bedding ..	227,835	310,786	82,951	36·4
Brass, copper ..	247,549	322,270	74,721	30·2
Cement, including cement pipes	124,877	190,539	65,662	52·6
Saddle, harness ..	184,371	223,401	39,030	21·2
All others ..	7,349,144	10,779,957	3,430,813	46·7
Total ..	47,936,647	80,195,677	32,259,030	67·3

INDIVIDUAL INDUSTRIES.

The salient features in connexion with the chief industries are set forth in the succeeding pages.

The development of the tanning and fellmongering industry during the past ten years is shown by the particulars contained in the next two tables :—

Tanneries,
&c.

TANNERIES, ETC., 1909 TO 1918-19.

Year.	Number of Establishments.	Horse-power of Engines.	Value of Machinery and Plant in Use.	Number of Persons Employed.	Number of Working Proprietors.	Amount of Wages Paid.
			£			£
1909	93	1,941	142,429	1,999	96	163,853
1910	89	1,990	141,702	1,956	99	175,364
1911	88	2,005	165,964	2,123	97	198,692
1912	90	2,161	176,947	1,996	103	205,050
1913	84	2,398	196,848	1,824	86	194,948
1914	79	2,434	190,460	1,875	82	210,007
1915	82	2,510	193,350	2,165	97	268,884
1916-17	74	3,187	214,896	2,362	82	300,796
1917-18	76	3,476	271,120	2,485	69	347,753
1918-19	81	4,035	370,765	2,984	74	455,548

The quantity of bark used in connexion with tanning operations in 1918-19 was 11,737 tons. The output of tanneries for each of the last ten years was as follows :—

OUTPUT OF TANNERIES, ETC., 1909 to 1918-19.

Year.	Number Tanned of—			Sheep Skins Stripped.	Wool Washed (weight after washing).	Value of Articles produced or Work done.
	Hides.	Calf Skins.	Sheep and other Skins.			
				No.	lbs.	£
1909 ..	495,964	175,563	1,020,656	1,090,967	8,089,643	1,636,197
1910 ..	496,200	186,993	1,007,343	1,241,693	8,242,456	1,739,850
1911 ..	523,989	199,257	817,866	1,301,298	9,356,529	1,843,189
1912 ..	536,343	194,441	891,971	1,085,196	8,182,610	1,891,816
1913 ..	538,117	181,643	863,580	1,128,302	7,424,263	1,961,653
1914 ..	554,242	210,894	936,975	1,639,161	7,816,250	2,132,935
1915 ..	765,088	166,197	1,150,449	1,463,775	12,224,184	3,201,455
1916-17 ..	722,649	230,380	1,027,847	1,538,178	13,843,439	3,962,202
1917-18 ..	601,950	217,605	1,418,595	1,641,000	24,560,590	5,061,236
1918-19 ..	670,956	234,548	1,742,388	2,354,487	34,483,316	6,918,270

The value of the leather imported into Victoria from overseas countries during the year ended 30th June, 1919, was £225,296.

Particulars in regard to the soap and candle works in the State for the past ten years are given below :—

SOAP AND CANDLE WORKS, 1909 to 1918-19.

Year.	Number of Establish- ments.	Value of Machinery and Plant in Use.	Number of Employees.	Amount of Wages Paid.	Products.		Value of Output.
					Soap.*	Candles.	
		£		£	cwt.	cwt.	£
1909 ..	17	111,252	550	56,382	176,162	45,460	485,954
1910 ..	16	113,418	528	51,518	187,433	44,768	516,508
1911 ..	16	113,664	528	53,474	189,048	41,557	572,000
1912 ..	17	117,034	593	61,398	215,629	40,157	562,013
1913 ..	18	117,692	561	60,703	223,598	39,099	610,881
1914 ..	17	120,215	604	65,155	243,558	37,564	641,104
1915 ..	17	121,946	627	71,282	267,426	41,031	721,845
1916-17 ..	18	128,100	670	84,036	214,526	38,746	802,179
1917-18 ..	17	130,795	756	91,604	228,310	37,290	951,114
1918-19 ..	15	140,600	669	92,663	206,429	39,680	957,295

* Not including soap made in small soap works not classified as factories, viz., 5,458 cwt. in 1909, 5,479 cwt. in 1910 6,216, cwt. in 1911, 4,732 cwt. in 1912, 3,564 cwt. in 1913, 3,489 cwt. in 1914, 1,664 cwt. in 1915, 927 cwt. in 1916-17, 1,134 cwt. in 1917-18, and 1,054 cwt. in 1918-19.

The quantity of tallow used in 1918-19 in the manufacture of soap and candles was 168,428 cwt. in factories, and 445 cwt. in minor works.

The imports from overseas countries in 1918-19 included 416,063 lbs. of soap valued at £15,445, and 13,632 lbs. of candles valued at £1,255.

Particulars relating to brickyards and potteries for the ten years 1909 to 1918-19 are shown in the following statement. The value of the land, plant, buildings, &c., used in connexion with such works in 1918-19 was £619,550.

BRICKS, POTTERY, PIPES, AND TILES, 1909 to 1918-19.

Year.	Number of Establishments.	Number of Employees.	Amount of Wages Paid	Number of Bricks Made.*	Value of—	
					Pipes and Tiles.	Pottery.
			£		£	£
1909 ..	108	1,588	164,192	129,302,800	77,305	32,624
1910 ...	122	1,730	178,868	145,809,500	83,397	31,897
1911 ..	120	1,856	197,282	153,944,800	97,478	35,522
1912 ..	119	2,047	236,526	180,724,200	123,944	44,788
1913 ..	106	1,974	233,157	175,644,900	132,709	32,839
1914 ..	109	2,117	260,877	188,238,420	124,826	47,948
1915 ..	89	1,839	230,969	142,601,380	134,623	52,732
1916-17 ..	79	1,636	200,781	108,444,400	147,840	57,266
1917-18 ..	78	1,842	231,090	107,139,000	171,836	73,398
1918-19 ..	84	2,296	314,452	133,176,000	246,763	121,286

* In addition there are bricks made in small brickyards not tabulated as factories.

The estimated value of bricks made in 1918-19 was £264,792, being an increase of £65,297 on the value of those made in the preceding year.

Detailed information in regard to the forest saw-mills of the State for the ten years 1909 to 1918-19 are given in the table which follows:—

FOREST SAW-MILLS, 1909 to 1918-19.

Year.	Number of Mills.	Value of Machinery and Plant in Use.	Number of Employees.	Amount of Wages Paid.	Victorian Timber Sawn.	
					Quantity.	Value.
		£		£	Super ft.	£
1909 ..	133	115,121	1,635	131,108	56,039,200	189,130
1910 ..	139	125,528	1,767	158,733	70,947,200	248,320
1911 ..	142	148,136	1,892	170,579	70,931,500	265,990
1912 ..	150	170,437	1,814	183,169	73,374,900	265,980
1913 ..	167	262,964	2,118	211,454	81,769,800	290,280
1914 ..	167	273,086	2,127	232,305	84,374,300	316,400
1915 ..	138	233,343	1,564	169,027	62,588,760	234,710
1916-17 ..	151	235,140	1,678	206,709	70,038,400	297,663
1917-18 ..	162	260,280	1,935	248,940	78,984,000	355,430
1918-19 ..	187	315,670	2,278	319,547	91,540,000	503,470

In addition to the forest saw-mills there were 294 other factories working in wood. The particulars for 1918-19 relating to these are given on page 489.

It is estimated that the approximate value of the production of firewood for consumption in the year is £604,653. In addition, there are supplies of railway sleepers, piles, posts and rails, shingles, and timber for mines obtained from the forests, but it has been found impossible to procure reliable information as to their value.

During the past decade there has been a very marked expansion in engineering works and iron foundries. Since 1904 the number of factories has increased by 73 per cent., the number of persons employed therein by 61 per cent., the amount of wages paid by 175 per cent., the value of machinery and plant by 105 per cent., the value of materials used by 249 per cent., and the value of the output by 207 per cent. The chief particulars of the industry for the years 1909 to 1918-19 are given in the next table :—

ENGINEERING, IRON FOUNDRY, ETC., 1909 TO 1918-19.

Year.	Number of Factories.	Horse-power of Engines.	Value of Machinery and Plant.	Number of Persons Employed	Amount of Wages Paid.	Value of—		
						Materials Used.	Fuel and Light Used.	Output.
			£		£	£	£	£
1909..	293	3,238	481,562	5,810	547,192	644,273	58,648	1,561,011
1910..	290	3,583	496,232	6,366	615,704	757,270	66,693	1,805,199
1911..	304	4,746	553,685	7,372	762,824	913,476	77,674	2,194,805
1912..	326	5,857	635,481	8,649	988,802	1,154,377	83,841	2,640,453
1913..	345	6,670	715,909	8,745	1,029,136	1,206,001	90,005	2,824,892
1914..	354	7,999	762,392	8,601	1,038,622	1,298,255	94,284	2,961,187
1915..	364	7,999	784,447	8,552	1,056,075	1,349,270	106,483	3,029,713
1916-17	364	7,964	809,940	7,726	1,008,627	1,365,280	104,334	2,936,342
1917-18	388	8,045	844,350	7,351	1,011,930	1,414,060	110,900	3,096,090
1918-19	402	8,694	903,110	7,537	1,077,720	1,578,990	134,440	3,359,580

The above figures are exclusive of railway workshops, which in 1918-19 numbered 19, and gave employment to 3,696 hands who were paid £577,120; the value of the materials dealt with was £532,920, and the value of the output was £1,248,380, of which 69 per cent. was from the Newport Workshops.

The subjoined statement contains the leading particulars relating to agricultural implement works for the last ten years :—

AGRICULTURAL IMPLEMENT WORKS, 1909 TO 1918-19.

Year.	No. of Factories.	No. of Employees.	Wages Paid.	Approximate Value of—		
				Fuel, &c., Used.	Materials Used.	Output.
			£	£	£	£
1909 ..	52	1,831	181,391	12,697	242,922	611,293
1910 ..	50	2,193	231,919	21,537	300,718	742,326
1911 ..	59	2,651	297,824	19,299	345,665	831,474
1912 ..	67	2,590	309,789	19,388	329,397	799,217
1913 ..	66	2,166	268,880	16,915	324,063	710,832
1914 ..	65	1,895	242,158	16,866	278,283	638,827
1915 ..	64	1,678	206,764	15,337	213,257	526,756
1916-17 ..	63	1,832	250,450	18,666	359,342	743,196
1917-18 ..	62	1,904	261,045	20,911	435,665	830,876
1918-19 ..	60	1,628	249,360	18,100	337,730	702,870

The industry attained its greatest development in 1911, when the employees numbered 2,651, and the value of output was £831,474.

From that year to 1915 there was a decrease both in the number of employees and in the value of the output. In 1917-18 the position showed some improvement, but this was not maintained in the following year. The number of employees in that year was lower than in any year since 1908.

The wages averaged for each employee £89 19s. 5d. in 1904 and £153 3s. 5d. in 1918-19. The stripper-harvester, which is a Victorian invention, is one of the principal implements manufactured.

In the following table particulars of bacon and ham **Bacon curing.** curing establishments are given for the ten years 1909 to 1918-19. The value of the machinery, plant, land and buildings in connexion with these establishments was £59,932 in 1909 and £176,450 in 1918-19.

BACON CURING, 1909 to 1918-19.

Year.	Number of Establishments.	Number of Employees.	Amount of Wages Paid.	Pigs Slaughtered for Curing.	Weight of Bacon and Hams Cured.	Value of Output.
			£	No.	lbs.	£
1909 ..	26	310	28,454	123,067	11,245,195	443,277
1910 ..	25	307	30,035	142,429	13,455,397	483,469
1911 ..	26	349	39,041	177,029	15,190,449	543,748
1912 ..	29	399	45,794	179,717	16,044,228	634,366
1913 ..	28	423	49,305	179,710	16,345,955	726,906
1914 ..	26	442	57,965	181,756	16,298,474	772,318
1915 ..	25	362	49,672	129,259	11,451,031	767,778
1916-17 ..	23	405	58,191	167,003	15,376,600	972,477
1917-18 ..	21	433	65,870	197,880	17,908,100	1,084,440
1918-19 ..	21	482	76,308	201,770	18,343,400	1,107,910

This table does not include pigs slaughtered for curing, nor bacon and hams cured in small curing works; the pigs so slaughtered numbered 2,691 in 1909, 1,637 in 1910, 695 in 1911, 671 in 1912, 666 in 1913, 974 in 1914, 439 in 1915, 379 in 1916-17, 140 in 1917-18, and 130 in 1918-19; the quantity (in pounds) of bacon and hams cured was 294,088 in 1909, 142,524 in 1910, 70,440 in 1911, 50,500 in 1912, 51,620 in 1913, 87,258 in 1914, 45,030 in 1915, 31,300 in 1916-17, 12,970 in 1917-18, and 9,790 in 1918-19.

In addition, the following quantities of bacon and hams were returned as having been cured on farms:—2,375,290 lbs. in 1909, 2,983,440 lbs. in 1910, 4,356,323 lbs. in 1911, 3,999,478 lbs. in 1912, 2,943,303 lbs. in 1913, 2,476,023 lbs. in 1914, 2,208,943 lbs. in 1915,

2,738,428 lbs. in 1916-17, 3,403,776 lbs. in 1917-18, and 3,859,205 lbs. in 1918-19. The total quantity of bacon and hams cured in 1918-19 was thus 22,212,395 lbs.—an increase of 887,549 lbs. as compared with 1917-18.

The number of butter, cheese and kindred factories in 1918-19 was 180. Of these 150 were making butter, 31 cheese, 3 concentrated milk, 5 condensed milk, 5 powdered milk, 4 casein and 1 milk sugar. There were also 27 creameries attached to the factories. The number of factories and the value of machinery, plant, land, and buildings, the number of employees and the amount of their wages, and the total value of the output for the ten years 1909 to 1918-19 were as follows:—

[BUTTER AND CHEESE FACTORIES, 1909 TO 1918-19.]

Year.			Number of Factories.	Value of Machinery, Plant, Land, and Buildings.	Number of Employees.	Amount of Wages Paid.	Value of Output.
				£		£	£
1909	..	..	211	515,966	1,134	109,412	2,391,898
1910	..	..	203	513,292	1,209	121,128	2,980,669
1911	..	..	199	626,331	1,489	147,897	3,964,312
1912	..	..	197	635,358	1,374	152,922	3,636,174
1913	..	..	197	649,931	1,311	159,529	3,562,057
1914	..	..	197	643,677	1,290	161,740	3,228,640
1915	..	..	190	644,960	1,145	139,543	2,715,784
1916-17	..	..	182	647,128	1,398	185,024	4,815,833
1917-18	..	..	181	683,140	1,642	226,050	5,086,238
1918-19	..	..	180	786,275	1,885	273,335	6,056,342

The reduction in the value of the output in 1915, as compared with that in each of the preceding five years, was due to a severe drought which occurred in 1914. Further particulars relating to butter and cheese factories will be found under the heading of Dairying on page 525.

Meat freezing and preserving works numbered seventeen in 1918-19, and gave employment to 2,073 hands and four working proprietors, the wages of the hands amounting to £298,996. The approximate value of machinery, plant, land and buildings in the same year was £856,520. The output for each of the last ten years is given in the following table:—

MEAT FREEZING AND PRESERVING, 1909 TO 1918-19.

Year.	Frozen.			
	Cattle.	Sheep.	Rabbits.	Poultry.
	Qrs.	No.	No.	No.
1909	17,360	941,309	2,832,924	22,440
1910	36,464	1,573,516	2,660,604	60,312
1911	40,184	1,578,133	2,312,928	35,388
1912	29,752	1,409,243	2,101,704	28,824
1913	126,568	2,107,180	4,674,588	25,284
1914	212,520	1,710,152	3,778,164	30,504
1915 .. ..	..	47,546	3,584,388	8,652
1916-17	28,492	418,418	2,846,904	4,900
1917-18	3,832	196,267	7,394,140	4,620
1918-19	8,640	668,970	2,335,990	2,700

Year.	Preserved.			
	Beef.	Mutton.	Rabbits.	Other Meats, &c.
	Cwt.	Cwt.	Cwt.	Cwt.
1909	8,382	2,349	540	1,267
1910	13,589	8,876	1,389	2,534
1911	28,654	14,890	3,422	2,679
1912	37,984	22,387	..	3,056
1913	49,445	8,793	63	3,321
1914	49,103	7,316	2,368	5,936
1915	38,835	2,092	422	3,448
1916-17	15,591	4,484	5,245	2,693
1917-18	17,810	28,530	9,530	15,110
1918-19	75,790	118,520	9,625	9,850

NOTE.—In addition to the above, there were treated at freezing works 3,059 calves, 225 pigs, and 8,724 hares in 1909; 3,893 calves, 1,557 pigs, and 29,532 hares in 1910; 7,308 calves, 1,609 pigs, and 58,008 hares in 1911; 3,355 calves, 3,120 pigs, and 43,224 hares in 1912; 5,050 calves, and 39,420 hares in 1913; 11,708 calves, 1,713 pigs, and 57,576 hares in 1914; 3,072 hares in 1915; 1,120 calves, 156 pigs, and 6,872 hares in 1916-17; 166 calves, 971 pigs, and 9,180 hares in 1917-18; and 1,360 calves, 615 pigs, and 16,220 hares in 1918-19.

The following statement shows the imports from and exports to oversea countries of frozen and preserved meats, other than bacon and ham, during the year ended 30th June, 1919 :—

MEATS IMPORTED AND EXPORTED OVERSEA, 1918-19.

	Imports.		Exports.	
	Quantity.	Value.	Quantity.	Value.
		£		£
Meats, Frozen—				
Mutton .. ..	..	..	34,446,128 lbs.	727,750
Lamb .. ..	..	..	714,501 „	18,143
Beef .. ..	..	..	197,539 „	4,115
Rabbits and Hares ..	..	..	1,176,106 prs.	87,333
Game .. ..	..	..	10,860 lbs.	237
Other .. ..	..	..	1,905,783 „	53,719
Meats—Potted and Concentrated ..	..	4,573	..	32,638
„ Preserved in tins ..	28,351 lbs.	1,944	13,121,142 lbs.	798,645
„ Not elsewhere included ..	16 cwt.	119	90 cwt.	328
Total value ..	..	6,636	..	1,722,908

The value of the machinery, plant, land and buildings used in connexion with flour mills was estimated at £433,100 in 1909, and at £538,000 in 1918-19. Particulars of the industry for the ten years 1909 to 1918-19 are as follows :—

FLOUR MILLS, 1909 TO 1918-19.

Year.	Number of Mills.	Number of Employees.	Amount of Wages Paid.	Wheat Ground into Flour.	Flour Made.	Value of Total Output.
			£	hushels.	tons.	£
1909 ..	59	688	79,547	10,644,123	215,547	2,639,519
1910 ..	62	734	84,863	11,218,870	225,282	2,486,741
1911 ..	61	784	93,503	12,266,013	247,434	2,456,533
1912 ..	61	790	95,266	11,185,138	225,376	2,565,014
1913 ..	61	790	102,882	12,459,988	252,763	2,633,604
1914 ..	57	836	109,910	12,173,943	246,136	2,726,878
1915 ..	51	608	70,982	6,574,753	134,401	2,739,730
1916-17 ..	54	857	126,280	12,483,990	263,095	3,458,633
1917-18 ..	55	988	155,330	15,034,990	311,450	3,989,510
1918-19 ..	53	1,029	169,233	16,621,290	347,840	4,656,403

In addition to the flour made, the wheat ground in 1918-19 produced 7,497,400 bushels of bran and 7,480,500 bushels of pollard. Other grain operated on amounted to 45,487 bushels in 1909, 35,507 bushels in 1910, 84,707 bushels in 1911, 98,243 bushels in 1912, 39,826 bushels in 1913, 38,992 bushels in 1914, 43,618 bushels in 1915, 44,150 bushels in 1916-17, 31,960 bushels in 1917-18, and 40,113 bushels in 1918-19.

**Exports of
bread-stuffs.**

During the year 1918-19, 3,117,734 lbs. of biscuits valued at £90,241, and 120,033 tons of flour valued at £1,440,187 were exported from Victoria to countries beyond Australia.

**Jam, pickle,
and sauce
works.**

In 1918-19 there were 34 establishments in which the manufacture of jams, pickles, and sauces was carried on, and the number of persons employed therein was 2,723, of whom 29 were working proprietors. The wages paid to the employees amounted to £251,975, and the value of machinery, plant, land and buildings was £221,555. The fruit and sugar used and the output for each of the last ten years were as shown below:—

JAM, PICKLE, AND SAUCE WORKS, 1909 to 1918-19.

Year.	Fruit Used.	Sugar Used.	Jams and Jellies Made.	Fruit Preserved.	Fruit Pulped.	Sauce Made.	Pickles Made.
	cwt.	cwt.	cwt.	cwt.	cwt.	pints.	pints.
1909 ..	265,353	143,427	268,927	40,746	49,797	3,607,968	1,324,392
1910 ..	311,168	159,439	303,733	40,797	38,017	4,173,936	1,264,728
1911 ..	315,362	156,376	286,543	53,562	52,427	4,348,500	1,617,156
1912 ..	307,458	154,381	258,470	63,133	56,488	5,886,336	1,482,252
1913 ..	400,048	179,243	265,727	102,608	100,690	6,458,748	1,752,396
1914 ..	341,189	175,538	271,755	81,425	75,299	5,648,280	1,840,920
1915 ..	300,861	193,243	305,445	52,939	40,993	5,827,176	1,285,476
1916-17 ..	372,424	257,481	347,152	60,419	132,182	6,433,032	1,803,408
1917-18 ..	497,650	286,860	398,500	115,580	94,810	7,064,520	3,412,320
1918-19 ..	496,690	314,645	495,575	133,230	91,550	4,913,050	4,057,730

Some of these establishments also candied fruit peel, the quantities being 4,802 cwt. in 1909, 3,902 cwt. in 1910, 3,549 cwt. in 1911, 2,763 cwt. in 1912, 5,519 cwt. in 1913, 6,892 cwt. in 1914, 4,628 cwt. in 1915, 3,360 cwt. in 1916-17, 9,330 cwt. in 1917-18, and 8,449 cwt. in 1918-19. The value of the output in 1918-19 of the whole of the establishments whose produce is shown in the above table was £1,961,670.

**Beet sugar
industry.**

In 1896 Parliament passed an Act making available £100,000, of which £62,000 was expended in promoting the establishment of the beet sugar industry on the basis of £2 for every £1 of private capital subscribed. A company was

formed, and a substantial building, equipped with a modern plant, was erected at Maffra, in Gippsland. The industry, after various vicissitudes, was compelled to cease operations after two seasons, and the building and plant, which fell into the hands of the Government under the terms of its mortgage, remained idle for twelve years.

In 1910 a definite campaign to revive the industry was commenced, numerous experimental beet plots were established throughout Gippsland in order to familiarize land-holders with beet-growing, lectures were given explanatory of the Government proposals and of different phases of the industry, a system of field labour was organized, and manufacturing operations were recommenced.

With the view of putting the industry on a sound footing the Government purchased large areas at Boisdale and Kilmany Park. These estates, which are in railway communication with Maffra, were cut up into small holdings under the Closer Settlement Board, and allotted to settlers, subject to the proviso that each must grow a certain area of beet. The compulsory beet-growing conditions were removed in 1914, and the supply of beet became dependent on voluntary growers.

The price of beet has been increased from 27s. 6d. to 30s. per ton for the 1919-20 season. A fine grade of white sugar is manufactured, and considerable quantities of beet pulp and molasses are distributed for stock feed. In the absence of an irrigation scheme, suitable land adjacent to the factory is limited, so that a number of growers are unable to secure the acreage they desire. It is expected that this will be remedied, as the Government has authorized the inauguration of a comprehensive irrigation scheme.

The following particulars summarize the results of the last nine seasons :—

Season.	Area Harvested.	Sugar Beet Harvested.	Sugar Produced.
	acres.	tons.	tons.
1910-11	458	5,969	482
1911-12	752	4,000	519
1912-13	900	6,207	648
1913-14	1,000	7,431	920
1914-15	990	8,843	1,181
1915-16	461	4,928	560
1916-17	1,320	15,159	1,948
1917-18	1,200	14,487	1,650
1918-19	1,009	12,289	1,263

Breweries. Particulars regarding breweries for the ten years 1909 to 1918-19 are set forth in the next table. Machinery and

plant were valued at £245,606 in 1909 and at £434,040 in 1918-19, whilst land and buildings were valued at £297,321 in 1909 and at £473,680 in 1918-19. The wages paid in 1918-19 amounted to £194,195.

BREWERIES, 1909 to 1918-19.

Year.	Number of Breweries.	Number of Employees.	Materials Used—			Beer Made.	Value of Output.
			Sugar.	Malt.	Hops.		
			cwt.	bushels.	lbs.	gallons.	£
1909	32	996	103,146	503,761	632,339	16,552,594	771,779
1910	31	1,016	112,240	540,390	663,394	18,605,737	836,485
1911	33	1,009	111,314	548,341	649,892	19,077,420	912,829
1912	29	984	119,667	566,779	659,323	20,247,337	980,927
1913	26	966	123,073	586,375	653,803	20,925,354	1,024,708
1914	25	1,036	133,707	678,526	738,953	23,865,467	1,196,306
1915	22	893	111,363	600,333	661,299	20,339,924	1,061,196
1916-17	19	857	105,238	616,630	710,470	20,111,704	1,118,288
1917-18	18	866	109,640	650,500	748,840	21,021,070	1,334,344
1918-19	17	932	112,080	625,770	722,590	20,962,740	1,476,335

Distilleries. The number of distilleries working in 1918-19 was 11, and the persons employed numbered 264, of whom 1 was a working proprietor. The estimated value of the machinery, plant, land, and buildings was £273,735. The quantities of materials used in manufacture and of spirits distilled in each of the last ten years were as follows :—

DISTILLERIES, 1909 to 1918-19.

Year.	Materials Used.				Spirits Distilled.
	Wine.	Malt.	Other Grain.	Sugar and Molasses.	
	gallons.	bushels.	bush.	lbs.	proof gal.
1909	379,979	117,197	..	..	314,370
1910	605,204	25,345	3,560	649,152	223,560
1911	370,119	61,981	752	1,293,152	298,237
1912	580,976	..	..	791,056	152,645
1913	944,277	54,544	..	1,057,280	335,251
1914	1,248,957	39,043	118	1,649,760	409,815
1915	984,817	34,896	118	1,592,640	386,152
1916-17	1,452,048	176,472	170	1,093,120	658,357
1917-18	1,137,640	376,830	..	3,962,560	1,150,091
1918-19	1,206,530	385,690	397	5,604,480	1,185,629

Spirits made by vine-growers for fortifying wine are not included in the foregoing table. The following quantities were distilled in vineyards for that purpose during the last ten years:—30,976 gallons in 1909, 13,427 gallons in 1910, 29,745 gallons in 1911, 23,874 gallons in 1912, 13,357 gallons in 1913, 12,256 gallons in 1914, 9,955 gallons in 1915, 9,937 gallons in 1916–17, 5,134 gallons in 1917–18, and 2,232 gallons in 1918–19.

The number of tobacco, cigar and cigarette factories licensed in 1918–19 was thirty, of which sixteen were too small to be classified as ordinary factories and were consequently not included in the statistical tabulation. In the year mentioned the remaining fourteen employed 1,766 hands, who were paid £238,841 in wages, also eighteen working proprietors; and used machinery, plant, land, and buildings valued at £288,270. The sub-joined table shows the quantity of tobacco leaf used by, and the output of the full number of licensed establishments for the last ten years:—

TOBACCO FACTORIES, 1909 to 1918–19.

Year.	Unmanufactured Leaf Operated on.		Quantity Manufactured of—			
	Australian.	Imported.	Tobacco.	Snuff.	Cigars.	Cigarettes.
	lbs.	lbs.	lbs.	lbs.	No.	No.
1909 ..	202,723	4,759,856	5,162,959	610	19,368,491	141,105,750
1910 ..	195,279	5,225,078	5,510,099	577	21,310,111	135,108,700
1911 ..	180,501	4,972,275	5,521,175	603	22,424,806	116,435,800
1912 ..	165,156	5,137,331	5,641,647	702	23,333,951	97,400,400
1913 ..	254,561	5,113,935	5,605,566	500	25,019,435	103,382,600
1914 ..	340,296	4,708,548	5,140,695	746	23,533,572	140,100,500
1915 ..	515,969	4,414,921	5,022,910	565	22,676,586	138,111,000
1916–17 ..	656,320	5,254,110	6,089,929	446	26,268,733	123,480,200
1917–18 ..	558,278	4,598,364	5,479,191	313	27,920,180	126,883,970
1918–19 ..	405,625	5,096,176	5,842,142	1,049	27,973,908	125,372,900

There were eleven woollen mills working in 1918–19, and the number of persons employed therein was 2,179, of whom ten were working proprietors. The wages paid to employees amounted to £209,674, and the approximate value of the machinery, plant, land, and buildings to £581,235. The value of the raw materials used in mills during the year was £585,320, and that of the goods manufactured in the same period was £1,126,119. The

quantities of wool and cotton used and of goods manufactured in each of the last ten years were as follows :—

WOOLLEN MILLS, 1909 to 1918-19.

Year.	Quantity of Scoured Wool Used.	Quantity of Cotton Used.	Goods Manufactured—				Value of Output.
			Tweed and Cloth.	Flannel.	Blankets.	Shawls and Rugs.	
	lbs.	lbs.	yards.	yards.	No. of pairs.	No.	£
1909	3,093,383	880,934	949,674	4,713,571	225,148	15,189	403,106
1910	3,136,442	955,894	890,281	4,640,401	191,651	18,185	426,336
1911	3,409,105	897,804	901,348	4,691,255	240,961	13,718	473,686
1912	3,265,390	1,061,201	1,013,444	4,604,654	265,637	14,476	473,880
1913	3,489,150	1,068,214	1,017,776	4,965,527	287,814	19,443	513,252
1914	3,607,690	1,075,666	1,036,079	5,546,841	258,859	22,455	577,434
1915	6,521,130	702,653	1,331,137	5,136,258	347,988	6,418	931,774
1916-17	5,114,320	599,288	1,238,363	5,250,093	259,080	3,661	1,006,635
1917-18	4,332,420	832,400	1,429,050	5,411,990	214,410	8,560	1,036,081
1918-19	4,614,585	513,800	1,429,200	5,047,490	191,130	19,430	1,126,119

During the period 1909 to 1918-19 the value of the output of woollen mills increased by 179 per cent. The quantity of tweed and cloth manufactured increased by 50 per cent., and of flannel by 7 per cent. There was a falling off in the output of blankets.

Boot factories. The development which has taken place in the boot industry in recent years is exhibited in the following tables :—

BOOT FACTORIES, 1909 to 1918-19.

Year.	Number of Factories.	Persons Employed.	Value of Land, Buildings, and Machinery.	Wages Paid.
			£	£
1909	136	6,894	294,167	415,011
1910	144	6,832	324,529	455,997
1911	154	7,001	363,540	542,707
1912	151	6,774	378,501	570,025
1913	162	6,951	426,573	578,503
1914	172	6,924	455,158	603,318
1915	174	6,847	483,683	625,886
1916-17	201	8,494	529,950	843,772
1917-18	231	8,565	577,125	858,874
1918-19	238	8,961	627,770	987,203

OUTPUT OF BOOT FACTORIES, 1909 to 1918-19.

Year.	Goods Manufactured—		Value of Materials Used.	Value of Output.
	Boots and Shoes.	Slippers.*		
	No. of pairs.	No. of pairs.	£	£
1909	4,649,130	231,791	884,329	1,487,789
1910	4,847,368	191,204	963,110	1,620,179
1911	5,198,030	164,313	1,103,653	1,878,308
1912	4,966,768	220,616	1,132,045	1,951,998
1913	5,013,143	254,844	1,230,725	2,094,866
1914	4,913,593	272,866	1,281,352	2,160,500
1915	5,257,415	191,044	1,502,285	2,436,673
1916-17	6,210,866	212,582	2,171,812	3,460,404
1917-18	6,049,510	205,614	2,093,803	3,442,302
1918-19	6,073,117	243,383	2,563,423	4,040,550

* Includes canvas shoes and house-boots.

During the period 1909 to 1918-19 the wages paid increased by 138 per cent., the value of materials used by 190 per cent., and the value of output by 172 per cent., while the quantity of boots and shoes manufactured increased by only about 31 per cent.

The value of the output of establishments connected with the manufacture of dress, *i.e.*, clothing, tailoring, dressmaking, millinery, underclothing, hats and caps, &c., but exclusive of boots and shoes, was £8,599,603 in 1918-19, as compared with £3,743,940 in 1909. During the period 1909 to 1918-19 the persons employed increased by 3 per cent., the wages paid by 81 per cent., the value of materials used by 156 per cent., and the value of the output by 130 per cent. Particulars of the industry for each of the last ten years are as follows:—

DRESS (EXCLUSIVE OF BOOT) FACTORIES.

Year.	Number of Factories.	Number of Persons Employed.			Amount of Wages Paid.	Value of Materials Used.	Value of Output.
		Males.	Females.	Total.			
					£	£	£
1909 ..	1,125	3,387	23,174	26,561	1,057,278	2,033,925	3,743,940
1910 ..	1,160	3,620	24,069	27,689	1,181,534	2,259,826	4,174,402
1911 ..	1,213	3,921	26,114	30,035	1,384,678	2,557,287	4,756,604
1912 ..	1,205	4,067	26,255	30,322	1,532,559	2,760,001	5,184,535
1913 ..	1,296	4,221	25,955	30,176	1,579,957	2,868,302	5,430,240
1914 ..	1,298	4,019	25,660	29,679	1,591,133	3,001,379	5,568,744
1915 ..	1,198	3,833	24,126	27,959	1,554,921	3,295,009	5,901,238
1916-17 ..	1,196	3,744	25,739	29,483	1,747,478	3,919,333	6,765,326
1917-18 ..	1,209	3,730	24,630	28,360	1,788,136	4,512,648	7,674,705
1918-19 ..	1,210	3,776	23,505	27,281	1,915,096	5,205,460	8,599,603

Electric light and power works. Particulars relating to the electric light and power works of the State are shown in the next table:—

ELECTRIC LIGHT AND POWER WORKS, 1909 to 1918-19.

Year.	Number of Stations.	Horse-power of Machinery.	Value of Machinery and Plant.	Persons Employed.	Wages Paid.	Electricity Supplied.	Value of Output.
			£		£	British Units.	£
1909 ..	13	13,293	577,403	442	54,621	16,471,368	207,959
1910 ..	16	13,962	645,333	523	62,266	18,832,467	231,604
1911 ..	20	15,819	733,769	590	75,722	23,011,340	270,498
1912 ..	24	20,005	912,712	666	89,435	27,579,734	309,156
1913 ..	51	26,213	1,165,020	860	114,874	35,637,971	400,192
1914 ..	58	28,485	1,418,511	924	131,854	44,890,249	473,918
1915 ..	63	33,127	1,569,553	957	135,045	53,209,990	536,251
1916-17	74	42,144	1,787,477	1,144	178,430	71,622,490	673,769
1917-18	75	48,526	1,889,550	1,167	183,948	79,485,920	760,117
1918-19	77	48,777	2,135,310	1,149	190,280	83,778,000	835,190

The electricity supplied in 1918-19 represented an increase of 409 per cent. on that supplied in 1909.

Gasworks. The approximate value of the machinery and plant, land and buildings connected with gasworks in Victoria was £1,710,494 in 1909, and £1,860,960 in 1918-19. The gas made in the latter year was 114 per cent. in excess of that made in 1909. Particulars in regard to these works are given below.

GASWORKS, 1909 to 1918-19.

Year.	Number of Works.*	Persons Employed.	Wages Paid.	Coal Used.	Gas Made.	Coke Produced.	Value of Output.
			£	tons.	cubic feet.	tons.	£
1909 ..	47	1,390	181,965	217,473	2,292,988,400	131,695	676,528
1910 ..	47	1,421	199,308	235,532	2,476,528,100	139,423	733,910
1911 ..	47	1,601	230,626	261,848	2,813,159,700	155,488	810,414
1912 ..	47	1,835	275,755	284,670	3,108,555,700	171,750	873,134
1913 ..	47	1,973	302,354	294,541	3,480,180,200	176,810	935,910
1914 ..	47	2,117	332,971	300,152	3,806,380,100	195,178	979,229
1915 ..	47	2,175	347,434	307,902	4,107,577,600	204,957	1,035,941
1916-17	47	2,093	365,777	317,450	4,449,230,000	200,673	1,181,096
1917-18	47	2,089	375,181	318,560	4,505,847,000	200,660	1,263,030
1918-19	46	2,270	420,597	353,584	4,904,351,000	220,287	1,373,603

* Including one establishment manufacturing coke only.

Oil was used as well as coal in the manufacture of gas, the number of gallons consumed each year being 196,176 in 1909, 228,034 in 1910, 274,353 in 1911, 306,405 in 1912, 348,385 in 1913, 332,586 in 1914, 328,230 in 1915, 345,272 in 1916-17, 396,717 in 1917-18, and 355,933 in 1918-19.

The facilities afforded in the metropolitan area have had the effect of bringing within that area the more important of the manufactories. The distribution of factories by classes as between the metropolis and the remainder of the State, for the years 1903, 1911, 1917-18, and 1918-19, is exhibited in the following statement :—

NUMBER AND LOCATION OF FACTORIES.

Class of Industry.	Number of Factories.							
	Metropolis.				Remainder of State.			
	1903.	1911.	1917-18	1918-19	1903.	1911.	1917-18	1918-19
Treating raw material, product of pastoral pursuits, &c. ..	97	84	85	94	227	253	225	218
Treating oils and fats, animal, vegetable, &c. ..	12	12	16	15	12	11	10	9
Processes in stone, clay, glass, &c. ..	79	96	95	101	112	119	77	79
Working in wood ..	107	168	205	218	161	207	248	263
Metal works, machinery, &c. ..	304	440	520	545	241	234	197	182
Connected with food and drink, &c. ..	160	197	237	247	461	454	412	404
Clothing and textile fabrics, &c. ..	827	1,128	1,188	1,193	281	288	300	307
Books, paper, printing, &c. ..	193	255	294	298	104	165	157	150
Musical instruments, &c. ..	2	5	11	12	..	..	..	..
Arms and explosives ..	2	6	8	10	3	3	4	1
Vehicles, saddlery, harness, &c. ..	164	219	256	268	170	191	305	303
Ship and boat building and repairing ..	6	11	11	10	2	1	2	2
Furniture, upholstery, and bedding ..	169	222	249	258	18	20	25	28
Drugs, chemicals, and by-products ..	45	50	64	73	17	31	39	39
Surgical and other scientific appliances ..	9	16	29	30	..	1	1	2
Jewellery, time-pieces, and platedware ..	47	74	87	90	5	6	5	5
Heat, light, and power ..	25	29	55	61	43	54	107	105
Leatherware, n.e.i. ..	20	32	41	40	1	..	..	..
Minor wares, n.e.i. ..	25	44	59	58	..	..	3	2
Totals ..	2,293	3,088	3,510	3,621	1,858	2,038	2,117	2,099

Since 1903 the number of factories has increased by 1,569, the greatest numerical increase in the classes being that of the clothing and textile factories, of which there were 392 more in 1918-19 than in 1903.

The employment afforded in each class of industry is set forth in the next statement:—

Employment in
factories.

AVERAGE NUMBER OF PERSONS EMPLOYED IN FACTORIES.

Class of Industry.	1903.	1915.	1916-17.	1917-18.	1918-19.
Treating raw materials, product of pastoral pursuits, &c. ..	2,976	3,345	3,535	3,632	4,204
Treating oils and fats, animal, vegetable, &c. ..	528	740	796	883	807
Processes in stone, clay, glass, &c. ..	3,076	3,822	3,519	3,921	4,436
Working in wood ..	3,713	6,345	6,336	6,948	7,669
Metal works, machinery, &c. ..	10,350	19,217	17,180	16,183	16,261
Connected with food and drink, &c. ..	10,602	13,778	15,334	17,100	19,185
Clothing and textile fabrics, &c. ..	26,301	38,041	41,233	40,312	39,739
Books, paper, printing, &c. ..	6,525	8,881	8,830	8,940	9,051
Musical instruments, &c. ..	25	145	198	229	255
Arms and explosives ..	342	1,324	1,597	1,030	864
Vehicles, saddlery, harness, &c. ..	2,973	4,589	4,575	4,654	4,974
Ship and boat building and repairing ..	98	1,085	464	653	692
Furniture, bedding, and upholstery ..	1,978	2,689	2,766	2,867	3,023
Drugs, chemicals, and by-products ..	987	1,860	2,086	2,207	2,268
Surgical and other scientific appliances ..	35	115	135	149	159
Jewellery, time-pieces, and plated ware ..	594	825	948	1,028	1,199
Heat, light, and power ..	988	4,012	4,164	4,146	4,289
Leatherware, n.e.i. ..	283	604	711	750	762
Minor wares, n.e.i. ..	855	2,417	2,563	2,609	2,512
Total ..	73,229	113,834	116,970	118,241	122,349

The total increase in the number of hands employed during the period covered by the above table is 49,120, and represents an advance of about 67 per cent. The greatest development has taken place in clothing factories, metal works, and industries connected with food, drink, &c., which show increases of 13,438, 5,911, and 8,583 respectively in the number of persons employed in 1918-19 as compared with the number in 1903.

An examination of the figures relating to different factories in 1909 and 1918-19 reveals the great increase in the number of hands employed which has taken place in factories of the largest size. During the past ten years the number of factories employing over 100 hands has increased by 30 per cent., and the number of hands engaged therein by 37 per cent., whilst the factories employing less than 100 and their employees have increased by only 20 and 18 per cent. respectively. Particulars of factories of different sizes in 1903 and 1918-19 are given in the next two tables :—

FACTORIES ACCORDING TO NUMBER OF HANDS EMPLOYED.

Size of Factory.	Number of Factories.		Average Number of Hands Employed.	
	1909.	1918-19.	1909.	1918-19.
Under 4 hands	692	1,182	1,757	2,671
4	576	621	2,304	2,484
5 to 10	1,710	1,864	11,869	13,008
11 to 20	843	922	12,225	13,534
21 to 50	577	686	17,744	21,933
51 to 100	197	237	13,459	16,516
Over 100	160	208	37,997	52,203
Total	4,755	5,720	97,355	122,349

PROPORTION OF FACTORIES OF DIFFERENT SIZES.

Size of Factory.	Percentage to Total.			
	Factories.		Hands.	
	1909.	1918-19.	1909.	1918-19.
Under 4 hands	14·58	20·66	1·80	2·18
4	12·11	10·85	2·37	2·03
5 to 10	35·96	32·59	12·19	10·63
11 to 20	17·72	16·12	12·56	11·06
21 to 50	12·13	12·00	18·23	17·93
51 to 100	4·14	4·14	13·82	13·50
Over 100	3·36	3·64	39·03	42·67
Total	100·00	100·00	100·00	100·00

**Occupations
in factories.**

In the following table the persons employed in factories are grouped according to their occupational status :—

OCCUPATIONS OF PERSONS EMPLOYED IN FACTORIES.

Occupations.	1903.	1915.	1916-17.	1917-18.	1918-19.
Working proprietors	4,190	5,366	5,201	5,368	5,471
Managers, overseers	2,520	3,347	3,619	3,716	3,793
Accountants, clerks	2,213	4,062	4,345	4,519	4,919
Engine-drivers, firemen	1,441	1,685	1,758	1,867	1,914
Workers in factory or works	57,721	94,338	96,706	97,765	101,608
Outworkers	955	1,473	1,814	1,406	1,022
Carters, messengers	2,778	2,657	2,725	2,763	2,816
Others	1,411	906	802	837	806
Total	73,229	113,834	116,970	118,241	122,349

Outworkers. The term "outworker" used in the above table relates to factory workers working in their own homes, but does not include individuals working for themselves. The employment of outworkers is regulated by a special provision of the Factories and Shops Act. They are required to register their names and addresses with the Chief Inspector of Factories, and factory proprietors are forbidden to give work to those who are not registered.

**Sex distribu-
tion in
factories.**

The average numbers of males and females employed in factories, and their proportions to the male and female populations for the years 1909 to 1918-19 were as follows :—

EMPLOYMENT OF MALES AND FEMALES IN FACTORIES.

Year.	Males.		Females.		Total.	
	Number.	Average per 10,000 of Male Population.	Number.	Average per 10,000 of Female Population.	Number.	Average per 10,000 of Total Population.
1909 ..	62,822	984	34,533	537	97,355	760
1910 ..	66,309	1,023	35,867	550	102,176	786
1911 ..	73,573	1,118	38,375	579	111,948	848
1912 ..	77,565	1,145	38,543	567	116,108	856
1913 ..	80,054	1,151	38,690	554	118,744	852
1914 ..	79,772	1,119	38,627	543	118,399	832
1915 ..	75,971	1,097	37,863	522	113,834	798
1916-17 ..	74,924	1,123	42,046	574	116,970	836
1917-18 ..	76,654	1,142	41,587	562	118,241	838
1918-19 ..	81,357	1,188	40,992	550	122,349	855

Males formed 64·5 per cent. in 1909 and 66·5 per cent. in 1918-19 of the total persons employed. The increase during the period 1909 to 1918-19 in the number of males employed was 18,535 or 29·5 per cent., and in the number of females employed 6,459, or 18·7 per cent.

Of the total females in factories 70·7 per cent. are engaged in the textile and clothing industries, and 13·2 per cent. in the preparation of food and drink. The extent of female employment in certain industries is shown in the next table.

Employment
of females.

FEMALE EMPLOYMENT IN FACTORIES, 1918-19.

Industry.	Number Employed.		Females per 100 Males.
	Males.	Females.	
Biscuit	885	690	77·97
Jam, pickle, and sauce	1,401	1,322	94·36
Confectionery	1,346	1,757	130·53
Tobacco, &c.	1,064	720	67·67
Woollen mills	923	1,256	136·08
Clothing, tailoring, &c.	1,980	7,015	354·29
Dressmaking, millinery	332	8,310	2,530·12
Underclothing	325	5,163	1,588·61
Hats, caps, &c.	696	958	137·64
Hosiery	174	1,424	818·39
Waterproof clothing	57	158	277·19
Boots and shoes	5,313	3,648	68·66
Printing, &c.	4,890	1,420	29·04
Bookbinding, stationery, &c.	531	529	99·62
Fancy-box, &c.	183	669	365·57
Rope, twine	491	356	72·51
Sail, tent	91	72	79·12
Ammunition	233	307	131·76
Match	137	345	251·82
Fancy leather	335	275	82·09
Rubber goods	1,396	450	32·23
All other factories	58,574	4,148	7·08
Total	81,357	40,992	50·39

A very favorable feature of factory statistics in the past few years has been the small proportion of children, especially girls, engaged in factories. Of the male and female employees, boys and girls under 16 represented only 3·85 and 5·83 per cent. respectively in 1918-19, as against 6·05 and 11·47 per cent. in 1904. The number of children employed in factories and their

Child labour
in factories.

proportion to the total employees are given in the subjoined table for the years 1909 to 1918-19 :—

CHILDREN EMPLOYED IN FACTORIES.

Year.	Boys under 16.	Girls under 16.	Total Children.	Proportion per cent. of—		
				Boys to Male Employees.	Girls to Female Employees.	Children to Total Employees.
1909 ..	2,817	2,496	5,313	4·48	7·23	5·46
1910 ..	2,753	2,174	4,927	4·15	6·06	4·82
1911 ..	2,623	1,937	4,560	3·57	5·05	4·07
1912 ..	2,652	1,740	4,392	3·42	4·51	3·78
1913 ..	2,743	1,840	4,583	3·43	4·76	3·86
1914 ..	2,898	1,816	4,714	3·63	4·70	3·98
1915 ..	3,355	2,197	5,552	4·42	5·80	4·88
1916-17 ..	3,072	2,301	5,373	4·10	5·47	4·59
1917-18 ..	3,195	2,447	5,642	4·17	5·88	4·77
1918-19 ..	3,137	2,389	5,526	3·85	5·83	4·52

Machinery in factories. In the following table are shown the number of factories using mechanical power, the total horse-power of the engines used, and the value of the machinery and plant for the ten years, 1909 to 1918-19 :—

MACHINERY IN FACTORIES.

Year.	Number of Factories equipped with Machinery.	Value of Machinery and Plant.	Horse-power of Engines.
		£	
1909	3,069	7,140,304	63,761
1910	3,239	7,601,085	69,373
1911	3,474	8,336,373	79,515
1912	3,653	9,095,134	89,290
1913	3,990	10,022,429	105,224
1914	4,106	10,727,526	110,055
1915	4,089	11,068,949	117,815
1916-17 ..	4,226	11,732,062	136,985
1917-18 ..	4,371	12,612,797	149,095
1918-19 ..	4,470	13,645,220	153,408

The nature of the power used and the capacity of the machinery in the factories of the State are set out in the next table. Establishments using more than one kind of mechanical power are included once only in the first portion. The second portion shows the total horse-power of engines used.

POWER USED IN FACTORIES.

Year.	Number of Factories using—					
	Steam.	Gas.	Electricity.	Oil.	Water, Wind, or Horses.	Manual Labour.
1909	1,192	779	802	186	110	1,686
1910	1,169	794	954	215	107	1,634
1911	1,147	811	1,164	255	97	1,652
1912	1,134	821	1,327	269	102	1,610
1913	1,114	883	1,579	335	79	1,623
1914	1,040	858	1,782	348	78	1,544
1915	961	824	1,915	330	59	1,324
1916-17 ..	931	800	2,142	311	42	1,219
1917-18 ..	896	784	2,365	285	41	1,256
1918-19 ..	875	782	2,481	297	35	1,250

Year.	Actual Horse-power of Engines.				
	Steam.	Gas.	Electricity.	Oil.	Total.
1909	47,403	8,446	6,746	1,166	63,761
1910	49,013	9,415	9,629	1,316	69,373
1911	54,282	11,862	11,764	1,607	79,515
1912	59,262	13,745	14,505	1,778	89,290
1913	67,262	16,759	18,732	2,471	105,224
1914	67,649	17,432	22,584	2,390	110,055
1915	71,223	17,935	26,385	2,272	117,815
1916-17 ..	81,611	18,651	34,348	2,375	136,985
1917-18 ..	89,561	19,045	38,246	2,243	149,095
1918-19 ..	91,245	18,929	40,791	2,443	153,408

Although steam is the principal motive power, and was used to supply 60 per cent. of the total mechanical power employed in factories in 1918-19, a remarkable development is shown in the use of electricity, which in 1909 was used by 802, and in 1918-19 by 2,481 factories, the actual horse-power increasing from 6,746 to 40,791 in the same interval.

The total amount and the average amount of salaries and wages paid to male and female employees in factories are given in the following table :—

SALARIES AND WAGES PAID IN FACTORIES.

Year.	Salaries paid to Managers and Clerks.		Wages paid to Factory Workers.		Average Salary of Managers and Clerks.		Average Wage of Factory Workers.	
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
	£	£	£	£	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1910 ..	634,826	43,224	5,639,095	1,283,787	127 3 11	38 4 4	98 18 6	37 13 0
1911 ..	796,957	68,458	6,560,778	1,484,826	148 19 3	55 11 4	103 1 2	40 13 6
1912 ..	917,125	85,793	7,471,488	1,627,838	165 9 1	70 1 10	111 0 8	44 6 6
1913 ..	1,097,574	109,381	7,828,240	1,679,141	183 12 0	86 12 1	113 6 10	45 12 11
1914 ..	1,187,114	125,610	8,065,222	1,721,994	198 9 7	97 18 1	117 6 10	46 18 6
1915 ..	1,232,981	133,362	7,928,871	1,741,131	205 10 7	94 11 8	121 13 9	48 10 0
1916-17	1,364,269	171,675	8,226,582	2,070,991	220 3 0	97 3 1	128 7 8	52 2 7
1917-18	1,462,220	190,707	8,679,530	2,170,144	231 4 4	99 15 11	132 8 6	55 10 1
1918-19	1,625,584	208,524	9,906,082	2,340,213	244 5 4	101 7 5	141 19 8	60 19 0

Owing to the lack of data, a comparison of the wages of males and females is not possible prior to 1910. From that date the particulars shown in the above table reveal a steady and continued increase in the average earnings of males and females, both as regards the salaries of managers, overseers, and clerks, and the wages of factory workers generally.

The amount of wages paid during the year 1918-19, £14,080,403, represents an average payment for all employees of £120 9s. 5d., which is an increase of £9 14s. 1d. on the average wage for 1917-18, of £14 11s. 11d. on that for 1916-17, of £18 14s. 5d. on that for 1915, of £21 19s. 5d. on that for 1914, of £25 14s. 8d. on that for 1913, of £29 5s. 5d. on that for 1912, of £36 19s. 5d. on that for 1911, and of £42 5s. 5d. on that for 1910. Concurrent with this increase there was a slight change in the relative proportions of male and female workers during the eight years, the percentages of male to total employees being 67 in 1912, 1913, 1914, and 1915, 66 in 1911, 65 in 1909, 1910, 1917-18, and 1918-19, and 64 in 1916-17. The above average wage for 1918-19 (£120 9s. 5d.) is probably below the average according to the determinations of Wages Boards. This is mainly accounted for by the fact that the former sum is based on the actual payments to workers, while the latter represents the average of the sums to which they would be entitled if they worked throughout the whole year. There is, of necessity, a difference between the two averages, as all hands are not continuously employed, nor are all factories working throughout the whole year.

The cost of production and the value of the output in each class of manufacturing industry during the year 1918-19 are given in the subjoined statement:—

FACTORY COSTS AND OUTPUT, 1918-19.

Class of Industry.	Cost of—			Value of Output.
	Raw Materials Used.	Fuel, Light, and Power Used.	Salaries and Wages Paid.	
	£	£	£	£
Treating raw material, product of pastoral pursuits, &c. . .	6,479,059	79,368	571,915	8,033,014
Treating oils and fats, animal, vegetable, &c. . .	806,412	31,348	112,067	1,209,060
Processes in stone, clay, glass, &c. . .	357,474	183,408	612,200	1,514,021
Working in wood . .	1,452,602	27,961	1,022,730	3,185,881
Metal works, machinery, &c. .	3,721,469	210,832	2,305,917	7,357,320
Connected with food and drink, &c. . .	22,442,516	402,593	2,392,764	28,644,340
Clothing and textile fabrics, &c. . .	9,148,734	109,881	3,246,179	14,885,688
Books, paper, printing, &c. . .	2,140,416	61,817	1,161,389	4,362,340
Musical instruments, &c. . .	30,058	726	36,252	82,769
Arms and explosives . .	380,059	10,788	95,971	561,894
Vehicles, saddlery, harness, &c. .	701,075	17,759	543,181	1,547,248
Ship and boat building and repairing . . .	145,277	5,530	136,907	353,910
Furniture, upholstery, and bedding . . .	627,585	9,879	327,169	1,167,282
Drugs, chemicals, and by-products . . .	1,224,848	32,660	290,610	1,977,480
Surgical and other scientific instruments . . .	13,984	647	14,980	41,508
Jewellery, time-pieces, and plated-ware . . .	249,640	3,900	136,982	485,882
Heat, light, and power . .	741,257	217,015	702,329	2,656,509
Leatherware, n.e.i. . .	355,580	2,120	74,000	494,870
Minor wares, n.e.i. . .	1,080,692	48,892	296,861	1,634,661
Total . . .	52,098,737	1,457,124	14,080,403	80,195,677

The difference between the sum of the first three columns and the last column represents the amount available for miscellaneous expenses, interest, and profit. The proportions which this margin and the chief items of the cost of production bear to the total value

of production in each class of industry are shown in the following table:—

PROPORTIONATE VALUE OF COSTS, ETC., TO PRODUCTION
IN FACTORIES, 1918-19.

Class of Industry.	Percentage of Costs, &c., on Total Value of Production.			
	Materials.	Fuel, Light, &c.	Wages.	All other Expenditure, Interest, and Profit.
Treating raw material, product of pastoral pursuits, &c.	80·66	0·99	7·12	11·23
Treating oils and fats, animal, vegetable, &c.	66·68	2·59	9·27	21·46
Processes in stone, clay, glass, &c.	23·61	12·11	40·44	23·84
Working in wood	45·59	0·88	32·10	21·43
Metal works, machinery, &c.	50·58	2·87	31·34	15·21
Connected with food and drink, &c.	78·35	1·41	8·35	11·89
Clothing and textile fabrics, &c.	61·46	0·74	21·81	15·99
Books, paper, printing, &c.	49·07	1·42	26·62	22·89
Musical instruments, &c.	36·32	0·88	43·80	19·00
Arms and explosives	67·64	1·92	17·08	13·36
Vehicles, saddlery, harness, &c.	45·31	1·15	35·11	18·43
Ship and boat building and repairing	41·05	1·56	38·68	18·71
Furniture, upholstery, and bedding	53·76	0·85	28·03	17·36
Drugs, chemicals, and by-products	61·24	1·65	14·70	21·71
Surgical and other scientific instruments	33·69	1·56	36·09	28·66
Jewellery, time-pieces, and plated-ware	51·38	0·80	28·19	19·63
Heat, light, and power	27·90	8·17	26·44	37·49
Leatherware, n.e.i.	71·85	0·43	14·95	12·77
Minor wares, n.e.i.	66·11	2·99	18·16	12·74
Total	64·96	1·82	17·56	15·66

There are considerable variations in the proportions which the cost of materials and the expenditure on wages bear to the total output in the different classes of industries. These are, of course, due to the difference in the treatment required to present the raw material in its manufactured form. Thus in brickworks, &c., the cost of wages represents 40 per cent. and that of raw materials 24 per cent. of the value of the finished article, whilst in the industries connected with food and drink the expenditure on wages amounts to 8 per cent. and that on raw materials to over 78 per cent. of the value of the output.

Cost of
production,
1909 to
1918-19.

In the next table the cost of production, the value of the output of factories, and the balance available for profit and miscellaneous expenses are compared for the years 1909 to 1918-19 :—

**COST OF PRODUCTION AND VALUE OF OUTPUT OF
FACTORIES, 1909 TO 1918-19.**

Year.	Cost of Production.				Total Value of Output.
	Materials.	Fuel, Light, and Power.	Salaries and Wages.	All other Expenditure, Interest, and Profit.	
	£	£	£	£	£
1909	19,706,530	566,768	6,807,851	5,817,086	32,898,235
1910	21,941,255	639,135	7,600,932	6,479,532	36,660,854
1911	25,029,525	637,497	8,911,019	7,169,822	41,747,863
1912	27,002,302	683,376	10,102,244	7,622,851	45,410,773
1913	28,465,699	739,835	10,714,336	8,016,777	47,936,647
1914	28,986,694	804,325	11,099,940	8,549,026	49,439,985
1915	30,728,743	834,966	11,036,345	8,866,039	51,466,093
1916-17 ..	37,103,750	1,024,156	11,833,517	10,085,861	60,047,284
1917-18 ..	42,133,636	1,248,186	12,502,601	11,182,292	67,066,715
1918-19 ..	52,098,737	1,457,124	14,080,403	12,559,413	80,195,677

These figures are reduced in the appended statement to their proportionate value of the total output.

**PROPORTION OF OUTLAY TO OUTPUT OF FACTORIES,
1909 TO 1918-19.**

Year.	Proportion of Outlay to Output.				Total.
	Materials.	Fuel, Light, and Power.	Salaries and Wages.	Other Expenses, Interest, and Profit.	
	%	%	%	%	%
1909	59·9	1·7	20·7	17·7	100·0
1910	59·9	1·7	20·7	17·7	100·0
1911	60·0	1·5	21·3	17·2	100·0
1912	59·5	1·5	22·2	16·8	100·0
1913	59·4	1·5	22·4	16·7	100·0
1914	58·6	1·6	22·5	17·3	100·0
1915	59·7	1·6	21·5	17·2	100·0
1916-17 ..	61·8	1·7	19·7	16·8	100·0
1917-18 ..	62·8	1·9	18·6	16·7	100·0
1918-19 ..	65·0	1·8	17·5	15·7	100·0

The ratio of salaries and wages to the value of the output of factories was 19·6 per cent. on the average of the past five years as against 21·6

per cent. for the period 1909-13. The cost of materials was 62 per cent. of the value of output in the period 1914 to 1918-19 as compared with 59·7 per cent. in the years 1909-13. The proportionate outlay on fuel, light, and power has remained fairly uniform during the past ten years. The balance available for miscellaneous expenses, rent, interest, and manufacturers' profit was £16 12s. 6d. in every £100 of the total output value in the period 1914 to 1918-19 as against £17 3s. 1d. in the preceding five-year period.

Capital invested in manufacturing plant and premises. In the following statement the amount of capital invested in machinery, plant, land, and buildings used in connexion with the various classes of manufacturing industries is shown for the year 1918-19 :—

VALUE OF MACHINERY AND PLANT AND LAND AND BUILDINGS CONNECTED WITH FACTORIES, 1918-19.

Class of Industry.	Value of Machinery and Plant.	Value of Land and Buildings.
	£	£
Treating raw material, product of pastoral pursuits, &c.	494,455	566,135
Treating oils and fats, animal, vegetable, &c.	157,580	150,925
Processes in stone, clay, glass, &c.	529,785	502,670
Working in wood	615,675	448,970
Metal works, machinery, &c.	1,946,295	1,929,350
Connected with food and drink, &c.	2,755,860	3,336,215
Clothing and textile fabrics, &c.	1,158,355	2,358,925
Books, paper, printing, &c.	1,069,830	1,037,765
Musical instruments, &c.	8,350	45,200
Arms and explosives	193,490	169,510
Vehicles, saddlery, harness, &c.	161,940	622,645
Ship and boat building and repairing	112,500	257,445
Furniture, upholstery, and bedding	99,000	350,755
Drugs, chemicals, and by-products	357,135	444,385
Surgical and other scientific instruments	6,730	28,680
Jewellery, time-pieces, and plated-ware	37,480	142,870
Heat, light, and power	3,645,620	1,017,140
Leatherware, n.e.i.	18,530	66,760
Minor wares, n.e.i.	276,610	197,170
Total	13,645,220	13,673,515

The capital invested in plant, buildings, &c., used in connexion with three classes of industries—heat, light and power; food and drink; and metal works and machinery—amounted to £14,630,480, or slightly more than one-half of the total for all manufacturing industries.

The total value of machinery and plant and that of land and buildings used in connexion with factories are shown in the next table for the past ten years :—

VALUE OF MACHINERY AND PLANT AND LAND AND BUILDINGS CONNECTED WITH FACTORIES, 1909 to 1918-19.

Year.					Value of Machinery and Plant.	Value of Land and Buildings.
					£	£
1909	..	..	..	..	7,140,304	8,642,344
1910	..	..	..	..	7,601,085	9,012,263
1911	..	..	..	..	8,336,373	9,921,516
1912	..	..	..	..	9,095,134	10,362,661
1913	..	..	..	..	10,022,429	10,753,309
1914	..	..	..	..	10,727,526	11,248,120
1915	..	..	..	..	11,068,949	11,460,123
1916-17	..	..	..	..	11,732,062	12,052,227
1917-18	..	..	..	..	12,612,797	12,847,485
1918-19	..	..	..	..	13,645,220	13,673,515

It will be seen from these figures that the value of machinery and plant nearly doubled between 1909 and 1918-19, whilst that of the land and buildings showed an increase of £5,031,171; or 58 per cent., in the same interval.

In the appended table the number of accidents in factories is given for the past sixteen years. These particulars relate to establishments which came within the scope of the Factories Acts in force in the years specified, and not to those classified for statistical purposes in the preceding tables.

ACCIDENTS IN FACTORIES.

Year.		Number of Employees.	Number of Accidents.	Percentage of Accidents to Number of Employees.
1903	..	57,767	175	·303
1904	..	60,977	189	·310
1905	..	63,270	170	·269
1906	..	67,545	205	·303
1907	..	71,968	275	·382
1908	..	76,210	294	·385
1909	..	79,348	287	·361
1910	..	83,053	331	·398
1911	..	88,694	337	·379
1912	..	104,746	389	·371
1913	..	110,487	407	·368
1914	..	110,660	391	·353
1915	..	91,888	464	·505
1916	..	92,320	503	·544
1917	..	97,561	442	·453
1918	..	104,242	459	·440

**Manufactures—
Penal
Department.**

The foregoing tables do not include particulars relating to work of various kinds done by the Penal Department at Pentridge. At this establishment the manufacture of clothing, brushware, boots, mats, blankets, flannel, underclothing, bread, &c., and printing are carried on. The estimated value of the output for 1918-19 was £20,370, and that of the materials used was £13,830. The articles produced are used principally by Government Departments.

**Value of
Victorian
production.**

The value of all articles produced or manufactured in Victoria has been compiled from actual returns or estimates in the office of the Government Statist, and the results are set forth in the following table:—

VALUE OF VICTORIAN PRODUCTION, 1914 to 1918-19.

Produce.	Value in—				
	1914.	1915.	1916-17.	1917-18.	1918-19.
<i>Cultivation.</i>	£	£	£	£	£
Wheat	1,391,647	10,972,820	10,232,488	7,547,510	5,994,469
Oats	397,078	942,607	828,929	965,973	1,175,882
Barley, malting ..	105,602	171,966	158,735	207,275	272,567
„ other	56,297	122,631	140,746	166,104	188,489
Maize	234,597	191,645	163,638	243,766	190,522
Other Cereals ..	46,676	52,900	49,592	60,961	49,915
Grass and Clover					
Seed	495	6,022	4,446	7,445	5,405
Potatoes	800,269	1,017,563	550,086	519,605	1,079,496
Onions	167,098	105,244	118,423	141,343	236,451
Other Root Crops ..	17,379	16,505	9,892	10,640	16,813
Hay	4,181,827	4,098,664	2,033,990	2,801,158	4,622,523
Straw	152,640	104,495	78,302	52,424	71,263
Green Forage* ..	418,962	181,278	149,001	167,709	368,205
Tobacco	2,254	1,840	840	943	6,513
Grapes, not made into					
wine, raisins, &c...	30,826	31,715	23,454	11,268	26,674
Raisins, ordinary ..	28,544	66,410	41,832	40,811	79,930
„ sultanas	152,633	295,469	185,616	150,712	237,738
Currants	37,085	123,473	91,355	92,803	139,880
Wine	63,087	138,036	146,549	90,008	202,396
Hops	5,900	3,990	4,875	4,190	3,654
Other Crops	64,388	58,293	64,821	62,450	79,526
Fruit grown for sale					
in orchards and					
gardens.. ..	498,151	769,611	602,584	765,405	893,108
Fruit in private					
orchards and gar-					
dens	7,820	7,476	7,680	6,620	14,895
Market Gardens ..	323,375	284,475	268,650	284,050	405,790
Total	9,184,630	19,765,128	15,956,524	14,401,173	16,362,104

* Exclusive of area under sown grasses.

VALUE OF VICTORIAN PRODUCTION, 1914 TO 1918-19—*continued.*

Produce.	Value in—				
	1914.	1915.	1916-17.	1917-18.	1918-19.
<i>Dairying and Pastoral.</i>	£	£	£	£	£
Milk consumed in natural state ..	1,413,980	1,895,160	1,646,520	1,755,620	2,034,510
Butter made ..	2,998,820	2,528,360	4,224,420	4,229,310	4,868,670
Cheese made ..	117,210	129,110	223,040	197,750	257,880
Cream made (not for butter) ..	25,960	13,760	26,840	25,690	29,290
Condensed, Concentrated, and Powdered Milk ..	381,640	386,456	777,810	1,005,580	1,331,240
Horses ..	..	..	262,020	70,880	97,640
Cattle ..	1,766,473	226,480	4,774,610	5,270,940	5,383,660
Pigs ..	735,065	472,050	825,450	1,002,250	884,280
Sheep (without wool) ..	1,134,678	784,575	3,928,860	3,641,630	3,288,330
Wool ..	3,410,913	4,066,003	5,927,814	6,410,077	7,621,410
Total ..	11,984,739	10,501,954	22,617,384	23,609,727	25,796,910
<i>Mining.</i>					
Gold ..	1,755,236	1,397,793	1,090,194	857,500	674,655
Coal ..	289,099	275,343	216,875	345,830	367,640
Stone from Quarries (including limestone) ..	183,376	209,539	125,106	171,990	189,770
Other Metals and Minerals ..	51,298	64,022	104,212	124,910	110,260
Total ..	2,279,009	1,946,697	1,536,387	1,500,230	1,342,325
<i>Forest Produce.</i>					
Timber (Forest Saw-mills only) ..	316,400	234,700	297,660	355,430	503,470
Firewood (estimated) ..	505,350	506,260	521,770	567,910	604,650
Bark for Tanning ..	91,200	140,400	117,230	116,460	120,300
Total ..	912,950	881,360	936,660	1,039,800	1,228,420
<i>Miscellaneous.</i>					
Honey and Beeswax ..	9,704	18,774	30,504	80,473	37,639
Poultry production (estimated) ..	1,743,860	1,747,000	1,714,770	2,160,650	2,738,620
Rabbits and Hares ..	176,104	114,800	110,770	266,490	210,130
Fish ..	104,007	109,429	121,634	137,423	172,977
Total ..	2,033,675	1,990,003	1,977,678	2,645,036	3,159,366
Total Value of Primary Products ..	26,395,003	35,085,142	43,024,633	43,195,966	47,889,125
Manufacturing—Added Value* ..	19,633,098	20,053,552	21,678,039	23,976,732	26,880,485
Grand Total ..	46,028,101	55,138,694	64,702,672	67,172,698	74,769,610

* Exclusive of value of output of butter and cheese factories, and forest saw-mills (as regards Victorian timber) which is included above under the headings "Dairying and Pastoral" and "Forest Produce."

The production under the heading "Cultivation" showed an increase on that of the two preceding years, but was lower than in the year 1915, when it reached £19,765,128. In 1918-19 dairying and pastoral production was higher, and mining production lower, than at any time during the past ten years. Forest produce, on the other hand, showed a distinct improvement, the value having increased from £658,250 in 1909 to £1,228,420 in 1918-19.

The total value of primary production in 1918-19 was £47,889,125, or £4,693,159 more, and that of manufactures was £26,880,485, or £2,903,753 more than in the preceding year.

The values of different kinds of production per head of the total population in each of the last five years were as follows:—

**VALUE OF PRODUCTION PER HEAD OF POPULATION,
1914 to 1918-19.**

Produce.	Value of Produce per head in—				
	1914.	1915.	1916-17.	1917-18.	1918-19.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Cultivation ..	6 9 1	13 17 2	11 8 0	10 4 2	11 8 9
Dairying and Pastoral ..	8 8 5	7 7 3	16 3 2	16 14 8	18 0 7
Mining ..	1 12 0	1 7 5	1 1 11	1 1 3	0 18 9
Forest ..	0 12 10	0 12 5	0 13 5	0 14 9	0 17 2
Miscellaneous ..	1 8 7	1 7 10	1 8 3	1 17 6	2 4 2
Total Primary Produce ..	18 10 11	24 12 1	30 14 9	30 12 4	33 9 5
Manufactures ..	13 15 9	14 1 3	15 9 9	16 19 10	18 15 9
Grand Total	32 6 8	38 13 4	46 4 6	47 12 2	52 5 2

The figures show the steadily increasing importance of the manufacturing industries. Relatively to population, the amount added in the process of manufacture to the value of the raw materials used was 36 per cent. higher in 1918-19 than in 1914.