PRODUCTION.

LAND SETTLEMENT, ETC.

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

	Acres.
Lands alienated in fee simple	24,345,425
Lands in process of alienation	7,751,415
Crown lands	24,148,920
Total	56,245,760
Crown lands comprise—	
Permanent forests	3,360,240
Timber Reserves	744,400
Water Reserves	316,092
Reserves for Agricultural Colleges, &c. ..	85,100
Reserves in the Mallee	397,881
Other Reserves	305,619
Roads	1,739,850
Water frontages, beds of rivers, lakes, &c. Unsold land in cities, towns, and boroughs	2,420,876
Land in occupation under—	
Grazing Area Leases	2,502,556
Perpetual Leases	228,543
Other Leases	127,112
Temporary Grazing Licences	9,621,642
Unoccupied	2,299,009
Total	24,148,920

Alienation of land, 1900 to 1916.

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 proportion 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 1916.

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	257,170	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

* Exclusive of Mallee selectors.

Amount realized by sale of Crown lands.

From the period of the first settlement of the State to the end of 1916 the amount realized by the sale of Crown lands was £33,486,214, 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.

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, 1916.

Location.	Classification.					Total.
	Agricultural and Grazing.				Auriferous.	
	First.	Second.	Third.	Unclassed.		
County.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Buln Buln	2,056	48,136	44,337	..	..	94,529
Croajingolong	2,510	6,056	553,110	840,400	14,150	1,416,226
Dargo	..	..	87,880	435,400	77,800	601,080
Tambo	..	..	203,050	398,800	900	602,750
Tanjil	..	..	96,190	363,650	67,000	526,840
Wonnangatta	..	39	129,618	942,100	..	1,071,757
Bogong	3,300	12,395	200,175	208,692	124,989	549,551
Benambra	..	372	220,747	320,994	75,994	618,107
Delatite	743	21,901	202,064	157,100	67,896	449,704
Moira	41	..	9,336	..	..	9,377
Anglesey	37	4,452	62,526	..	8,243	75,258
Bourke	..	265	100	..	..	365
Dalhousie	..	951	3,324	..	6,082	10,357
Evelyn	..	21,510	1,205	..	3,837	26,552
Mornington	..	4,680	44,327	..	..	49,007
Bendigo	85	715	6,098	..	8,704	15,602
Rodney	137	103	125	..	2,660	3,025
Borung	..	343	36,757	..	9,775	46,875
Gladstone	453	1,147	2,275	..	24,400	28,275
Lowan	..	177	44,186	..	..	44,363
Kara Kara	..	163	4,183	..	7,738	12,084
Talbot	20	485	205	..	54,425	55,135
Tatchera	..	70	..	..	..	70
Heytesbury	..	400	165,740	..	..	166,140
Polwarth	705	9,476	35,544	..	..	45,725
Grant	..	75	25,487	..	17,290	42,852
Grenville	..	20	..	..	15,640	15,660
Ripon	..	50	13,993	..	7,990	22,033
Normanby	65	438	61,168	..	..	61,671
Dundas	425	135	20,595	11,500	..	32,655
Villiers	..	..	238	..	..	238
Follett	..	..	11,170	..	..	11,170
Totals	10,577	134,554	2,285,753	3,678,636	595,513	6,705,033
Throughout the State	Swamp or reclaimed lands					1,491
" "	Lands which may be sold by auction ..					9,833
The north-western portion of the State	Mallee lands (such as are suitable to be eventually classed 1st, 2nd, or 3rd class for selection)					5,204,294
Total area remaining for disposal						11,920,651

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

Pastoral occupation of Crown lands.

The particulars of Crown lands leased for pastoral occupation on 31st December, 1916, are as follows :—

Number of Licences and Leases ..	13,809
Area (acres)	12,433,959
Annual Rental	£40,581

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.

For the purposes of administration, the State is divided into seventeen districts, in each of which there is a land office under the management of a land officer. These offices are situated at Melbourne, Ararat, Alexandra, Bairnsdale, Ballarat, Beechworth, Benalla, Bendigo, Geelong, Hamilton, Horsham, Omeo, Sale, Seymour, St. Arnaud, Stawell, and Warracknabeal, and the officers stationed at these centres are in a position to point out the exact localities of available lands to intending selectors. Pamphlets with fuller details are obtainable from the Crown Lands Inquiry Office, Melbourne.

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

Land Acts. The present system of disposing of the Crown lands of Victoria dates from the passing of *The Land Act* 1884 and *The Mallee Pastoral Leases Act* 1883, which, with subsequent amendments, were consolidated by the *Land Act* 1890. This Act was in turn amended by the Land Acts 1891, 1898, 1900, and 1900 (No. 2); and by the *Settlement on Lands Act* 1893 and the *Mallee Lands Act* 1896. These Acts were consolidated in the *Land Act* 1901, which has been amended by the Land Acts of 1903, 1904, 1905, 1909, and 1911, and all these have been consolidated in the *Land Act* 1915. With the *Land Act* 1898 (Part III.) was introduced a system by which the Government was enabled to repurchase private lands for closer settlement. This subject is dealt with on page 675.

Agricultural and grazing lands. The Crown lands termed Agricultural and Grazing lands are arranged in three classes—first, second, and third.

The lands of the first class, comprising 10,577 acres, are situated principally in the counties of Buln Buln, Croajingolong, and Bogong, are heavily timbered, and consist for the most part of good chocolate

soil of volcanic origin, and the grey soil of the coal-bearing country. The second class lands, embracing 134,554 acres, are fairly distributed throughout the State, and comprise silurian and granite ranges, and lower lands of tertiary formation. A large portion of these lands has chiefly a grazing value, though parts, comprising creek flats and gullies, are suitable for cultivation, while large areas are specially suitable for vineyards and orchards. The area of third class lands, which are to be found in almost every county in the State, is very extensive, amounting to 2,285,753 acres.

Grazing area leases.

Grazing area leases may be issued for any term of years expiring not later than 29th December, 1920, for areas not exceeding 200, 640, or 1,280 acres of first, second, or third class land, at annual rentals, according to classification and valuation, of not less than 3d., 2d., and 1d. per acre respectively. The areas must be enclosed by a fence within the first three years, or, with approval, otherwise improved to an amount equal to the cost of fencing. A lessee may at any time apply to select from his area, as provided in the lease, under the provisions of sections 32 to 44 of the *Land Act* 1915. Grazing area leases are transferable with consent obtained through the Department.

Selection purchase eases.

A person desirous of selecting land and obtaining the freehold thereof may do so by either taking up a grazing area lease and selecting therefrom as described in the preceding paragraph, or by taking up direct a selection purchase lease. Selection purchase leases of agricultural and grazing lands may be acquired under the provisions of the table on the next page, with or without residence condition. The Acts provide for either 20 or 40 years' tenure (at option) with half-yearly payments towards the purchase of areas not exceeding 200, 320, or 640 acres of first, second, or third class land respectively. Specified conditions must be complied with, and improvements effected during the first six years, as indicated in the appended explanatory table, after which the Crown grant may be obtained, if desired, upon payment in full of the balance of the purchase money at any time during the currency of the lease. The lease is not negotiable during the first six years, though a lien may be registered upon the improvements effected. After six years the lease may be operated upon as freely as a Crown grant if all conditions have been complied with. The selector under residence conditions is required to reside on the land, or within 5 miles thereof, for a minimum of three years and nine months during the first six years, but substituted occupation by a selector's wife, or child over 18 years of age, or parent dependent for support, may be sanctioned.

EXPLANATORY SELECTION TABLE.

Classification of Land.	Maximum Area.		(*a*) Value per Acre.			(*b*) Value of Improvements per Acre to be effected by a Licensee before the end of specified Periods.									
				Annual Rental (payable half-yearly).		Residence Lease (Section 49 of *Land Act* 1915).				Non-Residence Lease (Section 50 of *Land Act* 1915).					
	Ordinary Crown Lands.	Mallee Lands.	Total (Minimum).	20-Year Period (Residence or Non-Residence).	40-Year Period (Residence only).	2nd Year.	3rd Year.	4th Year.	6th Year.	1st Year.	2nd Year.	3rd Year.	4th Year.	5th Year.	6th Year.
	Acres.	Acres.	£ *s.* *d.*	per Acre. £ *s.* *d.*	per Acre. £ *s.* *d.*	£ *s.* *d.*	£ *s.* *d.*	£ *s.* *d.*	Total. £ *s.* *d.*	£ *s.* *d.*	£ *s.* *d.*	£ *s.* *d.*	£ *s.* *d.*	£ *s.* *d.*	Total. £ *s.* *d.*
1st	200	640	1 0 0	0 1 0	0 0 6	0 3 4	0 6 8	0 10 0	1 0 0	0 6 8	0 13 4	1 0 0	1 6 8	1 13 4	2 0 0
2nd	320	1,000	0 15 0	0 0 9	0 0 4½	0 2 6	0 5 0	0 7 6	0 15 0	0 5 0	0 10 0	0 15 0	..	..	0 15 0
3rd	640	1,280	0 10 0	0 0 6	0 0 3	..	0 5 0	..	0 10 0	0 3 4	0 6 8	0 10 0	..	..	0 10 0

(*a*) Under Section 8 of the *Land Act* 1915, if the value of the land is greater than the minimum stated, the half-yearly payments may be increased *pro rata*.

(*b*) Any payment made by an incoming applicant for existing improvements is credited as expenditure, and improvements made in excess for any one year (if maintained) are set off against expenditure required in the next or following years.

Perpetual leases. Instead of selecting by way of selection purchase lease under which the freehold is obtained, a person may acquire a similar area of agricultural and grazing lands under perpetual lease. The annual rental is 4 per cent. of the unimproved value of the land, which is fixed at £1, 15s., or 10s. per acre for first, second, or third class lands respectively. The rent is subject to revision every ten years, but must not exceed 4 per cent. of the unimproved value of the land. Residence on or within 5 miles of the land for six months during the first year, and for eight months during each of the four following years, is necessary; but if one-fourth of the allotment be cultivated during the first two years, and one-half before the end of the fourth year, the residence covenant will not be enforced.

Mallee lands. The "mallee country"—so named from the scrub found growing there—occupies about 11,000,000 acres in the north-west portion of the State. The soil is light chocolate and sandy loam, and in its virgin state is covered with mallee scrub, interspersed with plains lightly timbered with box, she-oak and pines. Since the introduction of the "mallee roller" and the "stump-jump" plough, it has been possible to clear off the scrub at a moderate cost. With the extension of railway facilities and irrigation works successful settlement in this part of the country is rapidly extending. There are now 5,204,294 acres included in the general list of unalienated lands, portions of which, as opportunity offers, may become classified as first, second, or third class lands for selection. The terms of purchase by selection purchase lease are similar to those previously described, viz., for first, second, and third class land, not less than £1, 15s., and 10s. per acre respectively, payable during either 20 or 40 years. Larger areas may be held, however, the maximum being 640 acres, 1,000 acres, and 1,280 acres respectively. In the case of Mallee Perpetual Leases the rental must not exceed 1¼ per cent. of the unimproved value, and, if one-fourth of the area be cultivated within four years, and one-half by the end of the sixth year, or improvements be effected to the extent of 10s., 7s. 6d., or 5s. per acre, according to the classification, residence is unnecessary.

Auriferous lands. The "auriferous lands" unalienated comprise 595,513 acres, and are distributed over nineteen counties in various parts of the State. Any portions which are found to be non-auriferous, or which can be alienated without injury to mining interests, may be reclassed as agricultural and grazing lands for selection. These lands are for the most part suitable for fruit culture and grazing. Annual licences are issued for areas of auriferous lands not exceeding 20 acres on payment of a yearly licence-fee of 5s. for areas of 3 acres or under, of 10s. for areas of from 3 to 10 acres, and of 1s. per acre for areas of over 10 acres. The licensee has the right to use the surface of the land only, cannot assign or sublet without permission, and must either reside on the land or within four months enclose the same with a fence and cultivate one-fifth of the area. He must post notices on the land, indicating that it is auriferous; and

miners must be allowed free access to any part of the land not occupied by buildings. If at any time the mining objections be removed, a licensee who has complied with conditions may surrender the licence—credit being given for all rent paid, occupation, and improvements effected—and obtain a selection purchase lease which enables the freehold to be obtained. Holders of miners' rights, issued under the *Mines Act* 1915, are entitled to occupy for the purpose of residence or business a maximum area of 1 acre or less as fixed by local mining by laws. The fee is £5 per annum for a business licence, and 2s. 6d. for a miner's right, and a habitable dwelling must be erected on the area within four months. After having been in possession for two and a half years, and having erected buildings or other improvements, the holder may apply for leave to purchase his allotment at a price to be determined by the Board of Land and Works.

Special settlement areas. Any area of Crown lands (not being auriferous, nor permanently reserved), on which expenditure has been incurred by the Crown, may be proclaimed a "Special Settlement Area," and surveyed into allotments not exceeding 200 acres. Such allotments may be acquired under Conditional Purchase Lease, with provisions that the land shall at all times be maintained and used for the purpose of residence and agriculture; and, further, that only one such allotment can be held or used by any one person.

Swamp or reclaimed lands. The area of swamp or reclaimed lands unalienated amounts to 1,491 acres. The most important of these are situated at Koo-wee-rup, Moe, and Condah, which have been reclaimed at considerable cost to the Crown. These lands are divided into allotments not exceeding 160 acres. When the value of an allotment has been determined, it may be disposed of in one of four ways, viz., under a 21 years' lease; under perpetual lease, at a rental of 4 per cent. on the value of the land; under a conditional purchase lease, payment extending over 31½ years by 63 half-yearly instalments, including 4½ per cent. interest on the balance of the unpaid purchase money; or by public auction, on terms similar to those explained in the following paragraph.

Lands for sale by auction. The area of country lands specially classed for sale by auction (not including swamp or reclaimed lands) and remaining unalienated on 31st December, 1916, was 9,833 acres. Any unsold land in a city, town, or borough, areas specially classed for sale, isolated pieces not exceeding 50 acres and sites for church or charitable purposes of not more than 3 acres may be sold by auction. The terms are cash, or a deposit of one-eighth of the purchase money and the balance in from 6 to 20 half-yearly instalments with interest at 4 per cent. per annum. There are stringent provisions prohibiting agreements which would prevent fair competition.

Unclassed lands. The area of "unclassed lands" unalienated is 3,678,636 acres. These lands are situated in the counties of Wonnangatta, Croajingolong, Tambo, Tanjil, Benambra, Dargo, Bogong, Delatite, and Dundas. Generally speaking, they are

difficult of access, and large portions are in high altitudes, where cultivation is impossible and grazing impracticable except during the summer months. Areas which are found suitable may as occasion requires be reclassed Agricultural and Grazing lands for selection.

Annual grazing licences. Annual grazing licences may be issued to enter with cattle, sheep, or other animals upon reserves, "pastoral lands," "Mallee lands," or other Crown lands, not required in the meantime for other purposes. Such licences are renewable for a period not exceeding seven years, subject to cancellation at any time during the period. Any fencing erected by a licensee may be removed by him.

Bee ranges. Annual licences for bee farms may be granted (not exceeding three to one individual) for areas of not more than 10 acres in the whole at a rental of 1s. per acre per annum—for conditions see section 133, *Land Act* 1915. A bee range licence may be secured on payment of one half-penny for every acre of Crown land within a radius of 1 mile of the apiary, and for the purpose all suitable timber may be protected from destruction on any area, even though held under grazing lease or licence.

Other leases, purchases, &c. Leases up to 21 years at an annual rental of not less than £5, and annual licences at various rates are issued for different purposes, such as sites for residences, gardens, inns, stores, smithies, butter factories, creameries, brick-works, &c. Licensees who have been in possession of land for five years (if the land is outside the boundaries of a city), may purchase at a price to be determined. In such cases any rents previously paid are credited towards purchase money.

Village settlement. An Act (the *Settlement on Lands Act* 1893, No. 1311) was passed on 31st August, 1893, providing for the establishment of three descriptions of rural settlements, viz. :—Village Communities, Homestead Associations, and Labour Colonies, and certain lands were set apart in connexion therewith.

The Homestead Associations were originally combinations of not less than six persons who desired to settle near each other. These Associations, however, proved unsuccessful, and the section of the Act relating to them was repealed in 1904.

The area originally made available for Village Communities and Homestead Associations was 156,020 acres in 85 different localities in the State. A large portion of that area was, however, found to be unsuitable for Village Settlement purposes, and has been withdrawn from the operation of the Act. The area which a settler could acquire, viz., 20 acres, was altered by the *Land Act* No. 1957 to such an area as would not exceed £200 in value. The total area now occupied is 19,989 acres, on which there are 809 settlers. These figures do not apply to a considerable number of settlers who have surrendered their Village Settlement leases and have become selectors under the *Land Act* No. 1749.

Monetary aid to the extent of £67,379 has been afforded to settlers in these communities and associations by way of loans, but no advances have been made since 1903. At 31st December, 1916, £43,015 of the amount advanced had been repaid by the settlers.

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 1916 there were submitted 408 applications to have brought under the Act land amounting to 25,040 acres in extent, and to £529,076 in value; whilst the land actually brought under the Act during the year by application was 19,147 acres valued at £491,953. Up to the end of 1916 there had been brought under the Act 2,921,372 acres valued at £59,123,320. The number of certificates of title issued in 1916 was 13,625.

Assurance Fund.

When application is made to have land brought under the Transfer of Land Act, a contribution to the assurance fund of ½d. 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, 1915, was £185,596. Receipts during 1915–16 comprised contributions £2,127, interest on stock £2,845, and interest on £75,073, advanced for the purchase of land adjoining the Titles Office, £3,003. Under the provisions of the Special Funds Act 1915, No. 2,800, there was transferred out of the assurance fund, during 1915–16, £50,000 to the Technical Schools Fund, £7,000 to the Agricultural High Schools Fund, and £15,500 to the Lunatic Asylums Fund. The balance at the credit of the assurance fund on 30th June, 1916, was £121,071. The amount paid up to 30th June, 1916, as compensation and for judgments recovered, including costs, was £7,503, representing 39 claims.

CLOSER SETTLEMENT.

Closer Settlement.

Under the provisions of the Closer Settlement Act, the Lands Purchase and Management Board is empowered to expend at the rate of £500,000 per annum in the purchase, for the Crown, of privately owned lands throughout the State, 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 is a permanent condition in the title.

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 Lands Purchase and Management 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, permanent 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 31½ 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 46½ 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 4½ per cent. Each instalment includes interest upon the balance of purchase money remaining unpaid, and is thus 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 arrears 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, and the residence condition may be fulfilled thereafter by any one approved by the Governor in Council.

Farm allotments. Lands for farm allotments are subdivided into suitable areas not exceeding in value a maximum amount of £2,500; and no lease thereof can issue 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 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.

Agricultural labourers' allotments.

Agricultural labourers' allotments are made available in the vicinity of larger holdings, with the object of providing workmen for the farmer, and of providing small areas for agricultural labourers, who in their spare time may work the allotments with the aid of their families. Lands for agricultural labourers' allotments are subdivided into suitable areas not exceeding in value a maximum amount of £350, and no lease thereof can be granted to any person who, at the date of application, is directly or indirectly the owner of any other land in Victoria which, together with the allotment applied for, exceeds such value. Improvements required to be effected by the lessee of an agricultural labourer's allotment are the erection of a dwelling-house of the value of at least £30 within one year from the date of the lease; and the enclosure of the allotment with a substantial fence within two years from the date of the lease. A lessee who has complied with conditions may, at any time, with the Board's consent, transfer, sublet, or mortgage his lease.

Workmen's home allotments.

Workmen's home allotments are made available near centres of population, and, being of comparatively fair size and away from congested areas, provide open surroundings. Only one residence or place of business is permitted to be erected on each allotment. Lands for workmen's home allotments are subdivided into suitable areas not exceeding in value a maximum amount of £250, and no lease thereof can be granted except to a person (*a*) who is engaged in some form of manual, clerical, or other work for hire or reward, and whose salary is not more than £250 per annum; (*b*) who at the date of application is not the owner (either directly or indirectly) of any other land in Victoria which exceeds in area one-eighth of an acre if township or suburban, or 50 acres if country land; and (*c*) whose real and personal estate does not exceed £350. Improvements required to be effected by the lessee of a workman's home allotment are as follows:—The allotment must be fenced, and a substantial dwelling house of the value of at least £50 must be erected thereon within one year and additional improvements of a value of at least £25 made within two years from the date of the lease. A lessee who has complied with conditions may at any time transfer, mortgage, or sublet his allotment, subject to the Board's approval.

Advances to settlers.

The Closer Settlement Act provides for advances by the Lands Purchase and Management 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 or grantee 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 are made on the following bases :—

For a farm allotment.—An amount not exceeding 10 per cent. of the value of the land ; but, where the land is valued at less than £500, a maximum not exceeding £50.

For an agricultural labourer's allotment.—An amount not exceeding £50.

For a workman's home allotment.—An amount not exceeding £50 where the lessee is in intermittent employment, but where in permanent employment the advance may be £150. (In special areas within the Metropolitan district the Board has power to advance up to £250.)

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.

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, 1½-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.

Estates purchased. The following is a complete statement of all estates acquired by the Closer Settlement Board for the purpose of closer settlement at 30th June, 1917, 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, 1917.

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.	
Dry Areas—	acres.	£	£ s. d.				acres.
Wando Vale ..	10,446	63,985	6 2 6	67	..	..	26
Walmer ..	13,769	44,751	3 5 0	42	..	2	6
Whitfield ..	4,247	36,096	8 10 0	33	..	1	236
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	..	..	11
Richmond Vale ..	1,851	11,000	8 11 6	11	..	1	..
Overnewton ..	11,336	71,492	6 4 6	67	..	..	..
Wyuna	23,016	120,876	5 5 0	120	..	10	38
Restdown ..	17,894	60,391	3 7 6	53	..	..	..
Strathkellar ..	10,227	74,150	7 5 0	55	..	6	228
Bona Vista ..	2,060	28,882	14 0 0	32	..	4	12
Cadman's ..	18	844	50 0 0	..	42	..	..
Lara	8,329	45,825	5 10 0	33	..	7	186
Tandarra ..	4,558	21,083	4 12 6	19	..	..	8
Exford	3,054	64,039	8 0 0	45	..	6	4
Colbinabbin ..	19,164	110,198	5 17 6	84	..	..	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	13	..	..	3,010
Pender's Grove ..	233	23,337	100 0 0	..	259	..	..
Phœnix ..	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	..	..	236
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	25	..	..	1,249
Maribyrnong ..	1,112	10,842	9 15 0	12	..	2	..
Kenilworth ..	18,440	55,321	3 0 0	21	..	14	3,600
Doogalook ..	4,640	29,002	6 5 0	17	..	..	..
Werribee ..	15,218	148,802	13 0 0	26	..	..	3,898
Konongwootong ..	10,181	104,363	10 3 0	64	..	16	173
Cornella Creek ..	29,567	121,034	4 15 0	78	..	1	704
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	..	..	..
Eumeralla ..	10,034	57,570	5 13 7	28	..	7	1,864
Morven	8,029	39,533	4 17 6	20	..	..	503
Mt. Widderin ..	8,300	48,634	5 15 6	23	..	..	3
Tooronga ..	101	17,675	178 4 4	..	210	..	..
Nerrin Nerrin ..	6,809	58,497	8 10 0	28	..	..	896
Bellarine ..	204	5,457	26 15 0	6	..	..	49
Daylesford ..	70	2,957	42 5 2	11	..	..	18

* 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, 1917—*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.				acres.
Dry Areas—*continued*.							
Mordialloc ..	460	7,850	17 1 6	..	..	35	23
Thomastown ..	581	11,230	19 5 6	28	..	2	1
Wangaratta ..	796	9,660	12 8 4	16	..	..	427
Warragul ..	98	2,060	21 0 0	3	..	5	..
Belmont ..	113	3,161	28 0 0	..	..	17	..
Highton ..	425	11,032	26 0 0	7	..	..	279
Deepdene ..	2,985	35,742	12 0 0	16	..	..	253
Glenaladale ..	2,109	28,787	13 10 0	16	..	..	44
Cremona ..	1,292	20,140	Various	5	..	1	704
Boisdale ..	2,521	72,174	Various	*36	..	..	620
Pannoo	15,102	98,455	Various	44	..	..	572
Marathon and Willow Grove ..	14,783	58,752	Various	26	..	..	1,869
Dunrobin ..	18,814	119,779	6 6 0	56	..	21	29
Kilmany ..	8,746	106,080	12 0 0	60	..	..	1,122
Westmere ..	934	9,418	10 0 0	..	..	..	707
Waubra.. ..	47	1,042	22 10 0	1	..	11	4
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 Park ..	488	3,671	Various	..	..	..	..
Nanneella ..	738	7,767	Various	6	..	12	18
Cohuna ..	223	2,215	Various	1	..	1	..
Bamawm ..	162	1,391	8 12 0	..	..	..	162
Thornbury ..	10	5,114	..	..	42	..	1
Crown Lands ..	2,904	20,043	Various	13	79	24	37
Sec. 6-11—Purchases ..	51,681	362,617	Various	319	..	12	1,377
Acquired, but not available ..	1	511	..	..	..	..	..
Irrigable Areas—							
Nanneella ..	8,565	78,654	Various	85	..	3	1,641
Bamawm ..	13,365	122,944	Various	142	..	11	1,584
Shepparton ..	9,243	136,839	Various	216	..	41	136
Swan Hill ..	7,358	73,637	Various	121	..	1	1,612
Cohuna	11,531	114,856	Various	98	..	5	2,157
Tongala.. ..	15,228	172,396	Various	184	..	21	2,700
Kyabram ..	993	14,025	Various	19	..	7	257
Koondrook ..	3,423	23,201	Various	25	..	..	1,565
Werribee ..	6,767	128,062	..	86	..	18	2,019
Koyuga ..	4,173	36,228	..	39	..	12	193
Echuca	3,235	29,142	Various	27	..	..	..
Dingee	472	4,160	Various	6	..	8	96
Cornelia Creek ..	2,507	16,501	..	15	..	..	..
Stanhope (including Lauderdale and Bonshaw) ..	7,738	92,339	Various	46	..	3	3,273
Sec. 6-11—Purchases ..	679	6,188	..	5	..	..	203
Acquired, but not available ..	16,437	184,164	..	..	..	..	..
Total ..	571,156	4,277,356	..	3,113	1,041	354	43,017

* 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.

On 30th June, 1917, the Board had 99 properties, with a total area of 571,156 acres, of which 43,017 acres were available for allotment, and 16,437 acres had not at that date been made available for occupation. Portions of estates amounting in the aggregate to 26,299 acres have been sold by public competition and for public reserves without any restrictions, and are not under conditional purchase lease.

Extent of Closer Settlement.

The extent of the settlement effected by the Board at 30th June in each of the years 1913 to 1917 is summarized in the next statement.

CLOSER SETTLEMENT HOLDINGS 1913 TO 1917.

		At 30th June.				
		1913.	1914.	1915.	1916.	1917.
In occupation—						
Number of Holdings ...	...	3,906	4,112	4,227	4,321	4,509
Area	acres	438,321	449,791	460,592	494,965	507,500
Resident Population	...	16,000	16,800	17,200	17,600	17,782
Area unallotted ...	acres	64,550	60,028	56,977	51,879	43,017

The sum of £1,901,878 had been repaid to the Closer Settlement Fund up to 30th June, 1917. Of this amount £1,178,968 has been transferred to revenue to meet interest due to stockholders, £20,000 has been invested to replace amounts written off estates re-valued, and £608,437 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, 1917, being £94,473. The balance of unredeemed stock is now £4,959,486, on which the interest payable amounts to £176,901 per annum. Up to the 30th June, 1917, 10,805 applications for advances aggregating £914,925 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 679 relating to closer settlement estates at 30th June, 1917.

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, 1916.

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	8,825,037,000	1,243,519
Broken River Works ...	Stock and Domestic	...	14,853
		Acre feet.	
Goulburn-Waranga ...	Irrigation, &c. ...	218,090	1,373,945
North-west (Kerang) Lakes	Stock and Domestic	82,650	9,587
Kow Swamp Works ...	Irrigation, &c. ...	40,860	187,084
Loddon River Works ...	" " ...	14,000	167,476
Sugarloaf Reservoir ...	" " ...	(Under construction.)	91,547
		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
		Acre feet.	
Pyke's Creek and Werribee Scheme	Irrigation, &c. ...	14,850	167,027
Irrigation and Water Supply Districts (18) ...	" " ...	...	1,604,767
Waterworks Districts (15)...	Stock and Domestic	...	1,096,660
First Mildura Irrigation and Water Supply Trust ...	Irrigation	...	87,232
		Gallons.	
Waterworks Trusts (97) ...	Stock and Domestic	1,110,387,500	1,206,938
Municipal Corporations (28)...	" " ...	3,093,189,000	700,832
Abolished Irrigation and Water Supply Trusts (8) ...	Irrigation	...	31,953
Miscellaneous Expenditure ...	... ...	...	161,573
Melbourne and Metropolitan Board of Works	Domestic	6,460,000,000	4,835,628
Geelong Waterworks Trust...	"	1,468,157,000	603,118
Total	... ...	...	13,668,697

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, 1916, was £1,559,786. Further particulars relating to this Board will be found on page 281, Part IV., of this work.

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., £147,442.

Expenditure and Advances for Waterworks.

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, 1916.
	£	£	£	£	£	£
State Works	3,339,996	..	2,798*	..	..	3,339,996
Irrigation and Water Supply Districts (18)	1,604,767	..	15,406	575,152	13,623	1,015,992
First Mildura Irrigation and Water Supply Trust ..	87,232	..	..	..	1,683	85,549
Waterworks Districts (15) ..	1,096,660	..	46,439	169,927	32,016	894,717
Waterworks Trusts (97) ..	1,162,653	6,871	37,414	130,989	108,974	929,561
Geelong Water Supply Works	455,676	..	..	..	265,000	190,676
Municipal Corporations (19) ..	691,289	43,633	..	165,870	118,534	450,518
,, ,, (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	161,573	..	..	..	..	161,573
Total	11,831,033	50,850	102,300	1,073,618	2,179,897	8,628,368

* 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, 1916, amounted to £26,559, viz., £11,382 against the First Mildura Trust, £13,127 against Waterworks Trusts, and £2,050 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 the progress made since 1909, the year in which these two factors were first put into operation.

PROGRESS OF IRRIGATION IN CLOSER SETTLEMENT AREAS.

District (having allotted Water Rights).	Area Irrigated.	
	1909–10.	1916–17.
Supplied from the Goulburn—	Acres.	Acres.
Shepparton	..	10,270
Rodney	32,356	56,681
Tongala	2,270	4,164
Rochester	500	18,437
Dingee	..	1,140
Tragowel Plains	20,000	30,737
Supplied from the Murray—		
Cohuna	12,000	14,528
Gannawarra	7,825	14,037
Koondrook	5,029	13,260
Swan Hill	5,410	8,676
Nyah	569	1,526
Merbein	202	5,271
Supplied from the Werribee—		
Bacchus Marsh	31	4,249
Werribee	..	2,929
Total	86,192	185,905

Progress of Settlement in Irrigation Districts.

The demand for blocks in the Irrigated Closer Settlement Areas in 1916–17 was slightly greater than in the previous year, this being due to some extent to the desire of returned soldiers to settle on irrigable farms. During the year the Water Supply Commission granted blocks to 127 applicants, 19 of whom were returned soldiers, while the Lands Department made available 400 acres known as the "mid area" between Merbein and Mildura. After the Commission had reticulated this area, it was divided into 23 irrigation blocks, which were all allotted to returned soldiers. The total area now settled in the Irrigation Districts as a whole is over 82,000 acres. Of this area 27,000 acres are under lucerne, 12,000 acres under fruit, and 15,000 acres under other crops. The following table shows the areas purchased and subdivided by the State in Irrigation Districts, the number of families on such areas when purchased, and the number now occupying blocks under the State's Closer Settlement scheme:—

CLOSER SETTLEMENT IN IRRIGATION DISTRICTS.

Closer Settlement Estates.	Area of Lands purchased by the State.	Properties Subdivided.					No. of Closer Settlement Blocks now occupied.	Increase in No. of Families.
		Area.	Number.	No. of families thereon when purchased.	Subdivided into—			
					No. of Closer Settlement Blocks.	Average Area.		
	acres.	acres.				acres.		
Shepparton ..	9,200	9,200	21	20	269	32	258	238
Stanhope ..	20,900	8,200	2	9	153	49	51	42
Kyabram ..	3,000	1,000	1	3	31	30	24	21
Tongala ..	15,200	15,200	31	30	242	60	196	166
Cornelia Creek ..	2,500	2,500	Pt. 1	..	14	176	14	14
Koyuga ..	4,200	4,200			61	65	49	49
Nanneella ..	8,600	8,600	16	6	112	74	88	82
Echuca ..	3,200	3,200	6	4	26	122	26	22
Bamawm ..	13,400	13,400	28	21	173	73	149	128
Dingee ..	500	500	3	1	18	25	14	13
Cohuna ..	11,500	11,500	27	8	130	85	95	87
Koondrook ..	3,400	3,400	5	4	41	80	25	21
Swan Hill No. 1	5,400	5,400	18	9	81	65	65	56
Swan Hill No. 2 (Burtons)	1,500	1,500	1	1	54	25	44	43
Swan Hill No. 3 (Crown lands)	500	500	1	..	18	27	9	9
Werribee ..	8,000	6,700	1	6	145	43	102	96
	111,000	95,000	162	122	1,568	..	1,209	1,087
Murray Frontage Settlements.								
Nyah ..	2,900	2,900	25	5	141	20	128	123
Merbein ..	6,400	6,400	Crown lands	..	239	26	239	239
	120,300	104,300	187	127	1,948	..	1,576	1,449

The figures show that the settlements referred to in the above table were supporting more than twelve times as many families in 1917 as there were on the same areas when they were purchased. In addition to this, the improvements in cultivation rendered possible by irrigation must be taken into consideration.

The total area now subdivided is about 104,000 acres which, after making the necessary deductions for roads, channels, and township reserves, has been made available in 1948 blocks of an aggregate area of 100,000 acres.

There are now available, including lands at Nyah and Merbein, 374 allotments, in sizes varying from 2 to 100 acres. In addition, there is in reserve an area of about 16,000 acres, mainly at Stanhope, which will be subdivided and made available as required. The terms upon which these allotments may be acquired are explained on page 675.

Water Supply Construction Works, 1916-17.

The construction of storage works by the State Rivers and Water Supply Commission was continued during the year. The Melton Reservoir, on the Werribee River, was completed and filled to its full capacity of 17,000 acre feet. 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, were advanced as far as the abnormally wet season would permit.

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

The recently completed Fyan's Lake Storage—capacity 17,100 acre feet—was filled and brought into use, and the embankment works for converting Taylor's Lake into a controllable storage were well advanced. This reservoir will hold 30,000 acre feet.

Another work of considerable importance that has been taken in hand is the construction of a main channel to connect the channels of the Long Lake and Tyntynder Waterworks Districts with the Wimmera-Mallee System. When this work is completed, these districts, hitherto supplied from the Murray River by pumping, will be supplied, with equal efficiency and at a lower cost, from the Wimmera River by gravitation. The comprehensive Wimmera-Mallee gravitation channel system will then serve 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 3,600 miles.

The enlargement of the Upper Coliban Reservoir was completed during the year, its storage capacity having been increased by 2,000,000,000 gallons. This reservoir, in conjunction with that on the same river at Malmsbury and several subsidiary reservoirs, supplies the Bendigo and Castlemaine districts with water for domestic and stock

use, and for irrigation and mining purposes. The aggregate storage capacity of the reservoirs of the Coliban System is now 10,826,000,000 gallons, or 39,860 acre feet.

Naval Base and Mornington Peninsula Water Supply Scheme.

At the request of the Naval authorities, a scheme was prepared for the supply of water to the Naval Base which is being established at Crib Point, Western Port. It was found that efficiency with economy could best be secured by providing at the same time a domestic supply for the several townships and bayside resorts en route, and the scheme adopted includes these important services.

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

The scheme is estimated to cost £156,000. The works are already well advanced, and those portions which more directly affect the Naval Base are being expedited, so as to give water to that important area as early as possible in 1918.

When the works now in hand are completed, the total storage capacity of the reservoirs under the Commission's control will be, in round figures, 1,000,000 acre feet.

Total area irrigated.

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

IRRIGATED AREAS: HOW UTILIZED.

Crop.	1909–10.	1913–14.	1914–15.	1915–16.	1916–17.
	acres.	acres.	acres.	acres.	acres.
Cereals	23,715	74,927	74,658	61,663	18,790
Lucerne	24,124	55,535	71,217	70,372	74,042
Sorghum and other annual fodder crops	8,094	21,374	37,759	15,412	14,707
Pastures	50,541	110,193	81,463	82,622	87,458
Vineyards, orchards, and gardens ..	17,524	26,489	28,666	32,918	38,246
Fallow	4,988	8,536	13,368	5,621	3,220
Miscellaneous ..	785	2,233	2,214	2,399	4,242
	129,771	299,287	309,345	271,007	240,705
Details not available (private diversions)..	8,000	18,000	15,000	17,000	17,000
Total ..	137,771	317,287	324,345	288,007	257,705

Notwithstanding the unusually wet season in 1916-17 the area irrigated was within 3,000 acres of the average of the preceding six years, which included a drought period. Of the total area irrigated in 1916-17, for which details of crops are available—240,705 acres—the percentages devoted to different purposes were as follows:—Pastures, 36; lucerne, 31; cereals, 8; vineyards, orchards, and gardens, 16; sorghum and other annual fodder crops, 6; fallow, 1; and miscellaneous, 2.

Mildura Irrigation Settlement.

The Mildura Irrigation Settlement, on the Murray River, was established in 1887 under the management of the Chaffey Brothers Limited, and in 1895 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 1916.

1891	April (Census)	...	2,321	1913	December	...	6,300
1896	September ...	...	2,000	1914	"	...	7,250
1901	March (Census)	...	3,325	1915	"	...	7,618
1911	April (Census)	...	6,119	1916	"	...	8,000

The receipts and payments of the Mildura Irrigation Trust during the year ended 30th June, 1916, were as follows:—

RECEIPTS AND PAYMENTS OF FIRST MILDURA IRRIGATION TRUST, 1915-16.

Receipts.	£	*Payments.*	£
Horticultural Rates	18,734	Wages	11,932
Special Waterings, &c.	4,145	Firewood	10,109
Miscellaneous	6,092	Interest, Sinking Fund and Depreciation	5,555
		Miscellaneous	2,754
Total	28,971	Total	30,350

The extent of watering done represented 36,909 water acres in 1908-9, 35,475 acres in 1909-10, 40,860 acres in 1911-12, 36,553 acres in 1912-13, 39,541 acres in 1913-14, 42,476 acres in 1914-15, and 41,405 acres in 1915-16.

State Waterworks Capital Debt.

The control of all State waterworks is vested in the State Rivers and Water Supply Commission. Such works

and their capital debit at 30th June, 1917, are set forth in the following statement:—

WATERWORKS UNDER CONTROL OF STATE RIVERS AND WATER SUPPLY COMMISSION.

	Capital Debit at 30th June, 1917.
(*a*) *Free Head-works.*	
	£
Broken River Works	14,853
Goulburn River Works	736,904
Kerang North-West Lakes Works	10,014
Kow Swamp Works	187,084
Lake Lonsdale Reservoir	49,054
Loddon River Works	167,636
Long Lake Pumping Works	27,346
Lower Wimmera Compensation Works	8,558
Total—Free Head-works	1,201,449

(*b*) *Waterworks Districts.*	Total Capital Expenditure.	Capital Written off by Acts 1625 and 1651.	Redemption paid to Treasury.	Capital Debit at 30th June, 1917.	Capital Debit at 30th June, 1917.
	£	£	£	£	
Birchip					
Sea Lake					
Tyrrell	233,959	700	2,203	231,056	
Wycheproof					
Carwarp	7,855	..	..	7,855	
Coliban	1,251,492	..	..	1,251,492	
Karkarooc	94,115	..	2,493	91,622	
Kerang North-West Lakes (free head-works excluded)	2,000	..	..	2,000	
Long Lake (free head-works excluded)	46,078	..	571	45,507	
Naval Base and Mornington Peninsula	12,348	..	..	12,348	
Ouyen	3,591	..	..	3,591	
Tyntynder	51,006	..	..	51,006	
Walpeup East	3,493	..	..	3,493	
Walpeup West	4,157	..	..	4,157	
Western Wimmera ..	249,488	132,835	13,966	102,687	
Wimmera United ..	187,412	36,392	11,064	139,956	
Wonthaggi	62,990	..	2,237	60,753	
Wimmera Main Channels ..	130,765	..	..	130,765	
Wimmera Storages ..	72,449	..	..	72,449	
Total ..	2,413,198	169,927	32,534	2,210,737	2,210,737

WATERWORKS UNDER CONTROL OF STATE RIVERS AND WATER SUPPLY COMMISSION—*continued.*

(c) *Irrigation and Water Supply Districts.*	Total Capital Expenditure.	Capital Written off by Acts 1625 and 1651.	Redemption paid to Treasury.	Capital Debit at 30th June, 1917.	Capital Debit at 30th June, 1917.
	£	£	£	£	£
Bacchus Marsh	58,088	8,906	493	48,689	
Boort	54,840	35,259	894	18,687	
Campaspe	63,361	52,685	305	10,371	
Cohuna	128,693	49,197	521	78,975	
Deakin	93,655	34,748	2,144	56,763	
Dingee	12,789	..	..	12,789	
Dry Lake	1,704	686	299	719	
Gannawarra	82,615	33,179	180	49,256	
Kerang	84,077	35,338	1,710	47,029	
Koondrook	110,461	30,872	1,475	78,114	
Merbein	78,632	..	..	78,632	
Nyah	24,224	..	..	24,224	
Rochester	117,659	..	..	117,659	
Rodney	366,453	149,949	6,578	209,926	
Shepparton	50,672	..	..	50,672	
Swan Hill	54,567	19,799	342	34,426	
Tongala	61,390	..	..	61,390	
Tragowel Plains	186,709	124,534	444	61,731	
Total ..	1,630,589	575,152	15,385	1,040,052	1,040,052
(d) *Main Supply Works* (to be apportioned to Irrigation and Water Supply Districts benefited).					
1. Goulburn Main Channels—					
East Goulburn ..	..	..	..	130,057	
Waranga Reservoir to Campaspe ..	..	..	..	246,835	
Campaspe to Serpentine ..	..	..	..	194,305	
Main Distributary Channels	..	..	..	28,772	599,969
2. Goulburn Storages ..	..	..	..	..	234,636
3. Pyke's Creek and Werribee Scheme ..	..	..	..	..	195,756
(e) *Waterworks Trusts Districts.**					
Avoca Waterworks Trust ..	12,495	2,494	979	9,022	
Carrum Waterworks Trust	25,732	7,732	1,944	16,056	
Loddon United Waterworks Trust	21,234	1,717	2,229	17,288	
Grand Total ..	..	..	..	..	5,482,599

* In consequence of the undermentioned Trusts having made default in the payment of interest on loans, their districts have been temporarily placed under the Commission's control.

Receipts and Expenditure.

The receipts and disbursements of the State Rivers and Water Supply Commission during the year ended 30th June, 1917, were as follows:—

STATE RIVERS AND WATER SUPPLY COMMISSION.—RECEIPTS AND EXPENDITURE, 1916-17.

Works.	Receipts.	Expenditure.			Excess.	
		Total from Annual Votes.	On Capital Works from Annual Votes.	Net Expenditure on Management and Maintenance.	Revenue over Net Expenditure.	Net Expenditure over Revenue.
	£	£	£	£	£	£
Coliban	36,791	10,791	144	10,647	26,144	..
Goulburn	283	2,064	..	2,064	..	1,781
Loddon River ..	8	309	..	309	..	301
Kow Swamp ..	188	1,885	..	1,885	..	1,697
Broken River ..	7	203	..	203	..	196
North-West Lakes ..	68	906	..	906	..	838
Lake Lonsdale ..	7	375	..	375	..	368
Lower Wimmera ..	..	74	..	74	..	74
Irrigation Districts ..	105,071	48,136	..	48,136	56,935	..
Waterworks Districts ..	65,436	24,117	492	23,625	41,811	..
Urban Districts and Divisions	14,354	4,089	..	4,089	10,265	..
Licences, Diversions, Pumping, &c. ..	8,212	3,891	..	3,891	4,321	..
	230,425	96,840	636	96,204	134,221	..
Not Earning Revenue.						
River Gaugings, Surveys and Reports, New Projects	...	3,691	...	3,691	...	3,691
Irrigation Engineering Scholarships .	...	152	...	152	...	152
Cost of Administration—Waterworks Trusts, Boring for water, Road Clearing, and Land Settlement ...	...	4,969	...	4,969	...	4,969
Loan Works	...	2,774	...	2,774	...	2,774
Total ...	230,425	108,426	636	107,790	122,635	...

NOTE.—This table does not take into consideration the questions of interest, redemption and depreciation.

Waterworks Trusts' Indebtedness.

The extent of Government assistance to the Waterworks Trusts which are not under the control of the State Rivers and Water Supply Commission, and the financial position of such Trusts are exhibited below.

WATERWORKS TRUSTS—CAPITAL INDEBTEDNESS AND INTEREST OUTSTANDING, 30TH JUNE, 1916.

Waterworks Trust.	Cost of Works at 30th June, 1916, defrayed from—		Capital Indebtedness.				Interest Outstanding at 30th June, 1916.
			Increased by Interest Capitalized.	Reduced by—		At 30th June, 1916.	
	Free State Grant.	Loan Advances made by State.		Amounts Written Off.	Payments towards Redemption.		
	£	£	£	£	£	£	£
Alexandra	..	3,849	..	..	317	3,532	..
Avenel	..	2,383	..	..	266	2,117	42
Avoca*	2,662	12,495	..	2,494	908	9,093	75
Avoca Township ..	..	10,000	..	..	172	9,828	246
Bairnsdale	..	43,822	..	23,439	1,328	19,055	381
Ballan	..	1,100	..	..	276	824	16
Benalla	..	15,579	..	..	3,410	12,169	243
Bet Bet Shire ..	1,384	5,694	..	..	1,592	4,102	..
Boort	28	1,150	..	150	94	906	..
Bright	..	5,490	..	..	544	4,946	..
Broadford	..	11,000	..	..	352	10,648	..
Carisbrook	..	8,400	..	2,400	406	5,594	113
Carrum*	..	25,732	..	7,732	1,784	16,216	..
Charlton	4,040	11,083	..	887	318	9,878	328
Cobram	..	4,500	..	..	401	4,099	165
Colac	..	44,574	..	..	1,194	43,380	866
Dandenong	..	27,628	..	5,128	1,063	21,437	359
Daylesford Borough..	..	24,206	2,794	3,139	2,640	21,221	..
Donald	3,058	13,120	..	1,166	927	11,027	..
Donald Shire ..	1,691	4,353	..	..	1,293	3,060	61
Echuca Borough ..	..	28,606	..	..	2,045	26,561	619
Elmore	..	4,150	..	..	526	3,624	72
Euroa	..	21,992	..	..	2,173	19,819	396
Geelong†	..	..	..	..	..	..	..
Gisborne	..	4,986	..	..	1,271	3,715	..
Glenrowan	..	1,900	..	..	8	1,892	225
Hamilton	..	45,666	..	..	3,371	42,295	844
Healesville	..	4,661	..	..	689	3,972	79
Heathcote	..	8,480	..	..	700	7,780	257
Horsham Borough ..	..	30,713	..	7,712	1,384	21,617	..
Kara Kara Shire ..	1,522	9,447	..	..	797	8,650	..
Kerang	88	8,986	..	..	1,036	7,950	329
Kerang Shire ..	213	1,200	..	..	107	1,093	..
Kilmore	..	15,223	..	..	2,508	12,715	..
Koroit	..	5,502	..	2,047	738	2,717	..
Korumburra	..	11,492	..	..	1,710	9,782	..
Kowree	292	2,707	..	..	540	2,167	..
Kyabram	..	3,802	..	..	227	3,575	..
Kyneton Shire ..	..	31,345	..	..	17,646	13,699	..
Lancefield	..	7,082	..	..	720	6,362	256
Lawloit	1,302	12,095	..	..	1,102	10,993	220
Leongatha	..	8,459	..	..	487	7,972	..
Lilydale	..	7,034	..	..	403	6,631	133
Loddon United* ..	4,122	21,234	..	1,717	1,964	17,553	352
Longwood	..	3,070	..	550	153	2,367	79

(For footnotes, see end of table.)

Waterworks Trusts—Capital Indebtedness and Interest Outstanding, 30th June, 1916—*continued.*

Waterworks Trust.	Cost of Works at 30th June, 1916, defrayed from—		Capital Indebtedness.				Interest Outstanding at 30th June, 1916.
			Increased by Interest Capitalized.	Reduced by—		At 30th June, 1916.	
	Free State Grant.	Loan Advances made by State.		Amounts Written Off.	Payments towards Redemption.		
	£	£	£	£	£	£	£
Lowan Shire ..	1,258	11,680	..	..	1,059	10,621	213
Macedon	..	2,824	..	..	303	2,521	50
Maffra	..	7,500	..	..	61	7,439	149
Mansfield	..	7,931	..	..	1,142	6,789	..
Maryborough ..	..	76,257	..	9,200	6,239	60,818	..
Mooroopna ..	..	4,278	..	1,400	191	2,687	..
Mortlake	..	794	..	..	..	794	6
Morwell	..	10,400	..	..	229	10,171	203
Murchison	..	4,078	..	..	462	3,616	..
Murtoa	..	4,945	..	..	116	4,829	..
Nagambie	..	3,275	..	..	485	2,790	* 56
Nhill	799	10,911	..	2,482	695	7,734	155
Numurkah Shire ..	1,278	25,194	..	1,376	5,042	18,776	245
Omeo	..	3,982	..	..	532	3,450	70
Pyramid Hill ..	..	2,437	..	..	98	2,339	47
Riddell's Creek ..	..	4,050	..	497	291	3,262	65
Rochester	..	5,574	..	..	248	5,326	106
Romsey	..	4,700	..	..	1,060	3,640	73
Rushworth ..	..	4,500	..	..	338	4,162	..
Rutherglen ..	..	21,735	..	..	1,604	20,131	402
Seymour	..	30,432	..	..	2,917	27,515	534
Shepparton Urban ..	24	20,789	..	2,416	2,328	16,045	321
Shepparton Shire ..	110	14,423	..	1,376	1,824	11,223	224
St. Arnaud Borough	57	45,076	4,077	15,077	2,796	31,280	..
Stawell Shire ..	545	1,370	..	250	1,120	..	..
Sunbury	..	16,497	..	..	597	15,900	352
Swan Hill	231	6,780	..	..	353	6,427	123
Swan Hill Shire‡ ..	6,421	36,043	..	36,043	..	..	..
Tallangatta ..	..	4,328	..	..	215	4,113	..
Tatura	..	5,939	..	650	451	4,838	..
Tongala	..	1,049	..	..	11	1,038	..
Traralgon	..	14,746	..	..	597	14,149	283
Trentham	..	5,000	..	..	89	4,911	98
Tungamah Shire ..	4,130	18,826	..	..	1,307	17,519	347
Upper Macedon ..	..	2,290	..	..	403	1,887	..
Violet Town ..	..	5,750	..	..	447	5,303	..
Wahgunyah ..	..	2,450	..	..	20	2,430	..
Wangaratta ..	..	9,889	..	..	654	9,235	186
Warburton	..	3,686	..	..	22	3,664	146
Warracknabeal ..	262	6,687	..	..	678	6,009	120
Warragul	..	15,776	..	..	533	15,243	305
Warrnambool ..	..	38,500	..	..	3,548	34,952	699
West Charlton ..	..	2,822	..	..	183	2,639	..
Winchelsea	..	3,228	..	..	4	3,224	59
Winchelsea Shire ..	..	6,259	..	..	436	5,823	116
Wodonga	..	7,722	..	..	729	6,993	..
Woodend	..	10,563	..	..	2,486	8,077	162
Yackandandah ..	..	4,075	..	..	8	4,067	78
Yarram	..	8,902	..	..	140	8,762	..
Yarrawonga Urban ..	1,897	9,573	..	..	1,709	7,864	153
Yatchaw	..	6,262	..	1,661	416	4,185	83
Yea	..	3,885	..	..	167	3,718	142
Total ..	37,414	1,162,652	6,871	130,989	108,973	929,561	13,127

* The property of this Trust has been taken possession of by the State Rivers and Water Supply Commission, under the provisions of the *Water Act* 1915.

† The Geelong Municipal Trust loan was not obtained from the Government.

‡ This Trust was abolished under the provisions of the *Water Act* 1905.

The free State grant to Waterworks Trusts for the construction of headworks was originally £100,000, but, owing to the transfer of works, portion of the grant now appears against Irrigation districts and other State works.

Waterworks Trusts—Receipts and Expenditure.

The following return contains full particulars of the receipts and expenditure of the Waterworks Trusts during the year ended 31st December, 1916:—

WATERWORKS TRUSTS—RECEIPTS AND EXPENDITURE, 1916.

Waterworks Trust.	Receipts from—				Expenditure on—				
	Water Rates.	Sale of Water.	Other Sources.	Total.	Maintenance and Management.	Salaries and Wages.	Interest and Redemption.	Other Services.	Total.
	£	£	£	£	£	£	£	£	£
Alexandra.. ..	481	22	3	506	87	262	168	4	521
Avenel	201	..	..	201	33	50	101	7	191
Avoca*	..	..	..	..	..	..	..	..	..
Avoca Township ..	526	51	..	577	21	68	500	9	598
Bairnsdale ..	1,580	286	62	1,928	650	526	906	34	2,116
Ballan	276	3	..	279	133	41	39	3	216
Benalla	2,094	602	1	2,697	197	595	874	38	1,704
Bet Bet Shire ..	483	..	..	483	19	31	208	58	316
Boort	348	28	3	379	189	45	65	7	306
Bright	303	57	..	360	29	78	325	2	434
Broadford ..	758	..	..	758	12	83	613	9	717
Carisbrook ..	356	..	20	376	18	47	417	2	484
Carrum*	..	..	..	..	..	..	..	..	..
Charlton	963	39	..	1,002	320	200	550	25	1,095
Cobram	378	39	..	417	14	155	203	33	405
Colac	2,427	563	57	3,047	203	423	1,370	25	2,021
Dandenong ..	886	74	1	961	482	223	840	11	1,556
Daylesford Borough	1,320	704	314	2,338	304	195	1,021	23	1,543
Donald	874	351	30	1,255	296	208	968	24	1,496
Donald Shire ..	201	..	2	203	30	33	48	..	111
Echuca Borough ..	2,315	79	201	2,595	784	534	1,525	23	2,866
Elmore	382	166	9	557	428	185	173	17	803
Euroa	955	301	2	1,258	168	98	942	27	1,235
Geelong‡	16,377	6,013	890	23,280	2,824	2,484	18,002	10	23,320
Gisborne	399	..	6	405	38	48	388	..	474
Glenrowan† ..	68	..	..	68	29	143	..	1	173
Hamilton	3,393	852	208	4,453	552	447	2,010	116	3,125
Healesville ..	500	..	25	525	101	78	95	9	283
Heathcote.. ..	393	79	1	473	53	45	367	7	472
Horsham Borough ..	2,072	565	112	2,749	583	325	1,017	5	1,930
Kara Kara Shire ..	830	..	14	844	136	41	216	19	412
Kerang	1,518	34	4	1,556	554	354	686	25	1,619
Kilmore	512	449	2	963	208	265	608	15	1,096
Koroit	382	310	16	708	449	117	131	2	699
Korumburra ..	583	362	175	1,120	748	218	513	..	1,479
Kowree	370	2	12	384	162	50	118	3	333
Kyabram	373	94	2	469	95	209	167	14	485
Kyneton Shire ..	1,206	1,147	34	2,387	368	303	1,795	48	2,514
Lancefield ..	311	99	3	413	22	31	303	4	360
Lawloit	1,539	29	10	1,578	228	379	263	87	957
Leongatha ..	635	87	41	763	94	85	380	..	559
Lilydale	561	150	3	714	313	188	472	26	999
Loddon United* ..	..	..	..	..	..	..	..	..	..
Longwood.. ..	150	..	..	150	19	36	221	10	286
Lowan Shire ..	3,170	..	74	3,244	119	416	508	77	1,120

(For footnotes see end of table.)

WATERWORKS TRUSTS—RECEIPTS AND EXPENDITURE, 1916—*continued.*

Waterworks Trust.	Receipts from—				Expenditure on—				
	Water Rates.	Sale of Water.	Other Sources.	Total.	Maintenance and Management.	Salaries and Wages.	Interest and Redemption.	Other Services.	Total.
	£	£	£	£	£	£	£	£	£
Macedon	169	..	1	170	5	35	120	1	161
Maffra	670	60	17	747	54	241	333	1	629
Mansfield ..	481	183	..	664	38	205	327	5	575
Maryborough ..	3,197	991	20	4,208	153	592	2,915	9	3,669
Mooroopna ..	380	123	60	563	24	259	127	11	421
Morwell	370	196	4	570	19	51	467	3	540
Murchison ..	264	219	8	491	78	174	332	15	599
Murtoa	651	215	11	877	696	218	317	56	1,287
Nagambie ..	369	46	4	419	29	214	133	4	380
Nhill	1,219	107	79	1,405	460	297	368	72	1,197
Numurkah Shire ..	2,479	215	86	2,780	942	870	1,478	54	3,344
Omeo	255	3	2	260	67	38	165	7	277
Pyramid Hill ..	301	15	10	326	108	56	110	..	274
Riddell's Creek ..	225	..	..	225	16	39	156	3	214
Rochester ..	881	91	4	976	499	117	246	13	875
Romsey	283	..	3	286	46	44	175	2	267
Rushworth ..	577	142	5	724	181	158	200	22	561
Rutherglen ..	1,593	15	18	1,626	393	258	957	5	1,613
Seymour ..	772	1,373	8	2,153	531	440	1,240	23	2,234
Shepparton Urban ..	1,613	720	19	2,352	747	467	765	49	2,028
Shepparton Shire ..	1,073	..	17	1,090	24	433	544	38	1,039
St. Arnaud Borough	2,204	2	82	2,288	199	228	1,495	51	1,973
Sunbury	319	654	6	979	19	95	861	19	994
Swan Hill ..	950	1	15	966	289	387	437	15	1,128
Tallangatta ..	453	102	20	575	133	164	195	15	507
Tatura	404	106	13	523	92	189	227	12	520
Tongala	154	6	..	160	59	57	71	..	187
Traralgon ..	914	110	18	1,042	138	109	664	11	922
Trentham ..	361	10	8	379	10	49	225	10	294
Tungamah Shire ..	1,924	212	66	2,202	290	827	817	81	2,015
Upper Macedon ..	238	27	5	270	52	61	91	10	214
Violet Town ..	345	..	8	353	13	92	126	2	233
Wahgunyah ..	358	..	14	372	315	69	110	11	505
Wangaratta ..	1,477	275	37	1,789	375	517	442	18	1,352
Warburton ..	324	..	5	329	31	48	165	7	251
Warracknabeal ..	1,224	94	41	1,359	839	183	283	15	1,320
Warragul	912	276	52	1,240	440	238	710	43	1,431
Warrnambool ..	3,249	782	114	4,145	833	712	1,678	109	3,332
West Charlton ..	284	..	3	287	91	32	127	..	250
Winchelsea ..	403	..	2	405	64	51	98	1	214
Winchelsea Shire ..	440	..	2	442	171	53	273	4	501
Wodonga	521	77	9	607	16	165	336	6	523
Woodend	245	200	2	447	64	103	383	4	554
Yackandandah† ..	..	..	1	1	46	33	4	12	95
Yarram	696	85	24	805	133	36	376	49	594
Yarrawonga Urban ..	704	208	12	924	467	123	353	4	947
Yatchaw	337	..	14	351	612	91	300	4	1,007
Yea	587	261	10	858	277	208	258	20	763
Total ..	91,298	21,839	3,296	116,433	23,390	20,468	62,596	1,785	108,239

* The property of this trust has been taken possession of by the State Rivers and Water Supply Commission. † Year ended 31st December, 1915. ‡ Year ended 30th June, 1916.

Municipal Waterworks.

Of the waterworks controlled by Municipalities, the most important are those at Ballarat vested in the Ballarat Water Commission and having reservoirs with a storage capacity of nearly 2,226 million gallons. Other important reservoirs in this group are those supplying Beechworth, Clunes, and Talbot, their respective storage capacities being 191, 267, and 200 million gallons.

The following statement shows the financial position existing between the State and corporations on account of these Waterworks:—

WATERWORKS OF MUNICIPAL CORPORATIONS—CAPITAL INDEBTEDNESS AND INTEREST OUTSTANDING, 30TH JUNE, 1916.

Local Body.	Cost of Works to 30th June, 1916, defrayed from Loan Advances made by State.	Capital Indebtedness.				Interest outstanding at 30th June, 1916.
		Increased by Interest Capitalized	Reduced by—		At 30th June, 1916.	
			Amounts written off.	Payments towards Redemption.		
	£	£	£	£	£	£
Arapiles Shire ..	3,600	..	..	1,525	2,075	..
Ararat Borough ..	49,935	..	18,266	3,043	28,626	..
Ballarat Water Commission	355,121	41,869	2,111	66,539	328,340	..
Beechworth Shire ..	30,426	1,256	5,958	5,067	20,657	..
Bet Bet Shire ..	1,000	..	985	15	..	..
Castle Donnington (Swan Hill) Shire ..	777	..	..	650	127	..
Chiltern Shire ..	4,500	508	508	899	3,601	72
Clunes Borough Water Commission ..	70,195	..	62,395	708	7,092	143
Creswick Borough ..	3,500	..	..	3,500	..	..
Dimboola Shire ..	687	..	..	415	272	..
Dunolly Borough ..	3,123	..	..	882	2,241	45
Inglewood Borough ..	6,131	..	..	1,780	4,351	87
Kerang Shire ..	2,566	..	..	491	2,075	..
Korong Shire ..	2,952	..	..	468	2,484	..
Ripon Shire ..	3,000	..	..	1,391	1,609	..
Stawell Borough ..	108,506	..	61,661	4,514	42,331	1,703
Talbot Borough ..	15,000	..	13,986	108	906	..
Tarnagulla Borough ..	1,380	..	..	182	1,198	..
Wimmera Shire ..	28,890	..	..	26,357	2,533	..
Total ..	691,289	43,633	165,870	118,534	450,518	2,050

The corporations of Echuca Borough and Ballan and Melton Shires also have waterworks, the first purchased from the State, and the other two constructed out of Shire funds.

In addition to the above, £9,889 (including £346 capitalized interest) was paid towards redemption by municipal corporations whose liabilities to the State have been transferred to Waterworks Trusts, and £3,591 by municipalities whose works have been transferred to the State Rivers and Water Supply Commission.

Artesian Bores. 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 Bored.	
State.	Private.	State.	Private.
97	140	Feet. 39,783	Feet. 30,000

In 82 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.

Meteorological Records.

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 1914, 1915, and 1916, and the average yearly amount of rainfall deduced from all available records to December, 1916, in each of the 26 river basins or districts constituting the State of Victoria :—

RAINFALL—YEARLY RECORDS AND AVERAGES.

Basin or District.	Rainfall.			
	During 1914.	During 1915.	During 1916.	Yearly Average to December, 1916.
	Inches.	Inches.	Inches.	Inches.
Glenelg and Wannon Rivers ..	16.41	28.10	29.09	26.92
Fitzroy, Eumeralla, and Merri Rivers	19.86	31.05	32.02	29.22
Hopkins River and Mt. Emu Creek..	14.66	21.86	29.64	25.23
Mt. Elephant and Lake Corangamite	16.82	23.65	30.28	25.14
Cape Otway Forest	26.69	39.35	42.04	38.62
Moorabool and Barwon Rivers ..	16.39	20.97	31.66	24.85
Werribee and Saltwater Rivers ..	16.90	18.78	34.98	23.69
Yarra River and Dandenong Creek	23.83	27.26	43.66	33.25
Koo-wee-rup Swamp	26.74	32.72	45.31	36.02
South Gippsland	23.89	30.92	46.46	38.95
Latrobe and Thomson Rivers ..	26.10	33.56	43.22	38.72
Macallister and Avon Rivers ..	16.11	17.74	34.18	24.31
Mitchell River	17.83	20.44	31.17	29.23
Tambo and Nicholson Rivers ..	21.56	21.60	30.44	27.77
Snowy River	27.01	23.36	37.24	34.82
Murray River	8.40	14.64	23.40	16.42
Mitta Mitta and Kiewa Rivers ..	19.06	33.64	41.62	32.51
Ovens River	20.13	35.04	47.47	32.40
Goulburn River	14.56	27.77	36.45	26.47
Campaspe River	12.07	22.01	31.51	23.00
Loddon River	9.84	17.87	27.23	19.77
Avoca River	7.96	15.46	20.80	17.04
Avon and Richardsen Rivers ..	7.74	17.10	20.54	16.30
Eastern Wimmera	11.75	22.37	28.02	21.20
Western Wimmera	9.37	21.26	23.37	19.88
Mallee	6.26	10.83	16.50	12.32
Weighted Averages.. ..	14.66	22.35	30.27	24.25

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 12·32 inches as compared with an average of 24·25 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	14,025
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 in 1916, and the quarterly averages up to 1916 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.
	Pts.	Pts.	Pts.	Pts.	Pts.	Pts.	Pts.	Pts.
Glenelg and Wannon Rivers	271	376	690	810	959	900	989	606
Fitzroy, Eumerella, and Merri Rivers	359	440	673	873	1,069	961	1,101	648
Hopkins River and Mt. Emu Creek	254	416	591	756	1,042	777	1,077	574
Mt. Elephant and Lake Corangamite	351	457	599	714	1,114	747	964	596
Cape Otway Forest	517	597	1,002	1,170	1,468	1,266	1,217	829
Moorabool and Barwon Rivers	362	473	540	688	1,248	716	1,016	608
Werribee and Saltwater Rivers	538	516	430	633	1,477	635	1,053	585
Yarra River and Dandenong Creek	682	678	701	870	1,430	880	1,553	897
Koo-wee-rup Swamp	741	679	906	1,019	1,376	996	1,508	908
South Gippsland	1,011	772	897	1,096	1,637	1,132	1,101	895
Latrobe and Thomson Rivers	909	714	759	1,027	1,403	1,141	1,251	990
Macallister and Avon Rivers	1,126	608	363	563	1,278	608	651	652
Mitchell River	719	705	445	733	1,207	716	746	769
Tambo and Nicholson Rivers	906	703	371	697	1,010	671	757	706
Snowy River	1,184	820	368	941	1,228	899	944	822
Murray River	260	311	467	488	913	458	700	385
Mitta Mitta and Kiewa Rivers	550	591	908	929	1,611	961	1,093	770
Ovens River	440	541	1,023	924	1,911	1,046	1,373	729
Goulburn River	322	436	751	806	1,494	814	1,078	591
Campaspe River	324	404	617	707	1,301	703	909	486
Loddon River	273	339	565	604	1,133	592	752	442
Avoca River	204	273	442	535	882	524	552	372
Avon and Richardson Rivers	119	247	448	507	885	518	602	358
Eastern Wimmera	165	298	641	649	1,043	699	953	474
Western Wimmera	148	247	594	639	866	671	729	431
Mallee	149	225	326	352	683	375	492	280
The whole State	411	435	588	700	1,136	726	892	564

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	29·923	30·080	30·081
Monthly range of pressure of air—Inches	·888	·773	·808	·974
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	21·3	17·4	14·0
Mean relative humidity. Saturation = 100	66	60	70	76
Mean rainfall in inches	7·24	5·87	6·64	5·71
Mean number of days of rain	37	23	33	41
Mean amount of spontaneous evaporation in inches	10·11	17·18	7·76	3·63
Mean daily amount of cloudiness—Scale 0 to 10	6·0	5·2	5·9	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 1916 and for the past 61 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 1916.	Average for 61 Years.	Extremes between which the Yearly Average Values have oscillated in 61 years.	
			Highest.	Lowest.
Mean atmospheric pressure (inches) ...	29·968	30·015	30·106	29·961
Highest ,, ,, ,, ...	30·587	30·608	30·762	30·488
Lowest ,, ,, ,, ...	29·307	29·257	29·445	28·942
Range (inches)	1·280	1·347	1·719	1·169
Mean temperature of a ir in shade (°Fahr.)	58·2	58·4	59·9	57·3
Mean daily maximum ... ,,	66·4	67·3	69·0	66·0
Mean daily minimum ... ,,	50·1	49·4	51·2	47·2
Absolute maximum ... ,,	104·2	105·2	111·2	96·6
Absolute minimum ... ,,	29·9	30·6	33·9	27·0
Mean daily range ... ... ,,	16·3	17·9	20·4	15·0
Absolute annual range ... ,,	74·3	74·6	82·6	66·0
Solar Radiation (maximum)... ,,	114·8	118·2	127·6	106·0
Terrestrial Radiation (minimum) ,,	43·5	43·8	46·7	39·5
Rainfall (in inches)...	38·04	25·46	38·04	15·61
Number of wet days	170	134	171	102
Year's amount of free evaporation (in inches)	38·36	38·68	45·66	31·59
Percentage of humidity (saturation = 100)	66	68	76	62
Cloudiness (scale 10 = overcast, 0 = clear)	5·8	5·9	6·4	4·8
Number of days of fog	30	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 instruction 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 will be 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 5,957 acres at Dookie, 2,386 acres at Longerenong, 2,500 acres at Gunyah 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.

School of Horticulture. This school is situated at Burnley, about 3 miles from Melbourne. It is very accessible, being close to Burnley, Hawthorn, and Heyington railway stations and on the route of the Burwood electric tram.

The school has been re-organized, the new feature being the instruction given in the principles of agriculture. The various classes in horticulture will be continued and lectures will be given on all phases of the subject. Special attention will be devoted to the practical work in the orchards, gardens, and nurseries connected with the school.

The course for the Government Certificate in Horticulture occupies two years and is intended for youths of at least fourteen years of age. Students attend daily (Saturday excepted). The fees for the course are £5 per annum.

Part time classes are held on Tuesday and Thursday afternoons. The instruction is arranged to suit female students, but male students may also attend. The scope of the work of these classes includes garden management and designing, the growing of small fruits, seeds and seedlings, poultry farming, and bee-keeping. The fees for this course are £2 per annum.

The new feature of the school is the formation of classes for studying the principles of agriculture. These classes are being established primarily for boys attending secondary schools who are taking Agriculture as one of the subjects for the intermediate certificate of the University of Melbourne. The course for the intermediate certificate covers two years and that for the leaving certificate entails a further two years' attendance. Each class is held on one morning or afternoon of each week. The orchard, nursery, poultry farm, cultivation paddocks, and other accessories of the school are utilized by the students for outdoor practice and observations. Up-to-date farms are also visited by students.

For 1917 the students enrolled numbered 54 in the Horticultural and 129 in the Agricultural Class.

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

GOVERNMENT EXPERIMENTAL FARMS AND AGRICULTURAL COLLEGES, 1916.

Particulars.	Central Research Farm, Werribee.	Wyuna Irrigation Farm.	Rutherglen Farm, &c.	Dookie Agricultural College.	Longerenong Agricultural College.	Burnley School of Horticulture.	Bamawn Experimental Nursery, &c.
	No.	No.	No.	No.	No.	No.	No.
Professional Staff ..	1	1	2	12	5	3	1
Hands employed ..	25	5	*	30	14	6	
Students	..	..	15	47	38	64	..*
	£	£	£	£	£	£	£
Value of plant and machinery ..	2,064	1,106	1,235	3,829	1,491	150	115
Value of produce for year	6,500	1,900	3,500	5,000	4,400	150	1,150
Receipts—							
Fees	..	..	..	916	970	163	..
Sale of produce, &c. ..	4,059	1,045	4,174	5,255	3,326	89	522
Other ..	23	33	39	..	..	824	..
Total receipts	4,082	1,078	4,213	6,171	4,296	1,076	522
Expenditure—							
Salaries—							
Professional Staff	300	208	540	2,163	1,300	446	165
General staff ..	2,793	622	3,263	3,178	1,457	683	654
Buildings and maintenance ..	1,329	421	1,623	6,208	4,386	88	39
Other ..	2,371	427	4,121	..	..	79	157
Total expenditure ..	6,793	1,678	9,547	11,549	7,143	1,296	1,015
	acres	acres	acres	acres	acres	acres	acres
Area under—							
Cereals for Grain	848	75	185	615	413	..	..
Hay	324	45	90	165	110	..	..
Fruit trees, &c.	..	1	2	38	16	14	25½
Vines ..	..		60	20	10	½	..
Green fodder ..	185	100	220	50	51	..	4
Other crops ..	140	15	..	27	1	½	..
Total area under crop ..	1,497	236	557	915	601	15	29½
Area of land in fallow	402	176	400	389	342	..	..
Area under artificially sown grasses	30	25	24	..	2	7	..
Area resting ..	165	..	47	893	679	..	..
Total area of arable land ..	2,094	437	1,028	2,197	1,624	22	29½
Balance of area	115	103	285	3,716	762	11	3
Total area of farm ..	2,209	540	1,313	5,913	2,386	33	32½
	No.	No.	No.	No.	No.	No.	No.
Live stock—							
Horses ..	72	25	37	113	43	1	2
Dairy cows ..	90	24	10	36	33	2	..
All other cattle	48	14	7	113	35	..	..
Sheep ..	625	118	358	1,350	1,069	..	..
Pigs	..	22	75	80	56	..	..

* Not available.

Inspection of Orchards, Nurseries, &c.

The orchards, nurseries, and gardens of the State are systematically inspected by the officers of the Vegetation 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 after 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 in the new fumigation building at Melbourne wharf 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.

Agricultural High Schools.

Agricultural High Schools under the direction of the Department of Public Instruction have been established at Warrnambool, Sale, Shepparton, Wangaratta, Ballarat, Colac, Mansfield, Warragul, Leongatha, and Mildura. During 1915-16 the expenditure on these schools, including buildings, amounted to £24,314. They were established under condition that—

(*a*) At least one-half of the cost of the necessary buildings and equipment shall be contributed by local subscriptions.

(*b*) An area of land of not less than 20 acres, situated in a convenient position to the High School, shall be provided and vested in the Minister of Public Instruction.

(*c*) At least 50 students paying prescribed fees shall be guaranteed before the proposal to establish an Agricultural High School is entertained.

Pupils for these schools must have passed the qualifying examination or an approved equivalent examination. During the first two years they take what is termed the common course, and during the last two years they may elect to take the Agricultural Course.

A local council appointed for each school exercises a general oversight of the work, particularly in regard to the farm operations and the expenditure thereon. It also nominates for free instruction students who possess the required qualifications, subject to the provision that the number of students so nominated shall not, in any

one year, exceed 10 per cent. of the total number paying full fees at the school.

As High Schools these institutions have been very successful on the whole, but the number of pupils taking the agricultural course has been very disappointing.

Forestry.

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 bulk of the forest revenue is derived from a total area of about 250,000 acres. The trees are felled on the selection system of treatment; but for the supply of mine-props and fuel large blocks are allotted and worked as coppice, or coppice under standards, thinnings only, light or severe as the circumstances require, being taken out in many districts. The open timber licence system has been abolished in Victoria, and strict control is enforced over the operations of timber-getters.

As is usual in newly-settled countries, little care was formerly exercised in respect to the forests, and, though Victoria is the best-wooded of the Australian States, this is due to the extent of its mountain territory and its ample rainfall. In many districts, particularly in the moister portions of the State, re-afforestation by natural process has been going on.

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 nineteen plantation trial stations having a total area of 20,740 acres.

The persons employed in connexion with the State forests and nurseries comprise administrative and professional staff, 16; protective and general staff, 82; and nursery staff, 44. The revenue from licences and royalties in 1916 amounted to £50,615. The expenditure was £53,551, 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 1916 amounted to 75,000,000 super feet. In addition, 356,000 tons measurement of fuel timber were produced.

Agricultural expenditure and revenue connected with.

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., 1911–12 TO 1915–16.

——	1911-12.	1912-13.	1913-14.	1914-15.	1915-16.
Expenditure.	£	£	£	£	£
Department of Agriculture	18,454	21,182	25,211	26,297	23,622
Grants to Agricultural and Horticultural Societies, &c.	3,846	4,523	4,473	7,880	1,163
To promote the Agricultural, Dairying, Fruit, and Wine Industries	625	16	...	...	...
Development of Export Trade	37,185	32,819	40,505	34,275	33,622
Viticultural Education and Inspection of Vineyards ...	5,000	5,499	5,917	3,642	3,479
Maffra Beet Sugar Factory ...	37,975	28,341	32,493	25,228	18,693
Fruit Cool Stores	2,244	3,188	3,650	4,115	3,342
Technical Agricultural Education, &c.	30,588	27,985	18,478	21,451	19,479
Publishing Agricultural Reports	2,833	2,513	2,834	2,555	2,290
Advances to Settlers on account of Losses by Bush Fires, &c.	1,839	347	182	6,157	...
Rabbit and Vermin Extermination	29,524	27,309	29,596	32,211	24,257
Stock and Dairy Supervision	} 22,471	21,957	23,602	23,813	20,953
Scab Prevention and Stock Diseases					
Labour Colonies	2,992	395	...	500	500
State Forests and Nurseries	54,061	52,808	60,977	72,757	54,018
Miscellaneous	...	...	1,885	2,160	3,229
Total	249,637	228,882	249,803	263,041	208,647
Revenue.					
Department of Agriculture ...	49,932	47,713	49,320	54,410	36,252
State Forests	48,585	54,754	60,733	65,840	53,430

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 1915-16 was £86,938 on account of closer settlement, and £3,078 on account of wire netting.

AGRICULTURAL AND HORTICULTURAL SOCIETIES.

Agricultural and Horticultural Societies, founded on the principle of voluntary membership, and having for their object the improvement of the agricultural, pastoral, and horticultural industries, have been established throughout the State. Ninety-five agricultural societies furnished returns for the year 1916, in regard to which condensed particulars are set out below :—

AGRICULTURAL SOCIETIES, 1912 TO 1916.

Societies.	Area of Grounds.	Number of Members.	Government Grant.	Total Receipts (including Government Grant).	Total Expenditure.	Bank Overdraft and Loan Liability.
	Acres.		£	£	£	£
Royal (Melbourne) ...	48	2,001	675	29,722	24,335	44,951
Ballarat	10	70	81	179	291	618
Benalla	12	304	46	855	836	727
Bendigo	10	300	...	1,540	1,830	290
Colac	12	310	66	1,070	1,070	161
Hamilton	21	260	3	1,060	1,060	100
Horsham and Wimmera	29	560	...	1,383	894	997
Korumburra	16	223	43	704	640	886
Ovens and Murray ...	39	277	2	1,102	1,164	468
Shepparton	24	431	...	1,692	1,603	2,604
Others	1,220	10,699	700	27,409	26,734	14,687
Total, 1916 ...	1,441	15,435	1,616	66,716	60,457	66,489
Total, 1915 ...	1,666	15,726	3,253	58,204	62,971	65,213
Total, 1914 ...	1,748	19,118	4,022	72,339	82,707	40,715
Total, 1913 ...	1,637	19,916	3,496	76,770	78,708	30,358
Total, 1912 ...	1,774	21,382	2,837	72,214	74,069	28,183

The Horticultural Societies furnishing returns for 1916 numbered 40, their membership being 3,235, the receipts for the year £4,037 (including Government grant £29), the expenditure £3,702, and the liability on account of loans and bank overdraft £1,189.

AGRICULTURE AND LIVE STOCK IN VICTORIA.

(Special Article contributed by the Victorian Department of Agriculture.)

Agriculture. Some 66 years ago, the attention of the world was suddenly focussed on the young colony of Victoria. Gold had been discovered, and stories of the untold wealth to be easily won from the soil were attracting enterprising and adventurous souls from all parts of the globe. So great was this influx that at the end of 1857 the population numbered 463,135, or more than six times that of 1850—the year before gold was discovered.

Since then Victoria has never looked back, although the mining industry has declined. The once eager gold-seekers and their descendants have turned their attention to agriculture. They have discovered a new and inexhaustible store of wealth in the large tracts of rich virgin soil.

From our Victorian wheat fields alone we have reaped during the past two years more wealth than was ever dug out of Victorian mines during any two years of their history. The aggregate wheat production of Victoria for 1915 and 1916 was 110 million bushels, worth at the ship's side £27,000,000. Our total wealth from primary production in 1915 was £35,000,000 sterling.

With mining, the more wealth taken from the soil, the less remains to be extracted. With agriculture, however, if carried out in conformity with the teachings of modern science, the more wealth won from the soil by cropping, the more wealth remains to be extracted; for, with scientific methods of cultivation, liberal fertilization of the soil, and judicious rotation of crops, the soil must get richer and more productive and wealth producing as the years roll by.

To-day not only wheat-growing, but also stock raising, dairying, and fruit production are in a flourishing condition, and irrigation and intense culture have progressed at such a pace that Victoria is known as the Garden State of Australia.

The agriculture of the country, having passed through the "pastoral" era, has now reached a stage in which good farming in the highest sense of the word has replaced the pioneering methods of the early days.

Climate and Rainfall. Victoria in its position at the south-eastern corner of Australia enjoys a most salubrious and equable climate, and, generally speaking, it may be regarded as a country of ample rainfall. North of the Dividing Range the bulk of the rain falls in the winter and spring months (May to October), whilst in the south the rainfall is more uniformly distributed throughout the year.

The type of climate is reflected in the methods of agriculture that are in vogue, and for the principal crops harvest time is accompanied by fine, dry weather and long days.

The distribution of the rain over the whole of the country is not equal, though it is well defined. A glance at a relief map of Victoria will show that there is a well-marked back-bone of mountain ranges,

and it is this feature, together with the coastline, that controls the distribution. The isohyets, or lines of equal rainfall, roughly follow the coast, but the influence of the elevated country is responsible for a greatly increased precipitation in its vicinity.

There is a belt of some 12,000 square miles, mostly rugged, which is most subject to this influence; here the annual rainfall is from 40 inches upwards. In the valleys and rich flats almost anything can be grown, and several rivers with a network of tributaries spring from these tree-clad hills and traverse the country in all directions. The waters of these rivers are being utilized to irrigate increasing areas of fertile soils in the drier parts. Further out from the hills, but subject to their influence, is a belt of country of 28,000 square miles in area, which enjoys a rainfall of between 25 and 40 inches. Dependent on the soil almost any type of crop can be grown there, but only the richer portions have so far been developed. Sheep raising and dairying flourish.

There is next a belt of 27,000 square miles with a 15 to 25 inch precipitation, and, lastly, a belt in the extreme north-west, comprising 20,000 square miles with less than 15 inches but more than 10 inches annually. The two areas comprise the great wheat belt of Victoria, and with them the rainfall may be said to be the determining factor in production.

The wetter of the two is essentially a safe area, and has long been settled, and the factors for successful wheat cultivation are thoroughly understood. Wheat and sheep raising are worked together, the ground is systematically fallowed, and the use of superphosphate manure is general. A settled system of rotation farming is gradually being evolved, and in every way agriculture is on a sound footing.

The drier of the two areas, known as the Mallee, was long thought to be arid waste, but within the last decade it has become one of the principal wheat-producing areas of the State. The Mallee is subject to periodical droughts, but, with the use of better farming methods, the influence of that factor is becoming minimized.

The conditions in the great wheat belt, especially in the Mallee, lend themselves to the use of large implements, and crops are seeded and harvested at a very low expense ratio, notwithstanding the high price of labour.

Crops produced. Situated between the 34th and 39th parallels of south latitude, and receiving a rainfall which averages about 24 inches for the whole State, but which varies according to locality from 10 up to 60 inches annually, Victoria can produce almost any crop that grows in temperate latitudes.

Out of a total of 56 million acres, so far only 12 per cent. is under cultivation, but some idea of the possibilities may be obtained when it is stated that large tracts of the most fertile soil are at present devoted merely to grazing sheep on the natural grass.

Wheat, grown for export, is the principal crop, and one-half of the total area under cultivation is devoted to that cereal. In 1916–17,

there were more than 3 million acres under wheat, yielding some 51 million bushels.

The factors for the successful cultivation of wheat, namely, early fallowing, liberal dressings of superphosphate manure, systematic crop rotation and the working in of wheat and sheep are well understood, while the use of labour-saving devices, such as multiple ploughs and drills, is universal. The long dry summer has led to the invention and perfection of the combined harvester, an implement with which one man can strip, thresh, winnow, and bag ready for the sewer up to 200 bags of wheat in a day. *Federation*, a cross-bred wheat produced by the late Wm. Farrer, is the chief variety grown.

There are over a million acres sown to grass, and nearly 2 million acres are fallowed annually in preparation for the succeeding crop, which is usually of wheat. Oats and barley receive a much smaller amount of attention, but large quantities of cereal hay, chiefly wheaten and oaten, are cut for horse feed. The staple diet of horses is chaffed cereal hay, either wheaten or oaten, together with a ration of oats. About 60 thousand acres are usually devoted to potatoes, while there are nearly 80 thousand acres of orchards. The advent of irrigation has greatly increased the number of orchards during the last few years, and a steady and growing export trade is being developed.

Agricultural Districts. Victoria may, for the purpose of describing its agriculture, be divided into eight districts, named respectively the Central, North Central, Western, Wimmera, Mallee, Northern, North Eastern, and Gippsland districts.

This division, though merely an arbitrary one used for statistical purposes, effectively separates a number of districts which differ largely in rainfall, soil condition, proximity to market and, consequently, in the style of agriculture in vogue.

The Western district, mostly of rich soil, and enjoying an ample rainfall, is the premier dairying district, while the Wimmera, Mallee, and Northern districts comprise the wheat-growing areas. Gippsland, as yet not so fully developed as the rest, has a higher rainfall, and dairying and cattle raising are profitably carried on there.

Taking each district in turn :—

The Central District. The rainfall ranges from 20 to 60 inches per annum; the higher rainfall occurs in the more rugged areas. This district is closest to the Melbourne market, and it grows one-third of the barley and peas produced, 40 per cent. of the potatoes, and 20 per cent. of the hay. Fruit growing and market gardening pay well in suitable localities. Dairying is also extensively carried on, and in some portions of the district there are large numbers of sheep.

The district includes three distinct types of soil :—(1) Hill country containing sedimentary, metamorphic and granitic rocks, and soils derived from them. These are in general poor soils, but are peculiarly suited to fruit growing. They are capable of improvement with the

plough and with stock. The soils are rich in potash, but poor in nitrogen and phosphoric acid. Oats and green fodders do well. (2) Coastal plain country of tertiary formation. For the most part this is light sandy loam, which is sometimes black in colour. Many parts require draining and sweetening with the plough. It responds readily to manure. (3) Volcanic land, of which there are two kinds, viz. :—

(*a*) Friable loam, produced by lighter materials from old volcanoes.

(*b*) Heavy clay loams intersected by reefs of basalt, and covered with floaters, and containing buckshot. When phosphoric acid is added, good wheat crops are obtained.

North Central District. This district is similar to the Central district, and contains hill soils; also a little of the tertiary soils of the northern areas. In places volcanic soil is present. This district grows about one-sixth of the potatoes produced in the State, and one-twelfth of the barley. The area embraces some rugged country. The grazing of sheep is one of the chief pursuits, but dairying and pig raising are also carried on extensively.

Western District. This district comprises for the most part rich volcanic undulating plains, often stretching for miles without a break. The country receives an adequate rainfall, and the native herbage is most prolific. The pastoral industry is the most important, and the best wool in the State is produced here. This is also the premier dairying district, and produces more than one-fourth of the total potato crop and one-seventh of the hay. Onions do well on the best land. On the open plain country, notably around Lismore, there is an area which has a rather lighter rainfall than most of the district. Recently wheat growing has been successfully developed in this area.

Wimmera District. This district is eminently suited for wheat growing, one-third of the total crop being produced here. It has an average rainfall of from 15 to 20 inches. The soil is a splendid red chocolate or grey loam, and the lime in the soil increases towards the west. The lighter loams of the Wimmera (and the same is true of the Mallee) have a greater percentage of available plant food than the stiffer soils of the Goulburn Valley. The addition of phosphates makes a large difference to the yield. Besides wheat, this district grows about one-fourth of the total oats and one-seventh of the total hay produced in the State. A four-course system of rotation farming has been evolved, known as the Wimmera rotation—bare fallow is followed by wheat, then oats, then pasture. Sheep are extensively grazed on the stubble, and lamb raising for export is producing very satisfactory results in combination with wheat growing.

Mallee District. The rainfall is the lowest in the State, and ranges from 15 inches down to 10 inches annually. The soil of this district is a light sandy loam, which in the poorer spots becomes nearly pure sand. The character of the surface is undulating, which has been brought about by the shifting of the sandy surface soils by wind action. The soil is very easy to cultivate, and is extremely responsive to moisture and manure. With good farming excellent crops of wheat may be grown, and, although it is the latest district to be opened up, it supplied more than one-third of the wheat and 10 per cent. of the oats produced in the State in 1916–17.

Northern District. This district has tertiary and alluvial soil. It is characterised by alternate hills of timber and plain land, and is a good wheat-producing district. The rainfall varies from 20 to 25 inches, and a variety of products is grown, including one-fourth of the wheat and oats of the State, and about one-sixth of the hay. In addition, fruit growing is extensively carried on, and irrigation farming is developing rapidly.

North-Eastern District. The district contains the same tertiary soil as the Northern district, but it also has a large mountainous area with a high rainfall. The valleys are very fertile and are well adapted for intense culture. Wheat is grown to a small extent, also hay and oats. Vineyards and orchards are doing well. Sheep and cattle are extensively bred. The river valleys produce good tobacco, the bulk of that produced in the State being grown there.

Gippsland. This area has a variety of soils ranging from coastal plain land to volcanic hill country, and, in places, rich alluvial valleys and flats. The rainfall is high, varying from 25 to 60 inches, and, in many parts, the country is very mountainous. The district is not so well opened up as the rest of the State, but it is producing largely maize and potatoes. Dairying and sheep and cattle breeding are extensively carried on.

LIVE STOCK.

Side by side with the development of agriculture came a steady increase in the number of live stock. This has been accompanied by a gradual change in the economic relation in which they stand to the other primary industries of the State.

In the initial stages of settlement it was found that the mild climate and the splendid native herbage rendered it possible to tend, with a minimum of labour, large numbers of sheep, cattle, and horses.

These animals required no housing nor hand-feeding whatever, and so profitable was this early pastoral industry that large tracts

of virgin country were taken up by "squatters," and flocks of from 10 to 50 thousand sheep were not uncommon.

The number of live stock under these conditions increased enormously. Gradually it was found, however, that much better returns per acre were obtained by the growing of cereal crops and by the adoption of a more intensive type of production. Large tracts of country which had previously supported only the roaming sheep or the wandering steer proved ideal for wheat, a commodity which rapidly established itself on the world's markets. Land values inevitably rose, and this led to the cutting up and pushing back of the great sheep and cattle runs.

The year 1891 saw the successful initiation of the use of cool storage in the overseas export trade, and by it the dairying, pig raising, and frozen mutton industries were placed on a sound business footing.

The march of agriculture and the cutting up of the large pastoral estates, contrary to what might have been anticipated, have not diminished the number of live stock carried, but have rather increased it. Mixed farming has proved to be most profitable, and, with the increase of animals on the farm, farmers have been able to maintain their land in a condition of maximum fertility.

The increase in numbers of live stock has not been without marked improvement in the quality, for breeders have not hesitated to import from time to time the best English blood to improve their studs, and it is not too much to say that to-day there are in Australia, and in Victoria in particular, studs of horses, cattle, and sheep, that compare very favorably with any in the world.

Horses. With horse-racing as a national pastime, it is not strange that great interest should be taken in the breeding of light horses. The foundation of the light horse stock of the State is the English thoroughbred, and not only have the bone and stamina of the imported horses been maintained, but Australian thoroughbreds have frequently competed on favourable terms with horses in the old country, while, in India and other Eastern countries, Australian thoroughbreds and remounts have proved superior to those from the United Kingdom.

The Clydesdale, and, to a lesser extent, the Shire breeds, are used for general farm work. The majority of farmers breed their own horses, and it is usual for them to do the bulk of the work on the farm with the breeding mares and the young horses of from three to five years old. During this time the young horses are steadily appreciating in value, and at five years old they are sold in the open market to cartage contractors and for export to neighbouring States.

A factor which has latterly contributed to the maintaining of the standard of horses, both light and draught, is the legislation resulting in the issuing of a certificate of soundness and approval in respect of all sires found free from hereditary unsoundness and being of a reasonable standard as regards breed, type, and conformation.

Sheep. The sheep industry easily ranks first in respect of the returns received. From the sheep in the State about 100,000,000 lbs. of wool are now obtained, worth in the open market of the world about 6 millions sterling. The quality of this wool is second to none. In normal times buyers from all quarters of the globe attend wool sales in Australia, and there is keen competition. For high-class wool the merino is the predominant breed, but latterly there has been a strong demand for crossbred wool, which has consequently appreciated in value. The merino yields the finest and most valuable wool that can be produced, and on it Australia has built up its reputation as the first wool-producing country in the world. The Victorian climate appears to be particularly suitable for this breed, and it has attained a robustness of constitution, an increase of body weight, and a prolificacy in growth of wool far surpassing its progenitors in Spain or the same breed in any other country to which it has been introduced.

The merino is mostly confined to the large stations, where excellence of the clip is the chief desideratum, but on farms it is found more profitable to combine wool production with the raising of lambs for export. For this purpose a sheep of a more robust type than the merino is desirable, and it is found that, by crossing the merino with the Lincoln or either of the Leicester breeds, a strong-constitutioned, large-framed sheep that still carries a good wool is produced.

A favourite sheep of this class is the comeback. This is really a three-quarter merino, obtained by first crossing Lincoln rams on merino ewes, followed by a merino ram on the progeny. Comebacks give a very good clip of excellent and very saleable wool, and their frame and flesh are much in advance of the pure merino for mutton. A farmer's flock of comebacks will clip on the average 7 lbs. per head and will lamb between 80 per cent. and 90 per cent.

For the production of early lambs, the Shropshire, Suffolk, and South Down crosses are useful, for, although they are inferior in wool, they more than make up that loss in prolificacy and in early maturity of lambs. The Romney Marsh have proved very suitable for wet localities.

Cattle. Large stations where cattle raising for beef is carried on are now few and far between in Victoria. Nevertheless there are some famous Shorthorn, Hereford, and Polled Angus studs in the State that were founded in the pre-dairying days, and which have been maintained at such a high standard of excellence as to command the confidence and patronage of breeders throughout the Commonwealth.

Though few beef cattle are bred in Victoria, large numbers of stores from Queensland and other States are fattened annually for the metropolitan market on the native grasses.

Dairy Cattle. So far dairying has been confined to the richer country where the cows are fed on the natural pastures, but latterly much attention has been paid to the production of extra feed, with a consequent increase in the milk yield.

In the early days of settlement the cattle of the State were mainly Shorthorns and Herefords, and even to-day a strain of milking Shorthorn is very popular, especially in the richer districts. On lighter land and on small farms Ayrshires and Jerseys and lightweight crossbred stock are in more general use. The Ayrshire has become very popular during recent years, and the breeding of pure stock is now general. The dairying industry, with its steady weekly returns, has become increasingly popular for the man with small capital who is making a start on the land. This has been especially so since the advent of irrigation.

On large dairy farms the labour trouble is always a difficulty, but this has been overcome by the use of the milking machine and by what is known as the "share" system. Under this system the land, capital, stock, and implements are supplied by the owner, and the share-partner and his family supply the labour.

Systematic improvement in the quality of the dairy stock has taken place, and there is now a Government system of testing pedigree herds throughout the State, whereby accurate records of the milk yield and butter fat production of pure-bred cows are obtained. This information is useful to the breeders whose herds are tested, and, when published, forms a reliable guide to dairymen purchasing pure stock for mating with their ordinary dairy stock.

Pigs. Pig raising is the chief adjunct to the dairy farm, but the prices are subject to a good deal of fluctuation, owing to the fact that there is no extensive export trade. The Berkshire, Middle York, Large York, and Tamworth are the breeds kept. They are popular in the order given. Crosses between the Berkshire and the Middle York and between the Berkshire and Large York are very popular.

Agriculture and grazing, mining, and manufactures have been the three great sources of wealth to Victoria. Her development commenced with mining, owing to the richness of her gold deposits. Her future, however, largely depends on the developments possible in agriculture. If the agricultural resources are fully developed, we shall be able to carry in comfort a large population, and build up numerous profitable manufactures.

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 37 per cent. in 1916–17, as against slightly less than 5 per cent. in 1891–2. The area under cultivation in the Mallee last season was 1,859,144 acres, or about 28 per cent. of the total for the State.

Statistics show that the increase in agricultural activities has been fairly general throughout the State. The area cultivated in 1916–17 was 6,750,894 acres as against an annual average of 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 oversea countries increased from £537,978 in 1893 to £2,280,700 in 1916–17, while the value of oversea exports of frozen meat increased from £74,732 to £630,494 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 62 years :—

ACREAGE CULTIVATED ANNUALLY 1855 TO 1917.

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

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 seven seasons are given in the next table :—

ANNUAL ACREAGE OF FIVE PRINCIPAL CROPS 1855 TO 1917.

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

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 seven seasons was as follows:—

ANNUAL PRODUCTION OF PRINCIPAL CROPS 1855 TO 1917.

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	782,155
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	1,024,584	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

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 AREA IN EACH DISTRICT TO TOTAL AREA UNDER EACH OF THE PRINCIPAL CROPS, 1916-17.

District.	Percentage in each District of Area under—						
	Wheat.	Oats.	Barley.	Potatoes.	Hay.	Other Crops.	Fallow.
Central ..	1·35	10·97	36·65	43·69	20·87	35·23	3·26
North-Central	·91	5·38	6·65	16·22	7·16	3·23	1·05
Western ..	5·26	14·04	23·90	18·31	12·41	8·06	5·98
Wimmera ..	22·61	27·43	2·59	·47	15·41	2·49	34·38
Mallee ..	39·85	11·20	4·88	·01	14·93	8·24	21·44
Northern ..	27·17	23·56	15·54	·16	18·25	15·01	32·28
North-Eastern	2·17	5·35	1·18	2·74	4·94	8·14	1·32
Gippsland ..	·68	2·07	8·61	18·40	6·03	19·60	·29

NOTE.—For counties contained in each District, see table on page 721.

This statement shows that during last season 89 per cent. of the area under wheat was in the Wimmera, Mallee and Northern districts ; 51 per cent. of that under oats was in the Wimmera and Northern districts ; 60 per cent. of that under barley was in the Central and Western districts, and 96 per cent. of that under potatoes was in the Central, North-Central, Western and Gippsland districts. Hay was more uniformly cultivated over the whole State, though the proportion was somewhat small in the North-Central, North-Eastern and Gippsland districts. The Central district accounted for more than one-third of the area under minor crops, principally through a much larger area being used there for gardens and orchards and for peas than in other portions of the State. The fallowing of land is confined mainly to the wheat-growing districts.

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

PERCENTAGE OF AREA UNDER PRINCIPAL CROPS TO TOTAL CULTIVATION IN EACH DISTRICT, 1916–17.

District.	Percentage of Total Cultivation under—						
	Wheat.	Oats.	Barley.	Potatoes.	Hay.	Other Crops.	Fallow.
Central	8·73	10·01	7·04	6·65	38·71	16·04	12·82
North-Central ..	17·52	14·69	3·82	7·39	39·78	4·40	12·40
Western	32·59	12·28	4·40	2·67	22·05	3·52	22·49
Wimmera ..	43·43	7·44	·15	·02	8·49	·34	40·13
Mallee	67·01	2·66	·24	..	7·20	·98	21·91
Northern	47·77	5·85	·82	·01	9·21	1·86	34·49
North-Eastern ..	37·29	13·00	·60	1·11	24·37	9·86	13·77
Gippsland ..	13·71	5·92	5·18	8·77	34·99	27·93	3·50
Total of Victoria ..	46·30	6·54	1·38	1·09	13·29	3·26	28·14

NOTE.—For counties contained in each District, see table on page 721.

It is apparent that cultivation was confined mainly to wheat in the Wimmera, Mallee and Northern districts, and to wheat and hay in the Western and North-Eastern districts, and largely to hay in the Central and North-Central districts, and to hay and minor crops in the Gippsland district.

Principal crops compared with population.

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

AREA AND PRODUCTION PER HEAD OF POPULATION OF FIVE PRINCIPAL CROPS, 1901–2 TO 1916–17.

Year ended March.	Wheat.	Oats.	Barley.	Potatoes.	Hay.
	Area per Head of Population.				
	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

AREA AND PRODUCTION PER HEAD OF POPULATION OF FIVE PRINCIPAL CROPS, 1901–2 TO 1916–17—*continued.*

Year ended March.	Wheat.	Oats.	Barley.	Potatoes.	Hay.
	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

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 the years 1915 and 1916:—

VALUES OF FIVE PRINCIPAL CROPS.

Year.	Annual Value of—				
	Wheat.	Oats.	Barley.	Potatoes.	Hay.
	£	£	£	£	£
1907	2,443,906	791,162	241,507	383,145	3,023,128
1908	4,405,303	989,844	253,309	411,840	3,256,308
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
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Value per acre 1910–14 average	1 13 4	1 16 10	3 15 5	10 14 8	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

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

Wheat production.

On the experience of the past five seasons the area under wheat for grain represented 60 per cent. of the total under crop. The area harvested for, and the production of wheat last season were the second largest recorded, and the yield per acre was the highest experienced in the State since 1872-3. The acreage under wheat for grain, the total production, and the yield per acre are given in the next table for quinquennial periods from 1860 to 1905, and for each of the past twelve seasons :—

WHEAT PRODUCTION, 1860 TO 1917.

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

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 twelve seasons was 11·67 bushels, which is better than the corresponding averages for periods 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, 195,532 acres of wheat were cut for hay last season, so that the total area sown under wheat in 1916-17 was 3,321,224 acres. Early in August, 1917, it was estimated that the area under this grain 1917-18 was 2,933,600 acres—a decrease of about 388,000 acres as compared with the previous season.

Wheat growing in counties.

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 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.		
	1915.	1916.	1917.	1915.	1916.	1917.	1915.	1916.	1917.
	Acres.	Acres.	Acres.	Bushels.	Bushels.	Bushels.	Bush.	Bush.	Bush.
Central—									
Bourke ..	4,658	9,238	13,800	45,276	185,479	177,699	9·72	20·08	12·88
Grant ..	9,655	21,241	25,468	59,484	421,775	369,745	6·16	19·86	14·51
Mornington ..	507	1,592	2,264	8,922	30,312	7,671	17·60	19·04	3·39
Evelyn ..	144	364	688	1,791	7,257	3,852	12·44	19·94	5·60
North-Central—									
Anglesey ..	2,730	3,887	2,404	4,539	74,504	29,850	1·66	19·17	12·42
Dalhousie ..	3,705	7,310	4,116	26,361	147,034	59,332	7·11	20·11	14·41
Talbot ..	19,378	27,659	21,794	59,565	555,143	390,738	3·07	20·07	17·93
Western—									
Grenville ..	28,944	41,153	40,213	291,907	866,497	443,991	10·09	21·06	11·04
Polwarth ..	53	606	1,126	444	13,604	14,869	8·38	22·45	13·21
Heytesbury ..	95	91	122	1,444	1,514	1,766	15·20	16·64	14·48
Hampden ..	18,266	28,218	31,216	234,443	597,211	356,277	12·83	21·16	11·41
Ripon ..	69,302	84,202	74,491	348,364	1,816,962	993,144	5·03	21·58	13·33
Villiers ..	2,103	3,458	2,854	14,692	58,748	37,860	6·99	16·99	13·27
Normanby ..	1,034	1,684	2,158	11,990	26,375	31,574	11·60	15·66	14·63
Dundas ..	9,632	12,936	11,671	68,651	151,259	143,103	7·13	11·69	12·26
Follett ..	409	627	709	3,128	11,285	14,975	7·65	18·00	21·12
Wimmera—									
Lowan ..	180,777	245,654	179,678	331,734	4,123,207	3,221,407	1·84	16·78	17·93
Borung ..	390,251	540,588	377,319	372,455	10,417,851	8,485,152	·95	19·27	22·49
Kara Kara ..	159,767	204,592	149,700	174,463	3,961,735	2,942,951	1·09	19·36	19·66
Mallee—									
Millewa ..	1,590	1,895	2,935	833	15,477	45,372	·52	8·17	15·46
Weeah ..	180,537	222,972	232,409	32,452	2,733,097	3,384,045	·18	12·26	14·56
Karkarooc ..	497,189	607,873	595,041	174,612	6,454,452	8,793,665	·35	10·62	14·78
Tatchera ..	333,682	442,382	415,376	124,989	4,464,886	6,563,338	·37	10·09	15·80
Northern—									
Gunbower ..	63,413	67,785	63,365	14,473	1,039,108	1,007,076	·23	15·33	15·89
Gladstone ..	149,919	176,646	143,547	227,481	3,169,007	2,742,139	1·52	17·94	19·10
Bendigo ..	182,890	206,309	183,847	130,927	3,956,310	3,145,898	·72	19·18	17·11
Rodney ..	146,087	186,466	150,018	154,082	3,756,512	2,203,710	1·05	20·15	14·69
Moira ..	337,485	426,410	308,378	587,557	7,623,010	4,454,077	1·74	17·88	14·44
North-Eastern—									
Delatite ..	14,642	24,971	19,445	75,721	412,773	224,276	5·17	16·53	11·53
Bogong ..	44,942	60,460	47,024	209,560	979,887	520,379	4·66	16·21	11·07
Benambra ..	196	1,012	1,296	1,955	17,021	22,012	9·97	16·82	16·98
Wonnangatta ..	12	15	38	91	225	540	7·58	15·00	14·21
Gippsland—									
Croajingolong ..	21	36	57	280	1,021	912	13·33	28·36	16·00
Tambo ..	457	668	683	8,992	11,257	10,275	19·68	16·85	15·04
Dargo ..	492	788	873	8,448	11,196	13,365	17·17	14·21	15·31
Tanjil ..	7,798	15,135	15,983	116,733	338,158	247,102	14·97	22·34	15·46
Buln Buln ..	773	3,048	3,586	12,108	71,057	58,301	15·66	23·31	16·26
Total ..	2,863,535	3,679,971	3,125,692	3,940,947	58,521,706	51,162,438	1·38	15·90	16·37

The striking feature of the figures is the heavy yield shown for the Mallee District in 1916–17, the return per acre in that year having been greater by 57 per cent. in Tatchera, 39 per cent. in Karkarooc and 19 per cent. in Weeah than in the previous season, which was also a very favorable one.

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, 1907–8 TO 1916–17.

District and County.	Average Yield of Wheat per Acre (in Bushels) during Year ended March.									
	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.
Western District—										
Ripon	15·05	22·09	14·77	15·97	8·14	19·96	15·50	5·03	21·58	13·33
Wimmera District—										
Lowan	9·99	12·46	12·77	9·80	9·93	13·69	16·24	1·84	16·78	17·93
Borung	9·84	17·62	17·06	15·79	11·92	14·81	18·16	·95	19·27	22·49
Kara Kara ..	10·04	17·20	14·60	14·80	12·11	14·70	17·23	1·09	19·36	19·66
Mallee District—										
Weeah	6·23	12·01	11·66	12·52	4·95	10·03	4·89	·18	12·26	14·56
Karkarooc ..	2·51	9·11	10·17	11·41	5·84	7·58	5·44	·35	10·62	14·78
Tatchera ..	1·02	6·57	10·34	12·44	6·48	7·03	8·66	·37	10·09	15·80
Northern District—										
Gunbower ..	3·67	10·51	12·90	16·12	9·91	10·54	12·26	·23	15·33	15·89
Gladstone ..	7·64	15·19	14·28	14·15	11·63	13·00	17·38	1·52	17·94	19·10
Bendigo	6·29	15·84	16·71	18·92	12·22	14·37	15·60	·72	19·18	17·11
Rodney	7·32	15·88	15·21	15·23	11·50	14·60	14·75	1·05	20·15	14·69
Moira	5·61	10·77	14·49	16·25	10·83	14·52	16·14	1·74	17·88	14·44

The figures show that in seven of the twelve principal wheat growing counties the yields in 1916–17 were the highest recorded for the decade under review.

Wheat standard.

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 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 1917.

Season ended March.	Weight of Bushel (f.a.q.).	Season ended March.	Weight of bushel (f.a.q.).
	lbs.		lbs.
1902..	62½	1910..	62½
1903..	61	1911..	62½
1904..	60½	1912..	61½
1905..	61½	1913..	63
1906..	63	1914..	62½
1907..	62¾	1915..	62
1908..	62½	1916..	61
1909..	62½	1917..	60½

Stocks of wheat and flour.

It is estimated that about 9,500,000 bushels of wheat are required locally for food and seed. The stocks of wheat and flour in the State at 30th June, 1917, and at the same date in each of the previous seven years, were as follows :—

WHEAT AND FLOUR ON HAND, 30TH JUNE, 1910 TO 1917.

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

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 marketing 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 a view to the equitable participation by all growers in the sale of the wheat crop and the proceeds thereof.

For this purpose it was decided that oversea shipping should be under the control of chartering agents appointed by the Government, and that all freights should be allotted between the States in accordance with the exportable surplus of each. It was agreed that local realizations should be controlled by local administrations in each State, subject, however, to the general control of prices by the central body.

The Australian Wheat Board, consisting of Ministerial representatives of the Commonwealth and of the States, and an elected representative of the wheat growers, Mr. Clement Giles, of South Australia, has the duty of realizing the crop overseas. Oversea sales are generally arranged by the London Wheat Committee and the States concerned, who have the advice of London representatives of certain shipping agents who constitute an Advisory Board to the Australian Wheat Board.

In this State the crop was bought by the State Government and the internal operations are controlled by a body known as the Victorian Wheat Commission. The authority under which the crop is dealt with is conferred by the *Wheat Marketing Act* 1915. The provisions of this Act were extended to cover the 1916–17 harvest and further extended to cover the 1917–18 harvest. The position of the wheat pool in regard to Victoria for the two seasons 1915–16 and 1916–17 was as follows on 30th September, 1917 :—

	Season 1915–16.	Season 1916–17.
Total numberbu of shels received to 30th September, 1917	59,176,000	50,350,000
Amount paid to growers (cash at station) to 30th September, 1917	£11,594,000	£7,463,000
Total receipts for sales for both pools to 30th September, 1917	£12,792,000	
Bank overdraft at 30th September, 1917..	£1,166,000	

In connexion with the 1915–16 harvest, advances have so far been made to the extent of 4s. 6d. per bushel, from which have been deducted freight and handling charges.

Advances to the amount of 3s. per bushel have so far been paid on account of the 1916–17 harvest.

Wheat production of the world.

Reliable information relating to the wheat production of the world in 1916 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.

Oats.

In 1916-17 the area harvested for oats in Victoria was 441,598 acres, from which a yield of 8,289,289 bushels was obtained, giving an average of 18·77 bushels to the acre. The following statement shows the harvest results for this crop for each of the past twelve seasons and for five-year periods prior thereto back to 1865 :—

OATS GROWN, 1865 TO 1917.

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

In addition to the area for grain shown for last season there were 672,905 acres of oats cut for hay, so that the total area sown with oats in 1916-17 was 1,114,503 acres. In August, 1917, it was estimated that the area under this grain for 1917-18 was 875,900 acres, or a decrease of about 239,000 acres as compared with the previous season. Imports into Victoria from oversea countries during 1916-17 included 1,315 bushels of oats, as well as 10,114 lbs. of oatmeal, whilst in the same year there were exported from Victoria to these countries 398,240 bushels of oats and 277,940 lbs. of oatmeal.

Barley.

The area under barley in 1916-17 was 93,015 acres, of which 43,131 were under malting, and 49,884 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, 1907–08 TO 1916–17.

Year ended March.	Area under Crop.		Produce.		Average per Acre.		
	Malting.	Other.	Malting.	Other.	Malting.	Other.	Total.
	Acres.	Acres.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1908 ..	41,940	21,134	747,315	311,980	17·82	14·76	16·79
1909 ..	42,382	21,766	1,013,384	497,797	23·63	22·87	23·38
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	293,781	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

During 1916, 1,428,890 bushels of barley were used locally in the production of 1,410,270 bushels of malt.

Potatoes. The area planted with potatoes in 1916–17 was 73,618 acres, and the production was 187,992 tons, which represented a yield of 2·55 tons per acre as compared with 3·05 tons in the previous season and 2·89 tons in 1914–15. The following table shows the potato returns for the past twelve years and for earlier years in five-year periods back to 1860 :—

POTATO PRODUCTION, 1860 TO 1917.

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

The estimated value of the potatoes produced last season was £550,086, as against £1,017,563 for the preceding year, and £800,269 for the year 1914–15.

Hay. In 1916 the production of hay amounted to 1,232,721 tons, as against 2,342,094 tons in the previous year and 568,956 tons in 1914. The quantity of straw returned for the season 1916–17 was 78,302 tons as against 104,495 tons for the previous year. The hay returns for five-year periods from 1860 to 1904 and for each of the past twelve seasons are shown in the following table :—

HAY PRODUCTION, 1860 TO 1916.

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	591,771	864,177	1·46
1906	621,139	881,276	1·42
1907	682,194	682,370	1·00
1908	956,371	1,415,746	1·48
1909	864,359	1,186,738	1·37
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

The estimated value of hay was £2,033,990 for 1916, as compared with £4,098,664 for 1915 and £4,181,827 for 1914. Of the total hay produced in 1916, 929,401 tons were oaten, 261,306 tons were wheaten, and 42,014 tons were made from lucerne and other crops, and the yields per acre were 1·34, 1·38, and 1·46 tons respectively.

Crops in Australian States and New Zealand.

The following return shows the yield of the principal crops in the various Australian States and New Zealand for each of the ten years ended March, 1917 :—

YIELD OF PRINCIPAL CROPS IN AUSTRALASIA, 1907-8 TO 1916-17.

Year ended March.	Victoria.	New South Wales.	Queensland.	South Australia.	Western Australia.	Tasmania.	New Zealand.
WHEAT.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1908 ...	12,100,780	9,155,884	693,527	19,135,557	2,925,690	644,235	5,567,139
1909 ...	23,345,649	15,483,276	1,202,799	19,397,672	2,460,823	700,777	8,772,790
1910 ...	28,780,100	28,532,029	1,571,589	25,133,851	5,602,368	793,660	8,661,100
1911 ...	34,813,019	27,913,547	1,022,373	24,344,740	5,897,540	1,120,744	8,273,926
1912 ...	20,891,877	25,318,092	285,109	20,352,720	4,358,904	659,615	8,290,221
1913 ...	26,223,104	32,475,813	1,975,505	21,496,216	9,168,594	630,315	5,179,626
1914 ...	32,936,245	38,029,082	1,769,432	16,936,988	13,331,350	349,736	5,231,700
1915 ...	3,940,947	12,830,530	1,585,087	3,527,428	2,624,190	384,220	6,644,336
1916 ...	58,521,706	66,764,910	414,438	34,134,504	18,236,355	993,790	7,108,360
1917 ...	51,162,438	36,743,500	2,463,141	43,830,972	16,103,216	348,330	5,055,457
OATS.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1908 ...	5,201,408	851,776	9,900	874,388	721,753	1,526,002	15,021,861
1909 ...	11,124,940	1,119,558	38,811	1,280,235	739,303	1,946,010	18,906,788
1910 ...	7,913,423	1,966,586	50,018	1,209,131	1,248,162	2,347,548	13,804,000
1911 ...	9,699,127	1,702,706	50,469	1,136,618	776,233	2,063,303	10,093,564
1912 ...	4,585,326	1,155,164	5,783	1,349,480	961,385	1,504,633	10,118,917
1913 ...	8,323,639	1,670,181	82,420	1,673,508	2,105,812	2,257,258	13,583,924
1914 ...	8,890,321	1,834,824	56,236	1,200,740	1,655,681	1,593,664	14,740,946
1915 ...	1,608,419	513,910	43,607	368,425	464,976	1,341,800	11,436,301
1916 ...	9,328,894	1,345,698	2,454	2,134,374	1,538,092	2,189,467	7,653,208
1917 ...	8,289,289	†	108,664	1,825,503	1,689,352	1,006,183	5,470,405
BARLEY.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1908 ...	1,059,295	75,148	64,881	566,937	76,205	149,186	1,163,406
1909 ...	1,511,181	166,538	137,667	825,740	74,433	158,645	1,938,452
1910 ...	1,023,384	272,663	193,586	691,424	101,673	153,654	1,304,000
1911 ...	1,340,387	82,005	83,621	544,471	33,566	142,318	920,536
1912 ...	1,024,584	130,998	15,369	702,855	37,011	148,009	927,112
1913 ...	1,744,527	338,179	146,847	1,318,734	93,418	265,908	1,377,610
1914 ...	1,812,890	302,940	115,975	1,332,714	167,915	187,484	1,205,628
1915 ...	600,599	46,500	105,613	447,310	24,090	104,798	596,828
1916 ...	1,734,511	114,846	8,130	1,697,670	130,870	115,523	820,174
1917 ...	1,799,784	†	250,167	1,839,692	134,055	88,696	737,982
POTATOES.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1908 ...	135,110	55,882	13,177	20,263	5,671	145,483	142,999
1909 ...	152,840	71,794	11,550	21,588	6,695	121,605	195,206
1910 ...	174,970	100,143	13,544	18,569	5,948	73,862	180,500
1911 ...	163,312	121,033	15,632	23,920	5,864	70,090	138,025
1912 ...	119,092	75,166	13,087	22,668	9,312	62,164	141,510
1913 ...	191,112	84,232	16,386	33,078	13,558	72,565	147,689
1914 ...	176,602	95,704	16,548	32,950	17,803	80,389	157,194
1915 ...	189,225	40,709	16,014	18,035	14,724	78,907	132,635
1916 ...	173,821	44,445	7,439	12,991	14,118	79,890	128,807
1917 ...	187,992	†	19,457	†	16,841	67,038	130,807
HAY.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1908 ...	682,370	376,800	77,601	376,170	137,511	98,406	†
1909 ...	1,415,746	730,014	92,947	591,141	170,008	137,518	†
1910 ...	1,186,738	981,201	96,854	574,475	195,182	118,746	†
1911 ...	1,292,410	843,044	151,252	595,064	178,891	115,190	†
1912 ...	1,032,288	728,533	94,553	605,239	299,695	107,684	†
1913 ...	1,572,933	1,089,602	119,867	714,766	255,751	183,079	†
1914 ...	1,350,374	954,592	103,935	571,616	278,565	112,958	†
1915 ...	568,956	613,235	102,193	210,437	156,784	81,971	†
1916 ...	2,342,094	1,573,938	53,858	1,100,127	395,172	168,450	583,262
1917 ...	1,232,721	†	145,279	616,104	236,989	103,141	446,505

† No Information.

Prices of agricultural produce.

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 fifteen years :—

PRICES OF PRODUCE, 1903 TO 1917.

Year.	Average Price in February and March.							
	Wheat.	Oats.	Barley.		Hay.	Potatoes.	
			Malting.	Other.		Early Crop.	Main Crop (after March).
	Per bushel.	Per bushel.	Per bushel.	Per bushel.	Per ton.	Per ton.	Per ton.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
1903.. ..	6 0	3 2¾	4 5¾	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	191 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 9¼	1 9¼	3 9¾	2 5	46 0	80 0	51 0
1910.. ..	3 9¾	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 4¾	2 10¾	5 7	3 11¼	62 0	116 0	101 0
1913.. ..	3 3¾	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 0¾	4 11¼	5 8¾	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

The highest and lowest prices of wheat in Melbourne during each month in the last three years were as follows :—

PRICES OF WHEAT IN MELBOURNE, 1914, 1915, AND 1916.

Month.	Price per Bushel.					
	1914.		1915.		1916.	
	Highest.	Lowest.	Highest.	Lowest.	Highest.	Lowest.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
January ..	3 7	3 5	7 6	6 8¼	5 2½	5 2½
February ..	3 10	3 6¼	8 4	7 8	5 2½	5 2½
March ..	3 10¾	3 8¾	8 6	7 10	5 5	5 3½
April	3 9½	3 9	8 0	7 9	5 5	5 5
May	3 11	3 9¾	8 1½	8 0	5 5	5 5
June ..	3 11½	3 10	8 0	7 10	5 5	5 0
July	3 11	3 10	8 3¼	7 11	5 0	4 9
August ..	4 8½	4 2	8 3	7 6	4 9	4 9
September ..	5 1½	4 9	8 3	7 0	4 9	4 9
October ..	4 9	4 9	8 0	7 8	4 9	4 9
November ..	5 6	4 9	7 0	5 0	4 9	4 9
December ..	6 9	6 6	5 3½	5 2	4 9	4 9

Other Crops. The area under other than principal crops and the production since March, 1911, are shown in the subjoined table :—

OTHER THAN PRINCIPAL CROPS, 1911–12 TO 1916–17.

Crop.	Area.	Production.	Area.	Production.	Area.	Production.
	1911–12.		1912–13.		1913–14.	
	Acres.	Bushels.	Acres.	Bushels.	Acres.	Bushels.
Maize.. ..	18,223	792,660	19,986	715,299	17,962	800,529
Rye	1,098	9,981	1,428	17,141	1,779	19,029
Peas	11,535	181,113	11,875	232,856	11,774	206,846
		Tons.		Tons.		Tons.
Mangel-wurzel	797	9,568	1,121	14,615	952	15,642
Beet, Carrots, Parsnips, and Turnips ..	658	4,953	627	5,628	470	3,166
Onions ..	3,652	20,911	4,977	28,641	6,121	24,755
Green Forage ..	75,177	..	84,460	..	98,963	..
		Bushels.		Bushels.		Bushels.
Grass and Clover Seeds ..	1,188	9,503	2,429	23,206	1,452	16,349
		Cwt.		Cwt.		Cwt.
Hops ..	122	777	131	1,387	117	961
Tobacco ..	356	3,686	138	661	284	2,037
Vines—Grapes..	24,193	683,250	24,579	733,579	22,435	836,493
Flax	443	1,327 fibre, 1,958 seed	648	1,189 fibre, 4,536 seed	1,046	1,096 fibre, 3,768 seed
Gardens and Orchards ..	70,316	..	73,623	..	77,960	..
Minor Crops ..	4,741	..	5,942	..	6,476	..
Land in Fallow	1,469,608	..	1,627,223	..	1,738,572	..
Artificial Grasses	1,041,772	..	1,085,346	..	1,094,566	..
	1914–15.		1915–16.		1916–17.	
	Acres.	Bushels.	Acres.	Bushels.	Acres.	Bushels.
Maize.. ..	19,433	1,018,419	22,258	999,886	23,076	1,172,330
Rye	1,955	13,415	3,137	42,857	3,481	42,953
Peas	12,159	114,493	8,221	147,488	9,642	154,964
		Tons.		Tons.		Tons.
Mangel-wurzel	893	8,921	1,091	13,067	860	10,307
Beet, Carrots, Parsnips, and Turnips ..	563	2,249	758	4,938	524	2,025
Onions ..	8,937	31,528	9,294	37,587	6,324	28,163
Green Forage ..	139,654	..	60,426	..	49,667	..
		Bushels.		Bushels.		Bushels.
Grass and Clover Seeds ..	149	1,100	2,435	24,087	1,769	13,174
		Cwt.		Cwt.		Cwt.
Hops.. ..	115	903	107	855	87	975
Tobacco ..	196	1,192	160	596	73	†
Vines—Grapes..	21,801	620,876	22,353	1,084,766	23,264	1,013,197
Flax ..	671	1,385 fibre, 1,827 seed	361	1,987 fibre, 1,370 seed	443	1,371 fibre, 1,481 seed
Gardens and Orchards ..	87,237	..	91,499	..	93,833	..
Minor Crops ..	6,904	..	6,497*	..	7,183*	..
Land in Fallow	1,346,545	..	1,358,343	..	1,899,559	..
Artificial Grasses	1,202,130	..	1,182,995	..	1,292,817	..

* For details see page 740. † Not available.

Maize. The area under maize for grain in 1916–17 was 23,076 acres, and the production was 1,172,330 bushels, which was the largest total recorded and represented a yield of 50·80 bushels per acre as compared with 44·92 bushels in the preceding season, 52·41 bushels in 1914–15, 44·57 bushels in 1913–14, 35·79 bushels in 1912–13, and 43·50 bushels in 1911–12. Of the total production for last season, 90 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 twelve seasons and for five-year periods prior thereto back to 1890 :—

MAIZE PRODUCTION, 1890 TO 1917.

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

On the average of the past five seasons the yield per acre was 45·7 bushels as against 65·4 in 1900–5, 53·5 in 1895-1900, and 50·4 in 1890–5. 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 1916–17 was 3,481 acres, from which 42,953 bushels of grain were obtained. The production was 42,857 bushels in the previous season, and 13,415 bushels in 1914–15. Although rye was grown in all districts, except the Mallee, the North-Eastern district supplied 51 per cent. of the total area and 54 per cent. of the production in 1916–17.

Peas. The area under peas in 1916–17 was 9,642 acres, and the return 154,964 bushels, the former being 1,421 acres more and the latter 7,476 bushels more than in the previous year. Last season peas were grown to some extent in all districts except the Mallee. The counties from which the largest returns were obtained

were Grant 26,097 bushels, Buln Buln 21,046 bushels, Bourke 16,543 bushels, Tanjil 16,049 bushels, and Mornington 9,936 bushels. The production of peas in the five counties mentioned was equal to 58 per cent. of the total for the whole State.

Mangel-wurzel.

In 1916–17 there were 860 acres under mangel-wurzel, as against 1,091 in the previous season, 893 in 1914–15, 952 in 1913–14, 1,121 in 1912–13, and 797 in 1911–12. The production last year was 10,307 tons, as compared with an average of 12,363 tons for the preceding five-year period. Mangolds are grown principally in the counties of Villiers, Grant, Buln Buln, Tanjil, Mornington, and Grenville. The production for last season in the counties mentioned represented 74 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 and production as compared with the previous season. In 1916–17 the extent of land sown was 524 acres, as against 758 in the preceding year, 563 in 1914–15, 470 in 1913–14, 627 in 1912–13, 658 in 1911–12, and 872 in 1910–11. The produce for last year was 2,025 tons as compared with 4,938 in the previous season.

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 4,713 tons from 988 acres; in Grenville, 6,962 tons from 1,568 acres; in Villiers, 3,927 tons from 647 acres; in Buln Buln, 2,472 tons from 567 acres; in Mornington, 1,850 tons from 801 acres; in Grant, 3,293 tons from 851 acres; and in Polwarth, 4,115 tons from 678 acres. The following is a statement showing the area and yield for the last twenty years :—

ONION CULTIVATION, 1897–8 TO 1916–17.

Year.	Area.	Produce.	Year.	Area.	Produce.
	Acres.	Tons.		Acres.	Tons.
1897–8 ..	3,751	11,217	1907–8 ..	4,249	22,649
1898–9 ..	4,472	17,308	1908–9 ..	5,340	24,384
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

The area under onions in 1916–17 was considerably lower than in the previous season, but the return per acre was greater by about 8 cwt.

Green forage. The area devoted to green forage in 1916–17 was only 49,667 acres, as compared with 60,426 in the previous season, 139,654 in 1914–15, 98,963 in 1913–14, 84,460 in 1912–13, 75,177 in 1911–12, and 71,826 in 1910–11.

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

ENSILAGE RETURNS, 1907–8 TO 1916–17.

Year ended March.	Number of Farms on which made.	Number of Silos (Pits and Stacks).	Weight of Materials used.
			Tons.
1908	203	260	11,031
1909	392	494	18,205
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

Grass and clover seed. The area harvested for grass and clover seed last season was 1,769 acres, as compared with 2,435 acres in the previous year, 149 acres in 1914–15, 1,452 acres in 1913–14, and 2,429 acres in 1912–13. The production in 1916–17 was 13,174 bushels, as against 24,087 bushels in the previous year, 1,100 bushels in 1914–15, 16,349 bushels in 1913–14, and 23,206 bushels in 1912–13.

Hops. The hop-growing industry attained its maximum development in 1883–4, when 1,758 acres yielded 15,717 cwt. In 1916–17 there were only 18 growers whose return from 87 acres was 975 cwt. The area cultivated last year was the smallest since 1872–3. Delatite, Bogong, Dargo, Polwarth, Heytesbury, and Buln Buln were the only counties in which hops were grown last season.

Flax. The flax (Linum Usitatissimum) growing industry is assisted by the Commonwealth Government, which gives producers a bounty of 10 per cent. on the market value of the fibre produced. This, together with the satisfactory price obtained and the fact that a very large market exists for the fibre, should enable the industry to make considerable progress. The whole of last season's produce came from the counties of Buln Buln and Grant. Particulars

of the crop for the last eight years are given in the following statement :—

FLAX: 1909–10 TO 1916–17.

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	..

In 1916–17 imports into Victoria from countries outside Australia included linseed to the value of £4,228, linseed oil worth £19,081, and fibre worth £252,759.

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 the smallest since 1859–60. There are tobacco plantations in Delatite, along the banks of the King River, and in Bogong. Particulars relating to the cultivation of tobacco for the last twenty years are as follows :—

CULTIVATION OF TOBACCO, 1897–8 TO 1916–17.

Year.	Number of Growers.	Area.	Produce.
		Acres.	Cwt. (dry).
1897–8..	77	522	3,419
1898–9..	31	78	190
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	..

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 a slight increase in the number of growers. Vineyards are distributed fairly well over the State, but there are certain districts where the principal industries are connected with vine-growing. The Shire of Mildura produced last season 826,970 cwt. of grapes; Rutherglen, 61,793 cwt.; and Yackandandah, 1,053 cwt. In the Goulburn Valley wine-making is a flourishing industry. In the County of Borung there are many vineyards, particularly in the Stawell Shire, where 12,265 cwt. of grapes was produced in 1916–17. At Mildura the crop is principally dried for raisins and currants. The results of fifteen years' operations are given below :—

VINE PRODUCTION, 1903 TO 1917.

Year ended June.	Number of Growers.	Area.	Produce.			
			Grapes gathered.	Wine Made.	Raisins Made.	Currants Made.
		Acres.	Cwt.	Gallons.	Cwt.	Cwt.
1903 ..	2,347	28,374	444,966	1,547,188	35,534	3,722
1904 ..	2,260	28,513	654,965	2,551,150	53,447	7,490
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	605,636	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

Of the total quantity of grapes gathered in 1917, 185,230 cwt. was used for making wine, 775,847 cwt. for raisins and currants, and 52,120 cwt. for table consumption and export. Of the 142,970 cwt. of raisins made, 103,121 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 120,000 cwt. of the production in 1917 is available for Inter-State or oversea export. A year's consumption of currants is about 30,000 cwt., which would enable approximately 36,000 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 7,309 in 1916–17, as against 7,319 in the previous season, 6,811 in 1914–15, 6,498 in 1913–14, 6,285 in 1912–13, and 5,955 in 1911–12. The area under orchards in each of those years was 79,247, 76,382, 70,392, 63,058, 59,119, and 55,769 acres

respectively. The orchards are fairly spread over the whole State. The counties having the largest areas last season were as follows:—Evelyn, 14,690 acres; Bourke, 13,864 acres; Mornington, 12,772 acres; Rodney, 8,360 acres; Moira, 4,968 acres; Karkarooc (including Mildura), 3,435 acres; Talbot, 3,351 acres; Bendigo, 2,999 acres; Borung, 1,884 acres; Grant, 1,831 acres; Tatchera, 1,251 acres; and Buln Buln, 1,243 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 under orchards growing fruit for sale increased from 5,800 acres in 1872–3 to 10,048 in 1882–3, 31,370 in 1892–3, 44,502 in 1902–3, 59,119 in 1912–13, and 79,247 acres in 1916–17, which is the largest area recorded. The striking feature of the figures

relating to the production of orchards in 1916–17 is the small quantity of apples and the large quantity of peaches gathered. The former was 79 per cent. below and the latter 159 per cent. above the corresponding quantities for the previous season. 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, 1907-8 TO 1916-17.

Year ended March.	Number of Fruit-growers.	Area under Gardens and Orchards.	Large Fruits Gathered.			
			Apples.	Pears.	Quinces.	Plums.
		Acres.	Bushels.	Bushels.	Bushels.	Bushels.
1908	5,241	49,212	618,424	182,609	47,871	157,366
1909	5,586	50,675	1,241,826	373,145	99,608	167,012
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

Year ended March.	Large Fruits Gathered—*continued.*						
	Cherries.	Peaches.	Apricots.	Oranges.	Lemons.	Figs.	Others.
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels	Bushels
1908	71,798	290,178	239,735	28,620	46,827	20,460	10,753
1909	95,012	282,040	149,262	22,363	38,548	23,687	17,462
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

	Small Fruits Gathered.					Nuts Gathered.			
	Raspberries.	Strawberries.	Gooseberries.	Currants, Red, Black, & White.	Others.	Almonds.	Walnuts.	Filberts.	Chestnuts.
	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	lbs.	lbs.	lbs.	lbs.
1908	12,466	3,645	8,526	3,705	2,145	62,921	20,266	1,928	5,047
1909	8,640	4,874	6,950	1,278	2,747	91,230	23,100	3,323	3,355
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

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	1·18	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 (p. 737), large quantities of melons, rhubarb and tomatoes were produced in the orchards, the following being the quantities returned for 1916-17—Melons, 9,809 cwt.; rhubarb, 22,481 dozen bundles; and tomatoes, 42,969 cwt. There were also 3,840 acres laid down in private fruit gardens, the value of the produce from which was estimated at about £7,680.

Value of fruit sold.

According to prices received by growers the value of fruit which reaches market was estimated to be £373,600 in 1908-9, £423,500 in 1909-10, £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, and £575,264 in 1916-17. 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 £35,000.

Cider-making. Cider-making is now an established industry in the State. The output of the various firms engaged in making the beverage is increasing each season, the quality is good, and the demand is improving.

Market gardens. The area under market gardens for the year 1916–17 was 10,746 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 £25 per acre is regarded as a fair estimate. On this basis, the total value of the produce may be given as £268,650. 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.

Dried fruit. 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 1916–17 the production was 772,323 lbs., which exceeded the total for the previous year by 166,500 lbs. The details for the last ten seasons are as follows :—

DRIED FRUIT, 1907–8 TO 1916–17.

Year ended June.	Apples.	Prunes.	Peaches.	Apricots.	Figs.	Pears.	Total.
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
1908 ..	35,544	25,504	87,383	223,091	13,112	8,077	392,711
1909 ..	69,120	56,183	84,514	170,620	26,796	30,322	437,555
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

A striking feature of the returns for last season was the decrease in dried apples and the great increases in peaches, apricots, and pears. Nearly all the dried apples came from Evelyn. The bulk of the other dried fruit, except prunes, comes from Mildura, where in 1916–17 there were made, in addition to fruits included above, 15,596,224 lbs. of raisins, or 3,888,976 lbs. less than in the previous season.

Minor crops. 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, 1915-16 AND 1916-17.

Crop.	1915-16.		1916-17.	
	Area.	Produce.	Area.	Produce.
	Acres.		Acres.	
Beans	342	4,020 bushels	314	1,987 bushels
Chicory	805	595 tons (dry)	658	515 tons (dry)
Flowers	116	...	221	...
Garlic	1	29 cwt.	4	240 cwt.
Herbs	11	...	12	...
Millet—Broom ...	656	4,904 cwt. fibre 4,414 cwt. seed	1,096	5,256 cwt. fibre 1,613 cwt. seed
,, Japanese ...	59	367 cwt. seed	47	215 cwt. seed
Nursery	1,236	...	1,162	...
Opium poppies ...	2	5 lbs.	1	6 lbs.
Peanuts	59	1,729 lbs.	...	...
Pumpkins	2,440	18,380 tons	2,064	11,103 tons
Rice	4	...	...	...
Seeds—Agricultural and Garden ...	227	...	189	...
Sugar Beet	461	4,928 tons	1,320	15,159 tons
Sunflowers	78	915 cwt.	95	1,006 cwt.
Total	6,497	...	7,183	...

Land in fallow. While the fallowing of land in Victoria commenced in 1858, and increased in popularity in later years, it is only within the past twelve years that this method of cultivation has become fairly general throughout the State. The area fallowed in 1916-17 was 1,899,559 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 nineteen years was as follows :—

LAND IN FALLOW.

Year ended March.	Acres.	Year ended March.	Acres.
1899	517,242	1909	1,034,422
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		

Nearly all of the fallowed area is devoted to wheat production. Of the 1,899,559 acres in fallow last season 653,030 were in the Wimmera, 613,101 in the Northern, and 407,330 in the Mallee District. The area for these three districts represented 88 per cent. of the total for the State.

Manure used.

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 33,165 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, 1902 TO 1916.

Year.	Farmers using.	Area used on.	Manure used—	
			Natural.	Artificial.
		Acres.	Tons.	Tons.
1902	18,537	1,099,686	206,676	36,630
1903	19,921	1,205,443	207,817	41,639
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

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 1911 and 1912, 74 per cent.; in 1913, 77 per cent.; and in 1916, 80 per cent. During 1916–17 the quantity of manure imported into Victoria from oversea countries was 81,831 tons, valued at £193,038. This included 51,880 tons of rock phosphates from Ocean Island valued at £122,508.

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, 1907 TO 1916.

Year.	Males.	Females.	Total.
1907	93,981	51,905	145,886
1908	94,990	52,410	147,400
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

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 24,000 men employed continuously throughout the year.

Wages—agricultural and pastoral.

In the next return will be found particulars of the rates of wages paid (with rations) upon farms and pastoral holdings during 1916–17. The information has been furnished by the occupiers of holdings:—

WAGES, AGRICULTURAL AND PASTORAL, 1916–17.

Occupations.	Range.	Prevailing Rate.
Ploughmen	25s. to 50s. per week ..	30s. per week
Farm labourers	20s. to 50s. „ ..	27s. 6d. „
Threshing machine hands ..	9d. to 1s. per hour ..	10d. per hour
Harvest hands	7s. to 10s. per day ..	8s. per day
Milkers	20s. to 30s. per week ..	25s. per week
Maize pickers (without rations) ..	5d. to 7d. per bag ..	6d. per bag
Hop pickers „ „ ..	3d. to 5d. per bushel ..	4d. per bushel
Married couples	30s. to 60s. per week ..	40s. per week
Female servants	10s. to 25s. „ ..	15s. „
Men cooks	25s. to 50s. „ ..	30s. „
Stockmen	£52 to £100 per annum ..	£65 per annum
Generally useful men	20s. to 40s. per week ..	25s. per week
Shearers, hand*	20s. to 25s. per 100 sheep	24s. per 100 sheep
„ machine*	20s. to 25s. „ ..	24s. „
Bush carpenters	30s. to 60s. per week ..	35s. per week
Gardeners, market	20s. to 40s. „ ..	27s. 6d. „
„ orchard	20s. to 50s. „ ..	27s. 6d. „
Vineyard hands	20s. to 50s. „ ..	25s. „

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

Farm Implements.

The numbers of engines, horse-works, machines and other implements on agricultural, dairying, and pastoral holdings in March, 1917, were as follows :—

MACHINERY AND IMPLEMENTS ON FARMS AND PASTORAL HOLDINGS IN EACH DISTRICT, 1917.

District.	Number of—													
	Engines.		Horseworks.	Harvesters.	Threshing Machines.	Winnowing Machines.	Reapers and Binders.	Strippers.	Ploughs.	Harrows.	Cultivators.	Grain Drills.	Chaff-cutters.	Cream Separators.
	Steam.	Oil.												
1917.														
Central ..	460	1,818	1,609	437	87	225	4,405	44	19,776	13,269	7,255	3,319	6,097	6,732
North-Central	225	511	827	313	48	310	1,985	61	5,526	3,922	1,497	1,500	2,059	3,490
Western ..	240	1,928	1,424	1,348	116	239	3,620	93	11,520	7,860	2,551	2,858	3,649	6,679
Wimmera ..	135	1,915	1,936	4,242	125	1,356	3,820	1,894	8,849	6,041	4,881	4,448	4,175	4,050
Mallee ..	111	699	1,002	2,720	36	1,634	2,081	3,589	6,572	3,570	4,036	3,660	1,723	1,968
Northern ..	608	973	1,379	6,047	112	1,680	5,622	1,179	14,467	9,400	8,382	5,959	2,741	6,828
North-Eastern	341	363	703	621	50	304	1,842	218	5,509	3,557	1,435	1,230	1,442	2,798
Gippsland ..	306	884	604	210	109	152	1,560	25	9,655	7,152	3,223	1,364	2,435	5,505
Total, 1917	2,426	9,091	9,484	15,938	683	5,900	24,885	7,103	81,874	54,771	33,260	24,338	24,321	38,050
,, 1916	2,588	8,220	10,122	14,832	606	6,267	24,872	7,884	82,124	54,237	32,882	24,090	24,245	36,349
,, 1915	2,612	7,436	10,408	12,988	525	6,604	23,421	8,403	81,810	53,261	31,241	22,810	23,688	35,187
,, 1914	2,709	6,586	10,598	13,427	574	6,553	23,701	8,287	80,197	52,876	30,447	22,128	24,050	34,733
,, 1913	2,664	5,274	10,994	12,575	515	6,828	23,088	8,556	77,847	52,196	28,274	20,962	23,754	32,561
,, 1912	2,873	4,271	11,376	12,027	475	6,870	21,973	8,621	75,368	50,208	26,752	19,865	23,172	30,891

NOTE.—The returns collected in March, 1917, showed that there were also in use 1,465 milking machine plants, 4,556 shearing machines, 4,064 wool presses, and 1,698 grain graders.

The numbers of all kinds of machinery and implements, except steam-engines, horse-works, winnowing machines and strippers, were greater in 1917 than in 1912. In the intervening period the increase per cent. was 113 for oil engines, 25 for shearing machines, 33 for harvesters, 44 for threshing machines, 24 for cultivators, and 23 for grain drills and cream separators.

PASTORAL AND DAIRYING INDUSTRIES.

Live Stock.

The pastoral and dairying industries have always been 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 50 years is shown in the next

table, which gives the numbers of horses, milch 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.

LIVE STOCK IN VICTORIA AT SIX CENSUS PERIODS.

Census Year.	Horses (including foals).	Cattle—		Sheep.	Pigs.
		Milch 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
	Per Head of Population.				
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
	Per Square Mile.				
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

There were more horses and milch cows and fewer sheep per head of population in 1911 than in 1891. The great increase in milch cows since 1891 indicates the growth of the dairying industry which followed the regular and successful transport of Victorian butter to England. 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 306 sheep in 1911 as against 237 in 1881—an increase of 29 per cent. in the carrying capacity of the land in 30 years.

Size of holdings, showing areas cultivated and grazed.

Information relating to land occupied and cultivation and live stock thereon was collected in March, 1913. 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, 1913.

Size of Holdings. (In Acres.)	Privately-owned Land.		Crown Land held in conjunction with that privately owned.	Total Area Occupied.	Area under—	
	Number of Holdings.	Area Occupied.			Cultivation.	Pasture, &c.
		Acres.	Acres.	Acres.	Acres.	Acres.
1 to 5	4,158	12,627	44,966	57,593	3,458	54,135
6 „ 15	5,052	51,293	13,442	64,735	16,894	47,841
16 „ 30	5,259	117,141	58,577	175,718	36,188	139,530
31 „ 50	4,288	175,898	111,784	287,682	50,606	237,076
51 „ 100	7,356	558,534	145,742	704,276	138,352	565,924
101 „ 200	9,891	1,477,244	334,088	1,811,332	329,657	1,481,675
201 „ 300	5,698	1,428,071	428,597	1,856,668	311,947	1,544,721
301 „ 320	2,894	914,365	454,144	1,368,509	233,921	1,134,588
321 „ 400	3,179	1,149,040	351,048	1,500,088	263,975	1,236,113
401 „ 500	3,073	1,390,510	283,553	1,674,063	363,700	1,310,363
501 „ 600	2,451	1,352,613	402,941	1,755,554	362,674	1,392,880
601 „ 640	2,509	1,583,779	154,348	1,738,127	433,671	1,304,456
641 „ 700	1,267	851,486	334,013	1,185,499	207,262	978,237
701 „ 800	1,608	1,210,856	278,910	1,489,766	302,622	1,187,144
801 „ 900	1,135	966,221	224,076	1,190,297	245,126	945,171
901 „ 1,000	1,211	1,158,447	404,668	1,563,115	319,990	1,243,125
1,001 „ 1,500	2,784	3,417,332	1,074,628	4,491,960	875,165	3,616,795
1,501 „ 2,000	1,208	2,091,974	293,421	2,385,395	457,373	1,928,022
2,001 „ 2,500	552	1,239,679	484,480	1,724,159	214,073	1,510,086
2,501 „ 3,000	305	840,565	714,723	1,555,288	119,619	1,435,669
3,001 „ 4,000	348	1,208,523	148,751	1,357,274	163,726	1,193,548
4,001 „ 5,000	167	754,331	222,295	976,626	68,913	907,713
5,001 „ 7,500	185	1,125,383	253,977	1,379,360	71,262	1,308,098
7,501 „ 10,000	82	700,479	88,871	789,350	40,648	748,702
10,001 „ 15,000	78	963,016	391,783	1,354,799	21,926	1,332,873
15,001 „ 20,000	38	646,029	7,460	653,489	7,084	646,405
20,001 „ 30,000	20	494,237	396	494,633	8,747	485,886
30,001 „ 40,000	11	362,726	3,839	366,565	1,023	365,542
40,001 „ 50,000	3	135,558	1,232	136,790	596	136,194
50,001 and upwards ..	1	51,400	..	51,400	230	51,170
Total ..	66,811	28,429,357	7,710,753	36,140,110	5,670,428	30,469,682

Size of holdings and live stock thereon.

The last table shows the areas devoted to cultivation and grazing on different-sized holdings in March, 1913, 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, 1913.

Size of Holdings. (In Acres.)	Live Stock on Land Occupied.				
	Horses.	Cattle.		Sheep.	Pigs.
		Dairy Cows.	Other Cattle.		
1 to 5	4,633	5,480	4,039	2,808	1,684
6 „ 15	7,343	10,182	6,813	4,424	4,250
16 „ 30	10,500	14,825	10,766	12,697	6,643
31 „ 50	10,831	19,056	13,923	17,652	8,662
51 „ 100	25,605	55,362	38,211	68,230	23,323
101 „ 200	48,133	119,585	87,462	228,752	48,969
201 „ 300	38,494	83,342	70,488	302,428	31,535
301 „ 320	22,265	35,668	35,541	197,667	12,345
321 „ 400	27,441	47,801	48,253	303,947	17,085
401 „ 500	30,435	42,224	49,042	395,625	14,109
501 „ 600	25,791	32,928	41,697	392,867	9,716
601 „ 640	22,835	16,648	26,125	292,312	5,480
641 „ 700	12,719	13,015	20,996	237,750	4,289
701 „ 800	19,358	16,147	27,360	387,856	5,118
801 „ 900	15,935	13,715	25,960	358,213	5,228
901 „ 1,000	18,099	14,164	26,848	436,856	4,198
1,001 „ 1,500	47,940	33,438	77,594	1,427,735	10,206
1,501 „ 2,000	24,208	12,998	38,953	977,380	3,751
2,001 „ 2,500	12,519	7,693	25,304	649,203	2,261
2,501 „ 3,000	6,983	4,332	15,699	515,414	1,351
3,001 „ 4,000	9,616	5,411	19,939	726,481	1,355
4,001 „ 5,000	4,750	2,872	13,590	473,833	507
5,001 „ 7,500	6,776	3,952	29,987	831,290	1,495
7,501 „ 10,000	3,933	1,583	13,167	504,726	258
10,001 „ 15,000	3,611	1,512	17,905	761,201	457
15,001 „ 20,000	1,918	777	8,344	504,279	104
20,001 „ 30,000	1,398	544	4,748	334,753	104
30,001 „ 40,000	1,069	180	5,794	269,172	35
40,001 „ 50,000	278	74	820	116,723	61
50,001 and upwards ..	220	12	250	41,650	3
Total ..	465,636	615,520	805,618	11,773,924	224,582

The figures in the last two tables are exclusive of live stock travelling and those in cities, towns, &c.; also of 1,892 holdings containing 1,078,688 acres of Crown lands not held in conjunction with any private land, on which there were 36,151 acres of cultivation, 5,277 horses, 20,882 cattle, 84,737 sheep, and 3,901 pigs. The position disclosed was that 61,029 persons holding up to 1,000 acres each of private land occupied in the aggregate 14,398,125 acres of such land, as well as 4,024,897 acres of Crown land—a total of 18,423,022 acres, or 51 per

cent. of the total area in occupation. These occupiers controlled 64 per cent. of the total cultivation, and 49 per cent. of the pasture, and possessed 73 per cent. of the horses, 88 per cent. of the dairy cows, 66 per cent. of the other cattle, 90 per cent. of the pigs, and 31 per cent. of the sheep.

Size of holdings in 1910 and 1913.

Particulars of land occupied and cultivation thereon are given in the following table for the years 1910 and 1913:—

SIZE OF HOLDINGS AND CULTIVATION THEREON.

Size of Holdings. (In acres.)	Year	Privately-owned Land. Number of Holdings.	Privately-owned Land. Area Occupied.	Crown Land held in conjunction with that privately owned.	Total Area Occupied.	Area under— Cultivation.	Area under— Pasture, &c.
			Acres.	Acres.	Acres.	Acres.	Acres.
1 to 100	1910	23,305	836,826	442,413	1,279,239	228,227	1,051,012
	1913	26,113	915,493	374,511	1,290,004	245,498	1,044,506
101 „ 320	1910	17,583	3,686,498	1,209,660	4,896,158	839,664	4,056,494
	1913	18,483	3,819,680	1,216,829	5,036,509	875,525	4,160,984
321 „ 640	1910	9,676	4,623,839	1,900,058	6,523,897	1,182,254	5,341,643
	1913	11,212	5,475,942	1,191,890	6,667,832	1,424,020	5,243,812
641 „ 1,000	1910	4,354	3,553,261	1,800,551	5,353,812	863,080	4,490,732
	1913	5,221	4,187,010	1,241,667	5,428,677	1,075,000	4,353,677
1,001 „ 2,500	1910	4,159	6,178,744	2,464,135	8,642,879	1,254,392	7,388,487
	1913	4,544	6,748,985	1,852,529	8,601,514	1,546,611	7,054,903
2,501 „ 5,000	1910	749	2,571,444	1,348,979	3,920,423	298,146	3,622,277
	1913	820	2,803,419	1,085,769	3,889,188	352,258	3,536,930
5,001 „ 10,000	1910	239	1,651,979	1,397,984	3,049,963	85,379	2,964,584
	1913	267	1,825,862	342,848	2,168,710	111,910	2,056,800
10,001 and upwards	1910	175	3,298,227	145,420	3,443,647	45,770	3,397,877
	1913	151	2,652,966	404,710	3,057,676	39,606	3,018,070
Total	1910	60,240	26,400,818	10,709,200	37,110,018	4,796,912	32,313,106
	1913	66,811	28,429,357	7,710,753	36,140,110	5,670,428	30,469,682

The influence of legislation and the growing demand for land are evidenced by the steady decline from year to year in the number and the aggregate acreage of the largest sized privately owned holdings. The number of holdings of over 10,000 acres was 195 in 1906, 175 in 1910, and 151 in 1913, and the aggregate areas comprised therein were 4,134,067 acres, 3,298,227 acres, and 2,652,966 acres in the corresponding years. The reduction was equivalent to 22·6 per cent. in the number and 35·8 per cent. in the acreage of such estates during the seven years ended March, 1913. In all other holdings of the sizes mentioned in the above table there were increases in both numbers and acreage in the seven years referred to.

Size of holdings and how they were utilized, 1910 and 1913.

To illustrate the uses to which the land was applied in 1910 and 1913, 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, 1910 AND 1913.

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 to 100	1910	3·45	4·76	3·25	6·28	1,586,653	1·51
	1913	3·57	4·33	3·43	7·08	1,766,873	1·69
101 „ 320	1910	13·19	17·50	12·55	17·50	4,415,168	1·09
	1913	13·94	15·44	13·66	17·67	4,410,283	1·06
321 „ 640	1910	17·58	24·65	16·53	17·00	4,290,653	·80
	1913	18·45	25·12	17·21	17·14	4,278,079	·82
641 „ 1,000	1910	14·42	17·99	13·90	12·18	3,075,406	·68
	1913	15·02	18·95	14·29	12·15	3,031,015	·70
1,001 „ 2,500	1910	23·29	26·15	22·87	20·10	5,074,837	·69
	1913	23·80	27·27	23·15	20·34	5,076,868	·72
2,501 „ 5,000	1910	10·57	6·22	11·21	8·81	2,224,312	·61
	1913	10·76	6·22	11·61	9·22	2,300,276	·65
5,001 „ 10,000	1910	8·22	1·78	9·17	6·29	1,589,021	·54
	1913	6·00	1·98	6·75	6·95	1,735,240	·84
10,001 and upwards	1910	9·28	·95	10·52	11·84	2,989,460	·88
	1913	8·46	·69	9·90	9·45	2,358,478	·78
Total	1910	100·00	100·00	100·00	100·00	25,245,510	·78
	1913	100·00	100·00	100·00	100·00	24,957,112	·82

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. From this return it will be seen that, in 1913, 51 per cent. of the land occupied was in areas not exceeding 1,000 acres, and, while this portion furnished 64 per cent. of the cultivation, it contained nearly 49 per cent. of the total area under pasture, and supported 54 per cent. of the grazing stock. Dairying was carried on principally in the small holdings and pigs were most numerous where dairying prevailed. Nearly 56 per cent. of the dairy cows and about 61 per cent. of the pigs were on holdings of not more than 320 acres. The sheep-carrying capacity per acre of the total grazing area in 1913 was slightly in excess of that for 1910. The proportionate decrease of pastoral areas in estates of from 5,001 to 10,000 acres between the years mentioned is very noticeable, especially as it was accompanied by an increase in the number of live stock grazed.

Land occupied in different districts.

The following tables show the land in occupation in March, 1917, in districts, and the uses to which the land was applied :—

LAND IN OCCUPATION IN EACH DISTRICT OF VICTORIA, MARCH, 1917.

(Areas of 1 acre and upwards.)

District.	Number of Occupiers.	Acres Occupied.				
		For Agricultural Purposes.	For Pasture.		Other Purposes and Unproductive.	Total.
			Sown Grasses, Clover, or Lucerne.	Natural Grasses.		
Central ...	17,449	483,781	173,611	2,078,831	126,391	2,862,614
North-Central	5,956	161,607	38,281	1,790,241	75,451	2,065,580
Western ...	11,855	505,013	208,872	5,779,903	229,810	6,723,598
Wimmera ...	6,433	1,627,368	112,695	4,057,607	154,289	5,951,959
Mallee ...	5,846	1,859,144	2,858	3,313,483	682,693	5,858,178
Northern ...	12,016	1,777,655	49,005	3,414,150	31,938	5,272,748
North-Eastern	5,269	181,812	6,416	3,560,695	121,812	3,870,735
Gippsland ...	8,786	154,514	701,079	3,773,888	633,636	5,263,117
Total ...	73,610	6,750,894	1,292,817	27,768,798	2,056,020	37,868,529
	Percentage of Total Occupied in each District.					
Central ...	...	16·90	6·06	72·62	4·42	100·00
North-Central	...	7·83	1·85	86·67	3·65	100·00
Western ...	...	7·51	3·10	85·97	3·42	100·00
Wimmera ...	...	27·34	1·90	68·17	2·59	100·00
Mallee ...	...	31·74	·05	56·56	11·65	100·00
Northern ...	...	33·71	·93	64·75	·61	100·00
North-Eastern	...	4·70	·16	91·99	3·15	100·00
Gippsland ...	...	2·94	13·32	71·70	12·04	100·00
Total ...	...	17·83	3·41	73·33	5·43	100·00
	Percentage in each District of Total in State.					
Central ...	23·70	7·17	13·43	7·49	6·15	7·56
North-Central	8·09	2·39	2·96	6·45	3·67	5·45
Western ...	16·11	7·48	16·15	20·81	11·18	17·76
Wimmera ...	8·74	24·11	8·72	14·61	7·50	15·72
Mallee ...	7·94	27·54	·22	11·93	33·20	15·47
Northern ...	16·32	26·33	3·79	12·30	1·55	13·92
North-Eastern	7·16	2·69	·50	12·82	5·93	10·22
Gippsland ...	11·94	2·29	54·23	13·59	30·82	13·90
Total ...	100·00	100·00	100·00	100·00	100·00	100·00

It will be seen from these tables that the greatest area under cultivation and the greatest proportion of cultivation to land occupied are found in the Northern, Wimmera and Mallee districts. Of the occupied land about 34 per cent. in the Northern, 32 per cent. in the Mallee, and 27 per cent. in the Wimmera districts are devoted to agriculture, and these divisions supply 78 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 has been given to the cultivation of grasses, 54 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, 1917.

AREA OCCUPIED AND STOCK THEREON, 1917.

District.	Acres Occupied for—		Number of—		
	Agriculture.	Pasture.	Horses.	Cattle.	Sheep.
Central	483,781	2,252,442	107,849	203,630	1,203,986
North-Central ...	161,607	1,828,522	28,805	69,142	1,131,316
Western	505,013	5,988,775	73,519	273,175	3,932,889
Wimmera ...	1,627,368	4,170,302	69,510	40,900	1,785,752
Mallee	1,859,144	3,316,341	49,057	24,892	479,558
Northern ...	1,777,655	3,463,155	96,646	131,988	1,822,176
North-Eastern ...	181,812	3,567,111	38,217	146,373	953,014
Gippsland ...	154,514	4,474,967	50,800	284,998	1,267,896
Total ...	6,750,894	29,061,615	514,403	1,175,098	12,576,587

The area occupied does not include 2,056,020 acres which are mostly in an unproductive state. Compared with 1916, horses increased by 20,624, or 4·2 per cent., cattle by 131,494, or 12·6 per cent., and sheep by 2,030,955, or 19·3 per cent.

Live stock in Victoria, 1913 to 1917.

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 in March, 1913, and sheep classified in different sized flocks in March, 1917, are given on pages 747 and 761 :—

LIVE STOCK IN VICTORIA, 1913 TO 1917.

Live Stock.	1913.	1914.	1915.	1916.	1917.
Horses (including foals) ...	530,494	562,331	552,053	493,779	514,403
Cattle—					
Dairy Cows ...	655,939	656,080	610,517	451,088	488,086
Other (including calves) ...	852,150	872,473	752,025	592,516	687,012
Sheep	11,892,224	12,113,682	12,051,685	10,545,632	12,576,587
Pigs	240,072	221,277	243,196	192,002	254,436

All classes of live stock were more numerous in March, 1917, than in the preceding year.

Prices of Live Stock.

In the subjoined table will be found a statement of the average and the range of prices ruling in Melbourne during the years 1915 and 1916 for live stock. The information has been extracted from the Melbourne *Stock and Station Journal* :—

PRICES IN MELBOURNE OF LIVE STOCK, 1915 AND 1916.

Stock.	Prices in 1915.									Prices in 1916.								
	Average.			Range.						Average.			Range.					
	£	s.	d.	£	s.	d.		£	s.	d.	£	s.	d.		£	s.	d.	
Horses.																		
Extra heavy draught ..	39	17	6	28	0	0	to	50	0	0	43	7	6	32	0	0	to	52	0	0
Medium draught ..	30	17	6	21	0	0	to	36	0	0	31	0	0	23	0	0	to	38	10	0
Delivery Cart	24	0	0	19	0	0	to	28	10	0	21	17	6	18	5	0	to	30	0	0
Indian Remounts ..	22	15	6	21	10	0	to	26	0	0	21	12	6	20	10	0	to	27	0	0
Saddle and Harness ..	10	2	6	8	0	0	to	12	0	0	9	0	0	8	0	0	to	12	10	0
Ponies	11	15	0	9	0	0	to	15	0	0	11	12	6	9	15	0	to	16	10	0
Fat Cattle.																		
Bullocks—																		
Extra Prime.. ..	24	15	0	15	15	0	to	37	12	0	25	1	0	22	0	0	to	29	7	0
Prime	21	14	0	14	15	0	to	31	12	0	21	3	0	19	0	0	to	22	18	0
Good	17	18	0	12	11	0	to	24	17	0	17	19	0	16	19	0	to	19	5	0
Good Light and Handy Weights	15	9	0	10	10	0	to	20	15	0	16	1	0	15	0	0	to	17	7	0
Second	10	7	0	8	0	0	to	14	11	0	14	9	0	12	17	0	to	15	15	0
Cows—																		
Best	15	3	0	9	16	0	to	22	10	0	15	1	0	14	0	0	to	16	16	0
Others	11	11	0	7	15	0	to	17	15	0	10	19	0	9	2	0	to	14	1	0
Dairy Cattle.																		
Best Milkers	12	16	0	9	0	0	to	15	5	0	18	0	0	12	10	0	to	27	15	0
Springers, best ..	10	2	0	6	0	0	to	13	0	0	14	0	0	9	17	0	to	18	5	0
Fat Sheep.																		
Wethers (cross)—																		
Extra Prime.. ..	1	16	1	1	1	6	to	2	15	3	2	2	7	1	12	1	to	2	13	3
Prime	1	9	5	0	18	3	to	2	4	0	1	16	10	1	8	0	to	2	4	3
Good	1	2	9	0	14	0	to	1	12	4	1	12	1	1	4	0	to	1	18	0
Ewes (cross)—																		
Extra Prime ..	1	14	4	0	19	3	to	2	16	0	1	19	2	1	11	0	to	2	10	0
Prime	1	8	2	0	16	4	to	2	3	0	1	14	1	1	7	0	to	2	0	10
Good	1	1	9	0	11	9	to	1	12	7	1	9	1	1	3	0	to	1	15	9
Wethers (merino)—																		
Extra Prime.. ..	1	9	2	0	17	6	to	2	8	4	1	14	9	1	6	6	to	2	0	6
Prime	1	4	1	0	14	6	to	1	16	6	1	9	11	1	4	0	to	1	15	1
Good	0	19	2	0	10	9	to	1	9	6	1	5	8	1	0	6	to	1	10	3
Ewes (merino) best ..	0	19	7	0	10	4	to	1	10	3	1	5	1	0	19	6	to	1	11	0
Fat Lambs.																		
Extra Prime	1	5	11	0	16	3	to	1	18	1	1	13	4	1	6	9	to	2	1	3
Prime	1	1	6	0	14	0	to	1	11	1	1	7	10	1	1	6	to	1	14	6
Good	0	17	3	0	11	0	to	1	4	9	1	3	2	0	18	1	to	1	8	5
Second	0	14	1	0	8	1	to	1	0	10	1	0	3	0	15	9	to	1	3	10
Pigs.																		
Back Fatters—																		
Extra Heavy Prime ..	8	12	0	6	0	0	to	13	0	0	7	19	0	5	10	0	to	10	10	0
Extra Prime and Weighty	4	15	0	3	8	0	to	9	0	0	5	14	0	4	10	0	to	7	10	0
Baconers—																		
Extra Prime.. ..	4	12	0	3	4	0	to	5	17	0	4	8	0	3	13	0	to	5	12	0
Prime	3	15	0	2	5	0	to	5	0	0	3	17	0	3	2	0	to	4	19	0
Porkers	2	7	0	1	12	0	to	3	4	0	2	14	0	2	4	0	to	3	8	0

The most striking feature of the figures is the increase in 1916 in the prices of dairy cattle and all classes of sheep and lambs.

Stock Slaughtered. 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: 1907 TO 1916.

Year.	Number Slaughtered.		
	Sheep and Lambs.	Cattle.	Pigs.
1907	3,226,141	289,709	257,695
1908	3,309,865	279,710	225,162
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

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

PURPOSES FOR WHICH STOCK WERE SLAUGHTERED: 1907 TO 1916.

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.
1907	2,255,308	282,403	81,116	866,498	2,805	1,585	11,760	3,141	174,970	92,575	1,360	24
1908	2,480,072	260,529	71,309	773,396	15,789	2,296	10,775	2,015	151,478	45,622	1,377	79
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	2,610,665	344,706	148,394	1,409,243	10,793	3,120	104472	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

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 1916-17 the oversea exports included 12,999,314 lbs. of lamb and 2,940,770 lbs. of mutton, valued at £329,476 and £64,568 respectively, all of which was sent to the United Kingdom.

Mutton and Lamb frozen for Export.

The soil and climate of Victoria are well suited to the economical production of both mutton and lamb, and properly selected breeds of sheep are profitable, not only as meat, but also as wool producers. The climate permits of flocks being kept on open pasture all the year round, and there are certain districts where, in consequence of the exceptionally mild conditions prevailing, the industry can be carried on with absolute success.

As there is practically no limit to the demand for mutton and lamb 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 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 six years. The quantity frozen for export in 1915 and 1916 was small in comparison with previous years. The chief reasons for this were, in 1915, the drought of the preceding year and, in 1916, 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

Dairying. The dairying industry is one of the principal sources of the wealth of the community. The value of dairy produce for 1916 was £6,886,513 as compared with £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, the total production of butter and cheese, and the number of cream separators in use in each of the last ten years :—

DAIRYING, 1907 TO 1916.

Year.	Number of Cow-keepers.	Number of Dairy Cows at end of Year.	Butter Made.	Cheese Made.	Number of Cream Separators in use.
			lbs.	lbs.	
1907	49,406	709,279	63,746,354	4,397,909	20,599
1908	49,158	609,166	48,461,398	4,328,644	22,395
1909	50,870	625,063	55,166,555	5,025,834	24,358
1910	52,610	668,777	70,603,787	4,530,893	27,307
1911	53,319	699,555	86,500,474	4,549,843	30,891
1912	54,447	655,939	67,655,834	4,176,778	32,561
1913	55,423	656,080	73,381,567	4,856,321	34,733
1914	55,553	610,517	62,421,288	4,395,502	35,187
1915	53,381	451,088	42,345,113	3,497,278	36,349
1916	53,940	488,086	59,568,771	5,869,562	38,050

The reduction in the figures in 1915 was due to a severe drought which occurred in the preceding year. In proportion to the number of dairy cows, the quantity of butter made in 1916 was considerably above the average of the preceding ten years.

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.
1907	4,696,123	1,705,952
1908	4,078,230	1,854,962
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

Butter and cheese made in factories.

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

BUTTER, CHEESE, ETC., MADE IN FACTORIES, 1907 TO 1916–17.

Year.	Butter Made.	Cream Sold.	Cheese Made.	Concentrated, Condensed, and Powdered Milk Made.
	lbs.	gallons.	lbs.	lbs.
1907 ...	59,050,231	25,442	2,691,957	4,684,656
1908 ...	44,383,168	17,527	2,473,682	3,781,548
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

NOTE.—In addition, 467,168 lbs. of casein were made.

The quantity of milk received at factories and creameries was 104,980,863 gallons in 1908, 116,034,058 gallons in 1909, 149,490,103 gallons in 1910, 191,128,362 gallons in 1911, 150,079,730 gallons in 1912, 166,339,178 gallons in 1913, 144,317,040 gallons in 1914, 93,846,750 gallons in 1915, and 138,746,860 gallons in 1916–17.

Exports of butter and cheese.

In 1916–17 there were exported from Victoria to countries outside Australia 30,706,719 lbs. of butter, valued at £2,189,025, practically all of which was Australian produce. The quantity sent to the United Kingdom was 27,710,038 lbs., valued at £1,938,206. The quantity of cheese exported to oversea countries was 2,219,563 lbs., and the value thereof £91,675.

Wool production.

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 1916–17 and earlier seasons was as follows:—

VICTORIAN WOOL CLIP AND ESTIMATED TOTAL PRODUCTION FOR THE SEASON, 1916–17.

Districts.		Wool Clip, 1916–17.		
		Sheep.	Lambs.	Total.
		lbs.	lbs.	lbs.
Central		5,847,257	768,057	6,615,314
North-Central		5,716,022	823,120	6,539,142
Western		24,437,969	2,594,336	27,032,305
Wimmera		10,932,437	1,071,039	12,003,476
Mallee		2,505,474	272,294	2,777,768
Northern		10,222,016	1,112,543	11,334,559
North-Eastern		4,923,082	693,186	5,616,268
Gippsland		6,063,605	864,487	6,928,092
Total Clip	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
	1908–9	65,289,108	3,641,093	68,930,201
	1907–8	72,542,779	6,577,194	79,119,973

——	1913–14.	1914–15.	1915–16.	1916–17.
	lbs.	lbs.	lbs.	lbs.
Wool clip	80,026,620	70,090,902	59,526,448	78,846,924
Wool stripped from Victorian skins (estimated)	26,807,070	25,315,965	22,803,750	15,998,100
Wool on Victorian skins exported (estimated) ...				
Total production ...	106,833,690	95,406,867	82,330,198	94,845,024
Total value ...	£4,032,954	£3,410,913	£4,066,003	£5,927,814

The wool produced last season was 15·2 per cent. more than in the previous season. Slightly more than one-half of the increase was due to the higher average weight of fleeces.

Weight of a fleece.

The next table shows the production of wool per sheep and per lamb shorn for each of the last nine years :—

WEIGHT OF A FLEECE, 1908 TO 1916.

Year.	Weight of a Fleece.		
	Sheep.	Lambs.	Sheep and Lambs combined.
	lbs.	lbs.	lbs.
1908	5·98	2·11	5·45
1909	6·70	2·29	5·86
1910	6·99	2·50	6·15
1911	7·28	2·33	6·29
1912	6·31	2·20	5·68
1913	7·50	2·35	6·46
1914	6·37	2·16	5·58
1915	6·44	2·31	5·79
1916	7·53	2·55	6·26

The average wool clips for sheep and lambs in 1916 were 1·09 lbs. and ·24 lb. respectively heavier than the averages for the previous year.

The production of wool in Victoria, the quantity and value of that used locally for manufacturing purposes and the balance available for export in each of the last ten years were as follows :—

WOOL PRODUCTION: HOME CONSUMPTION AND EXPORTABLE BALANCE, 1907 TO 1916.

Year.	Production.		Used in Manufactures.		Available for Export.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	lbs.	£	lbs.	£	lbs.	£
1907	93,082,341	3,878,431	5,600,873	199,403	87,481,468	3,679,028
1908	87,536,450	3,556,168	5,470,740	190,197	82,065,710	3,365,971
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

Prices of wool.

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

PRICES OF WOOL, 1914–15 TO 1916–17.

Class of Wool.	Average Price per lb. in—		
	1914–15.	1915–16.	1916–17.
GREASY MERINO.			
Extra Super (Western District)	17½d. to 18⅝d.	23d. to 24⅜d.	30d. to 33½d.
Super	16d. to 17d.	20d. to 22d.	26d. to 29d.
Good	12d. to 13½d.	14d. to 16d.	18d. to 24d.
Average	11d. to 12d.	12d. to 13d.	15d. to 17d.
Wasty and Inferior	6½d. to 8d.	7d. to 9d.	9d. to 12d.
Extra Super Lambs	16d. to 17⅜d.	18d. to 20d.	22d. to 25½d.
Super Lambs	13d. to 15d.	15d. to 17d.	18d. to 21d.
Good Lambs	11d. to 12½d.	12d. to 14d.	15d. to 17d.
Average Lambs	8d. to 10d.	9d. to 11d	11d. to 14d.
Inferior Lambs	4d. to 6d.	5d. to 7d	6d. to 9d.
GREASY CROSSBRED.			
Extra Super Comebacks	16d. to 17d.	22d. to 24d.	26d. to 30½d.
Super Comebacks	15d. to 16d.	20d. to 23d.	23d. to 27d.
Fine Crossbred	13d. to 14d.	17d. to 18d.	18d. to 22d.
Medium Crossbred	12d. to 13d.	14d. to 16d.	14d. to 17d.
Coarse Crossbred and Lincoln	12d. to 13d.	13d. to 15d.	13d. to 15d.
Super Fine Crossbred Lambs	12d. to 14½d.	15d. to 19d.	18d. to 22d.
Good Crossbred Lambs	10d. to 11d.	11d. to 12d.	12d. to 15d.
Coarse and Lincoln Lambs	8d. to 9d.	9d. to 10d.	9d. to 11d.
SCOURED.			
Extra Super Fleece	25d. to 26½d.	31d. to 34d.	42d. to 45½d.
Super Fleece	23d. to 24d.	27d. to 30d.	36d. to 40d.
Good Fleece	22d. to 23d.	22d. to 26d.	32d. to 34d.
Average Fleece	19d. to 20d.	20d. to 22d.	28d. to 30d.
RECORD PRICES FOR THE SEASON.			
Greasy Merino Fleece	18⅜d.	24⅜d.	33½d.
" Comeback Fleece	17d.	24d.	30½d.
" Merino Lambs	17⅜d.	20d.	25½d.
" Comeback Lambs	14½d.	19½d.	24d.
Scoured Fleece	26½d.	38¼d.	45½d.

Flocks of sheep in districts.

Returns which were collected in March, 1917, 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, 1917.

District.	Number of—		Average Number of Sheep to a Flock.	Percentage of—	
	Flocks.	Sheep.		Flocks.	Sheep.
Central	3,250	1,190,656	366	12·36	9·49
North-Central ..	2,242	1,129,735	504	8·53	9·01
Western	5,475	3,928,864	718	20·82	31·32
Wimmera	4,009	1,782,890	445	15·25	14·21
Mallee	1,162	479,316	412	4·42	3·82
Northern	4,876	1,817,676	373	18·55	14·49
North-Eastern ..	2,328	951,596	409	8·85	7·58
Gippsland	2,949	1,264,282	429	11·22	10·08
Total	26,291	12,545,015	477	100·00	100·00

The figures do not include 31,572 sheep which were travelling on roads or were located in cities and towns. There were some very large-sized flocks in the Western District, and, as a consequence, it contained 31·3 per cent. of the total sheep in the State, though it possessed only 20·8 per cent. of the total flocks. In the Central, North-Eastern, and Gippsland districts, which contained 32 per cent. of the flocks and 27 per cent. of the sheep, there was a much better distribution, and also evidence that the raising of lambs and the production of wool were combined more with cultivation than in other districts of the State. The average number of sheep to a flock was 477 in 1917, as compared with 478 in 1913, 531 in 1910, 642 in 1908, and 706 in 1906. The number of flocks increased from 24,834 in 1913 to 26,291 in 1917. In the four years the flocks increased by 761 in the Central, 165 in the North-Central, 152 in the Northern, 180 in the North-Eastern, and 516 in the Gippsland districts. On the other hand, the flocks in the Mallee, Western, and Wimmera districts decreased by 196, 99, and 22 respectively. During the four years mentioned the number of sheep increased by 684,363, the principal increases being in the Northern, Gippsland, and North-Eastern districts.

Sizes of Flocks.

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 :—

SHEEP ACCORDING TO SIZES OF FLOCKS, 1917.

Size of Flocks.	Number of—		Percentage of—	
	Flocks.	Sheep.	Flocks.	Sheep.
Under 500	20,292	2,926,977	77·18	23·33
500 to 1,000 ..	3,311	2,261,996	12·60	18·03
1,000 „ 2,000 ..	1,670	2,255,242	6·35	17·98
2,000 „ 3,000 ..	433	1,023,854	1·65	8·16
3,000 „ 5,000 ..	266	976,156	1·01	7·78
5,000 „ 7,000 ..	128	754,934	·49	6·02
7,000 „ 10,000 ..	90	739,784	·34	5·90
10,000 „ 15,000 ..	67	844,249	·25	6·73
15,000 „ 20,000 ..	15	257,024	·06	2·05
Over 20,000	19	504,799	·07	4·02
Total	26,291	12,545,015	100·00	100·00

A comparison of the above figures with those for 1913 and earlier years shows that the number of large sheep-owners had substantially declined, while the number of those owning the smallest-sized flocks had very greatly increased. Flocks of 20,000 and over numbered 19 in 1917, as against 25 in 1913, 37 in 1910, 52 in 1908, and 56 in 1906. Flocks of from 15,000 to 20,000 numbered 15 in 1917, 29 in 1913, 35 in 1910, 39 in 1908, and 50 in 1906. Flocks of less than 500 were 20,292 in number in 1917, as compared with 19,582 in 1913, 18,589 in 1910, 15,797 in 1908, and 11,647 in 1906. From these figures it will be seen that, while flocks of over 15,000 decreased by 68 per cent., those of less than 500 increased by 74 per cent. during the eleven years 1906 to 1917. Owners of more than 15,000 sheep possessed 6·1 per cent. of the sheep in the State in 1917, as against 22·5 in 1906. On the other hand, owners of less than 500 sheep possessed 23·3 per cent. of the total sheep in 1917, as compared with 15·1 per cent. in 1906. Sixteen of the 19 largest and 11 of the 15 second largest flocks in 1917 were in the Western District.

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

The striking features of the return relating to sheep on different-sized holdings in March, 1917, are the very large numbers of small flocks depastured on farms of from 100 to 500 and from 500 to 1,000 acres, and the relatively small number of flocks of all sizes on holdings having an area of more than 5,000 acres. On the holdings of from 100 to 1,000 acres the flocks of less than 500 were 15,531 in number, or 59 per cent. of the total flocks in the State, while on holdings whose area exceeded 5,000 acres the flocks of all sizes were only 635 in number, or 2·4 per cent. of the total. The numbers and sizes of flocks of sheep on holdings of various areas in March, 1917, are given in the next table:—

AREAS OF HOLDINGS AND NUMBERS AND SIZES OF FLOCKS THEREON, 1917.

Area of Holdings. (Acres.)	Number and Size of Flocks.																			
	Under 500.		500 to 1,000.		1,000 to 2,000.		2,000 to 3,000.		3,000 to 5,000.		5,000 to 7,000.		7,000 to 10,000.		10,000 to 15,000.		15,000 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.	Number of Flocks.	Number of Sheep.	Number of Flocks.	Number of Sheep.	Number of Flocks.	Number of Sheep.
1 and under 50	1,112	25,363	2	1,517	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1,114	26,880
50 ,, 100	1,338	64,392	4	2,766	1	1,191	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1,343	68,349
100 ,, 500	10,276	1,254,466	511	331,623	63	76,077	3	7,385	1	3,055	..	..	..	..	..	..	..	..	..	..	10,854	1,672,606
500 ,, 1,000	5,255	1,032,660	1,227	828,562	297	375,004	22	50,630	6	21,162	..	..	..	..	..	..	..	..	..	..	6,807	2,308,018
1,000 ,, 5,000	2,224	534,983	1,533	1,072,606	1,231	1,693,334	350	820,951	164	596,746	31	176,923	4	35,153	1	10,540	..	..	..	..	5,538	4,941,236
5,000 ,, 10,000	33	6,982	20	14,752	56	80,587	46	114,163	81	297,682	74	440,659	47	379,864	16	191,531	1	15,838	..	..	374	1,542,058
10,000 ,, 20,000	18	2,767	7	5,200	12	17,223	9	22,968	11	45,789	18	109,166	35	292,163	41	524,745	11	188,362	2	43,742	164	1,252,125
20,000 ,, 50,000	28	4,517	5	3,670	8	9,606	3	7,757	3	11,722	3	15,686	3	25,166	9	117,433	3	52,824	15	404,056	80	652,437
50,000 ,, 100,000	6	670	2	1,300	2	2,220	..	..	..	..	1	6,400	1	7,438	..	..	..	..	..	..	11	18,028
100,000 and upwards	3	177	..	..	..	..	..	..	..	..	1	6,100	..	..	..	..	..	..	2	57,001	6	63,278
Total	20,292	2,926,977	3,311	2,261,996	1,670	2,255,242	433	1,023,854	266	976,156	128	754,934	90	739,784	67	844,249	15	257,024	19	504,799	26,291	12,545,015

Breed of sheep.

The numbers of sheep of different breeds in Victoria in March, 1917, have been estimated as follows:—

SHEEP ACCORDING TO BREED, MARCH, 1917.

Breed of Sheep.	Number.
Merino	4,530,000
Comeback	2,890,000
Crossbred, coarse	1,635,000
,, Shropshire and Southdown	1,514,000
Lincoln	882,000
Shropshire	501,000
Other	624,587
Total	12,576,587

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, 1917, for Victoria and Tasmania; December, 1916, for Queensland and Western Australia; June, 1916, for New South Wales, and June, 1917, for South Australia. The returns for the Northern Territory are for December, 1915, and those for New Zealand relate to April, 1917, in the case of sheep, and to January, 1917, in the case of other stock.

LIVE STOCK IN AUSTRALASIA, 1916.

State, etc.	Horses.	Cattle.		Sheep.	Pigs.
		Milch Cows.	Other.		
Victoria	514,403	488,086	687,012	12,576,587	254,436
New South Wales ..	720,136	426,893	1,978,806	32,588,143	280,426
Queensland ..	697,517	343,311	4,422,346	15,524,293	129,733
South Australia ..	257,422	86,311	202,576	5,091,282	118,542
The Northern Territory	19,957	..	483,961*	57,827	500
Western Australia ..	169,730	33,788	830,142	5,529,960	90,756
Tasmania ..	46,320	..	179,360*	1,702,579	53,033
New Zealand ..	367,167	760,108	1,742,592	24,753,324	278,186

* Including milch cows.

In 1916, as compared with the preceding year, the number of cattle had increased in all the States except New South Wales and Queensland, the number of horses had increased in all States except New South Wales, and the number of sheep had increased in all States except New South Wales and Queensland. Live stock, in proportion to area, are most numerous in New Zealand, which possesses horses, cattle, and sheep equal to about 415 sheep to the

square mile; Victoria comes next with 282; then follow New South Wales with 175; Tasmania with 124; Queensland with 76; South Australia with 25; and Western Australia with 13; after which comes the Northern Territory with stock equivalent to 6 sheep to the square mile.

Horses, cattle, sheep and pigs in the world.

The estimated numbers of horses, cattle, sheep and pigs in the world are given in the next table. The totals for Australasia relate to the year 1916, and those for other countries to 1915. The figures, except those for Australia and New Zealand, are taken from the Year-Book of the United States' Department of Agriculture :—

HORSES, CATTLE, SHEEP, AND PIGS IN THE WORLD.

Country.	Horses.	Cattle.	Sheep.	Pigs.
United Kingdom ..	1,851,000	12,185,000	27,964,000	3,953,000
France	2,227,000	12,287,000	13,483,000	5,491,000
Russia (European) ..	23,860,000	34,547,000	42,736,000	11,945,000
Italy	956,000	6,199,000	11,163,000	2,508,000
Germany	3,441,000	21,817,000	5,452,000	25,339,000
Austria-Hungary ..	4,380,000	17,649,000	12,337,000	14,948,000
Other European Countries ..	4,756,000	22,772,000	55,962,000	13,735,000
Australia and New Zealand	2,793,000	12,665,000	97,824,000	1,206,000
Canada	2,996,000	6,066,000	2,039,000	3,112,000
United States ..	24,437,000	63,786,000	49,636,000	69,472,000
Mexico	859,000	5,142,000	3,424,000	616,000
Other North American Countries ..	931,000	4,968,000	649,000	953,000
Argentine	9,239,000	29,123,000	83,546,000	3,045,000
Brazil	7,289,000	30,705,000	10,653,000	18,399,000
Uruguay	556,000	8,193,000	26,286,000	180,000
Other South American Countries ..	756,000	4,817,000	6,969,000	1,980,000
Asia	13,672,000	163,088,000	81,392,000	6,939,000
Africa	1,147,000	15,211,000	61,737,000	2,014,000
Total ..	106,146,000	471,220,000	593,252,000	185,835,000

BEE FARMING.

The returns for 1916–17 show that there were in that year 3,661 bee-keepers, who owned 28,920 frame and 7,641 box hives, producing 1,474,142 lbs. and 72,881 lbs. of honey respectively, and 22,131 lbs. of beeswax. The numbers of beekeepers and hives and the production of honey were greater than in the previous season. The quantity of honey produced in the Wimmera, the chief producing district, was 800,505 lbs. in 1916–17, as compared with 390,494 lbs. in the previous

season, 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-FARMING, 1907–8 TO 1916–17.

Season ended May.	Number of Bee-farmers.	Number of Hives.	Honey produced.	Beeswax produced.
			lbs.	lbs.
1908	4,745	43,212	1,138,992	24,521
1909	4,303	40,595	2,373,628	38,674
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

A feature of the industry is the alternate occurrence of good and "off" seasons on account of the particular variety of eucalyptus from which the supplies of honey are chiefly drawn flowering only every other year. 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 1916 was £1,715,000.

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.

State expenditure on rabbit destruction.

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, 1916, sums amounting to £710,676 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	1907-8	17,585
1889-90 to 1898-9 ...	208,638	1908-9	22,756
1899-1900	14,801	1909-10 ...	23,005
1900-1... ...	15,817	1910-11 ...	23,123
1901-2... ...	17,250	1911-12 ...	29,524
1902-3... ...	16,489	1912-13 ...	27,309
1903-4... ...	15,759	1913-14 ...	29,596
1904-5... ...	16,603	1914-15	32,211
1905-6... ...	16,477	1915-16 ...	24,257
1906-7... ...	16,513		

In addition to the expenditure of £710,676 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, and £3,078 in 1915-16, 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.

Rabbits, &c., sold, Melbourne Fish Market.

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, 1907 TO 1916-17.

Year.	Rabbits.	Hares.	Wild-fowl.
	pairs.	brace.	brace.
1907 ...	298,024	260	58,210
1908 ...	231,216	148	20,634
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

Frozen rabbits, &c., exported.

Large quantities of frozen rabbits and hares and of rabbit and hare skins have been exported to the United Kingdom and other oversea countries during recent years, the numbers and values for 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.	£
1907	3,251,231	154,789	3,418,315	125,294
1908	1,743,466	84,835	3,545,687	139,388
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	498,137	35,361

The export trade in rabbit and hare skins has steadily declined during the past three years, the quantity exported in 1916–17 being only about one-eighth of that in pre-war 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 1916–17 :—

VICTORIAN FISHERIES—MEN AND BOATS EMPLOYED, 1916–17.

Fishing Stations.	Number of Men.	Boats.		Value of Nets and other Plant.
		Number.	Value.	
			£	£
Anderson's Inlet	5	4	49	65
Barwon Heads and Ocean Grove ..	8	5	795	32
Brighton	5	5	73	75
Corner Inlet, Welshpool, and Toora ..	43	31	1,825	2,031
Dromana	16	12	353	83
Frankston	7	9	143	95
Geelong	74	36	1,477	404
Gippsland Lakes	198	202	12,336	5,755
Kerang	7	7	24	100
Lorne	4	2	29	17
Mallacoota	14	8	3,073	335
Mentone	5	4	45	45

VICTORIAN FISHERIES—MEN AND BOATS EMPLOYED, 1916-17—*continued.*

Fishing Stations.	Number of Men.	Boats.		Value of Nets and other Plant.
		Number.	Value.	
			£	£
Mordialloc	11	13	381	117
Mornington	26	27	1,055	439
Portarlington and St. Leonards ..	59	44	1,973	687
Portland	40	24	2,031	429
Port Albert	45	28	2,843	906
Port Fairy	54	40	4,031	440
Port Melbourne	64	42	1,915	640
Queenscliff	85	55	5,563	162
Sandringham	15	14	633	97
Sorrento, Portsea, and Rye ..	25	27	1,427	226
St. Kilda	12	6	79	147
Warrnambool	6	6	255	93
Western Port (Cowes, Hastings, Grantville, Flinders, San Remo, and Tooradin)	81	66	4,713	1,035
Williamstown	44	18	613	176
Total	953	735	47,734	14,631

Melbourne Fish Market. The quantities and values of fish sold in the Melbourne Fish Market during each of the years 1915 and 1916-17 were as shown hereunder:—

FISH SOLD IN THE MELBOURNE FISH MARKET, 1915 AND 1916-17.

	1915.		1916-17.	
	Quantity.	Value.	Quantity.	Value.
		£		£
Fresh Fish (Victorian) lbs.	9,009,860	94,603	9,005,795	100,564
Crayfish .. doz.	31,974	14,388	27,847	16,708
Imported Fish (fresh or frozen) .. .. lbs.	3,055,404	68,747	2,819,174	59,907
Oysters .. .. bags	14,900	23,092	13,385	18,280
Total	..	200,820	..	195,459

In addition to the above, 4,299 cwt. of smoked fish, and 135 baskets of prawns were sold in this market in 1916-17.

Victorian Fish sold. The quantity and value of fish caught in Victorian waters and sold in the Melbourne and Ballarat markets and elsewhere in 1916–17 were as follows :—

VICTORIAN FISH SOLD IN 1916–17.

Markets.	Quantity.		Value.	
	Fish.	Crayfish.	Fish.	Crayfish.
	lbs.	doz.	£	£
Melbourne	9,005,795	12,513	100,564	7,507
Ballarat	693,520	1,832	5,843	485
Other	201,223	726	2,247	435
Total	9,900,538	15,071	108,654	8,427

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 1916–17 are appended :—

FISH IMPORTED, 1909 AND 1916–17.

—	1909.—Interstate.		1909.—Oversea.		1916–17.—Oversea.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Fish—		£		£		£
Fresh or Frozen lbs.	1,772,999	22,720	758,545	11,076	1,089,741	23,170
Smoked .. ,,	127,016	662	99,793	3,322	25,559	1,702
Fresh Oysters cwt.	16,941	8,529	7,935	4,145	2,955	2,058
Potted, &c. ..	..	41	..	4,559	..	7,363
Preserved in tins, &c. lbs.	117,177	3,266	4,823,366	116,931	5,153,593	190,476
N.E.I. cwt.	214	356	5,815	9,434	3,983	12,896
Total ..	..	35,574	..	149,467	..	237,665

The most important item in this table is fish preserved in tins and other air-tight vessels, of which 3,465,222 lbs. came from the United Kingdom, the United States, and Canada in 1916–17.

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 years ended 31st December, 1915 and 1916—years representing war conditions :—

AVERAGE ANNUAL IMPORTS OF CERTAIN ARTICLES INTO UNITED KINGDOM FROM AUSTRALIA, OTHER BRITISH POSSESSIONS, AND FOREIGN COUNTRIES, 1907–13, 1915, AND 1916.

Articles.	Period.	Annual Value of Imports into United Kingdom from—			
		Australia.	Other British Possessions.	Foreign Countries.	All Countries.
		£	£	£	£
Butter	1907–13	3,131,811	1,762,922	18,884,656	23,779,389
	1915	2,551,214	2,865,692	21,605,839	27,022,745
	1916	1,239,861	3,637,209	14,086,932	18,964,002
Cheese	1907–13	13,102	5,704,495	1,256,492	6,974,089
	1915	91,729	8,323,321	2,692,050	11,107,100
	1916	4	10,784,960	2,160,801	12,945,765
Wheat	1907–13	4,497,088	14,371,951	23,170,834	42,039,873
	1915	94,167	21,480,832	35,731,500	57,306,499
	1916	2,759,641	19,733,609	49,519,694	72,012,944
Wheatmeal and Flour ..	1907–13	216,477	1,512,672	4,384,282	6,113,431
	1915	1,300	2,740,910	5,568,643	8,310,853
	1916	457,604	3,680,348	4,430,457	8,568,409
Meat	1907–13	4,108,980	6,651,731	34,457,389	45,218,100
	1915	9,741,690	15,088,379	61,321,165	86,151,234
	1916	4,871,132	20,651,534	67,859,810	93,382,476
Fruit—Fresh, Dried and Preserved	1907–13	395,110	1,409,440	12,933,186	14,737,736
	1915	276,487	1,491,176	15,299,872	17,067,535
	1916	1,030,705	1,680,545	16,765,840	19,477,090
Wine	1907–13	127,388	29,076	3,848,344	4,004,808
	1915	120,636	43,668	2,752,972	2,917,276
	1916	94,987	45,110	3,371,725	3,511,822
Wool	1907–13	13,621,012	13,085,172	5,697,694	32,403,878
	1915	19,477,337	18,685,278	3,864,720	42,027,335
	1916	15,448,409	18,653,957	3,457,648	37,560,014
Skins, Furs, and Hides ..	1907–13	1,928,626	4,105,504	7,937,906	13,972,036
	1915	2,261,727	5,488,680	6,691,344	14,441,751
	1916	1,348,981	5,641,062	7,588,128	14,578,171
Tallow and Stearine ..	1907–13	1,352,280	725,532	1,464,682	3,542,494
	1915	1,333,612	846,678	931,175	3,111,465
	1916	457,739	933 183	911,662	2,302,584
Leather	1907–13	409,128	3,034,535	6,498,824	9,942,487
	1915	1,186,888	4,655,284	9,817,554	15,659,726
	1916	586,975	5,447,407	9,216,376	15,250,758
Total—Eleven Articles ..	1907–13	29,801,002	52,393,030	120,534,289	202,728,321
	1915	37,136,787	81,709,898	166,276,834	285,123,519
	1916	28,296,038	90,888,924	179,369,073	298,554,035

The value of the above-mentioned articles imported into the United Kingdom from Australia amounted to £28,296,038 in 1916 as compared with £37,136,787 in 1915, and £29,801,002 on the average of the years 1907 to 1913. Scarcity of shipping was responsible for the comparatively small value of Australian produce sent to the United Kingdom during 1916.

Agriculture in Victoria and Great Britain.

The figures relating to agriculture and live stock in Victoria and Great Britain in 1916 are for comparative purposes placed side by side in the table which follows :—

AGRICULTURE AND LIVE STOCK IN VICTORIA AND GREAT BRITAIN, 1916.

—		Victoria.	Great Britain.
Area	acres	56,245,760	56,208,959
Wheat	bushels	51,162,438	56,948,040
Oats	„	8,289,289	119,508,232
Barley	„	1,799,784	46,624,568
Peas	„	154,964	2,084,232
Potatoes	tons	187,992	3,035,535
Turnips and swedes	„	2,025*	18,882,259
Mangolds	„	10,307	7,381,918
Hay	„	1,232,721	9,872,440
Horses	No.	514,403	1,485,886†
Cattle	„	1,175,098	7,442,155
Sheep	„	12,576,587	25,006,987
Pigs	„	254,436	2,314,331

* Includes beet, carrots, and parsnips. † Year 1915.

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 1915-16 from miners' rights was £2,574.

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 1915-16 was £7,210.

Area occupied for Mining.

The area of Crown and private lands under occupation for mining purposes at 31st December, 1916, was 97,532 acres. The subjoined table shows the area being worked for different minerals :—

AREA UNDER OCCUPATION FOR MINING PURPOSES, 31ST DECEMBER, 1916 (CROWN LANDS AND PRIVATE LAND).

Nature of Mineral, &c.	Area.
	Acres.
Gold	81,800
Coal (ordinary)	4,498
Coal (brown)	359
Antimony	68
Clay Slum	71
Copper	150
Copper and Silver	71
Gypsum	706
Infusorial Earth	59
Iron	1,373
Kaolin	144
Lime	63
Magnesite	114
Manganese	2,152
Marble	127
Molybdenite	177
Oil	124
Pigments and Clay	35
Pigments and Limestone	387
Pigments and Oil	133
Porphyry	12
Quicksilver	55
Silicate of Alumina	51
Silver, Bismuth, Wolfram, and Phosphates	48
Slate	32
Tin	3,252
Wolfram	225
Water-right Licences	1,246
Total	97,532

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 £511,505 (including £240,483 expended on the State Coal Mine), and portions of surplus revenues of past years amounting to

£84,964, have been expended or advanced for developmental purposes since 1st July, 1904.

STATE EXPENDITURE ON MINING: 1911-12 TO 1915-16.

—	1911-12.	1912-13.	1913-14.	1914-15.	1915-16.
	Expenditure from Consolidated Revenue.				
	£	£	£	£	£
Mining Department	25,980	25,272	26,921	26,922	26,550
State Coal Mine	189,049	170,884	201,578	211,415	202,953
Coal Mines Regulation—Sinking Fund and Depreciation Fund ...	6,046	40,918	36,653	55,204	41,468
Victorian coal—Allowance to Railway Department on carriage of	10,018	11,503	9,006	9,063	7,621
Diamond drills for prospecting ...	16,938	15,756	14,576	16,945	9,901
Testing plants	3,374	3,368	4,283	6,457	10,081
Geological and underground surveys of mines	6,354	6,357	7,009	5,422	2,579
Mining Development— Advances to companies, &c., boring for gold, coal, &c. ...	6,850	12,608	14,877	26,010	31,460
Miscellaneous	4,170	3,576	2,729	2,606	2,148
	268,779	290,242	317,632	360,044	334,761
	Expenditure from Surplus Revenue.				
Mining Development— Advances to companies, &c., boring for gold, coal, &c. ...	737	831	635	1,195	793
	Expenditure from Loan Moneys.				
State Coal Mine	48,369	446	69,992	20,492	...
Total	317,885	291,519	388,259	381,731	335,554

Yearly grants are also made to Schools of Mines, particulars of which will be found on page 516 of this work. Since 1st July, 1896, £511,505 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

LOAN MONEY EXPENDED ON MINING DEVELOPMENT—*continued*.

	£
Purchase of cyanide process patent rights	20,000
Equipping Schools of Mines with mining appliances ..	9,975
State Coal Mine	240,483
Miscellaneous	9,740
Total	511,505

The advances from loan moneys and revenue to mining companies to 30th June, 1916, for the development of mining totalled £186,865, of which sum £21,282 had up to that date been repaid, £31,311 realized, and £81,158 written off, leaving £53,114 outstanding. Interest received during 1915-16 amounted to £322 and interest outstanding on 30th June, 1916, to £1,737.

Total mineral production.

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 1916.

TOTAL MINERAL PRODUCTION TO 31ST DECEMBER, 1916.

Metals and Minerals.	Recorded prior to 1916.		Recorded during 1916.		Total Recorded to end of 1916.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Fine. ozs.	£	Fine. ozs.	£	Fine. ozs.	£
Gold	69,850,186	296,703,957	256,643	1,090,194	70,106,829	297,794,151
Silver ..	1,401,551*	211,159	8,746*	1,239	1,410,297*	212,398
	30,577	7,880	..	..	30,577	7,880
Platinum ..	311	1,671	..	..	311	1,671
	tons.		tons.		tons.	
Coal, black ..	6,466,604	3,273,693	417,183	216,292	6,883,787	3,489,985
,, brown ..	81,748	28,080	2,915	583	84,663	28,663
Ore—copper ..	18,730	218,590	..	..	18,730	218,590
,, tin ..	15,921	804,041	122	12,955	16,043	816,996
,, antimony ..	62,763	350,983	12,382	77,275	75,145	428,258
,, silver-lead ..	793	5,760	..	..	793	5,760
,, iron ..	5,434	12,540	..	..	5,434	12,540
,, manganese ..	162	619	85	300	247	919
Wolfram ..	81	6,602	1	100	82	6,702
Diamonds ..	..	128	..	..	..	128
Sapphires, &c. ..	..	630	..	..	..	630
Gypsum ..	24,641	18,331	1,853	1,853	26,494	20,234
Magnesite ..	699	2,145	30	90	729	2,235
Kaolin	8,263	14,518	810	1,200	9,073	15,718
Diatomaceous earth	6,167	24,977	..	..	6,167	24,977
Pigment clays ..	106	156	..	..	106	156
Bluestone, freestone, granite, &c.† .. Limestone, &c.‡ ..	..	4,751,439	..	134,306	..	4,885,745
Total ..	..	306,437,949	..	1,536,387	..	307,974,336

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

Gold mining.

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 1916, as shown in the preceding statement, is £297,794,151. This sum is based on the average value of Victorian gold received at the Melbourne Mint, which in 1916 was £3 19s. 2d. per ounce.

Gold raised in Australasia.

The production of gold in Australia dates from 1851. The following table shows the quantity recorded as having been raised in the respective States and New Zealand at different periods. Prior to 1898, Victoria was almost invariably the leading gold-producing State of the group, but since then Western Australia has occupied the first place :—

GOLD RAISED IN AUSTRALASIA, 1851 TO 1916.

Period.	Victoria.	New South Wales.	Queensland.	South Australia.	Western Australia.	Tasmania.	Northern Territory	New Zealand.
	gross ozs.	gross ozs.	gross ozs.	gross ozs.	gross ozs.	gross ozs.	gross ozs.	gross ozs.
1851–60	23,334,263	3,280,963	75,000	..	..	..	..	35,845
1861–70	16,276,566	3,542,912	250,000	..	..	3,504	..	5,507,004
1871–80	10,156,297	2,251,666	3,187,855	84,593	..	180,178	..	4,009,345
1881–90	7,103,448	1,164,452	3,925,620	209,275	46,967	397,983	*	2,265,616
1891–00	7,476,038	2,958,295	7,358,129	355,208	5,870,662	605,519	*	2,788,398
1851–00	64,346,612	13,198,288	14,796,604	649,076	5,917,629	1,187,184	*	14,606,208
	fine ozs.	fine ozs.	fine ozs.	fine ozs.	fine ozs.	fine ozs.	fine ozs.	fine ozs.
1901 ..	730,453	216,888	598,382	4,918	1,703,416	69,491	17,028	412,876
1902 ..	720,866	254,435	640,463	7,231	1,871,037	70,996	15,182	459,406
1903 ..	767,297	254,260	668,546	8,650	2,064,801	59,891	12,597	461,648
1904 ..	765,600	269,817	639,151	17,897	1,983,230	65,921	938	467,897
1905 ..	747,166	274,267	592,620	10,983	1,955,316	73,540	7,103	492,955
1906 ..	772,290	253,987	544,636	8,037	1,794,547	60,023	11,085	534,617
1907 ..	695,576	247,363	466,476	4,834	1,697,553	65,354	4,389	477,312
1908 ..	671,208	224,792	465,085	2,898	1,647,911	57,085	5,624	471,968
1909 ..	654,222	204,709	455,576	7,111	1,595,269	44,777	5,685	472,465
1910 ..	570,383	188,857	441,400	6,603	1,470,632	37,048	5,100	446,434
1911 ..	504,000	181,121	386,164	3,537	1,370,868	31,101	7,277	427,385
1912 ..	480,131	165,295	347,946	6,592	1,282,658	37,973	7,811	310,963
1913 ..	434,932	149,657	265,735	6,545	1,314,043	33,400	3,119	343,595
1914 ..	413,218	124,507	249,468	6,258	1,232,977	26,243	2,532	328,250
1915 ..	329,068	132,498	249,711	6,081	1,210,112	18,547	2,657	398,931
1916 ..	256,643	108,145	215,162	7,769	1,061,398	15,790	601	292,620

* Included with South Australia.

The total production of Australasia from 1851 to 1900 inclusive was 114¾ million ounces (gross), of which more than one-half was produced in Victoria. During the sixteen years 1901–1916 the Australasian production amounted to 53 million ounces (fine), to which

Western Australia contributed 25¼ million ounces. The Victorian yield in the same period amounted to 9½ million ounces. It has been on the down grade since 1906, the yield for 1916 being the lowest for the State since 1851.

World's production of gold and silver since 1860.

The total production of gold and silver in the world since 1860, as compiled by the Director of the Mint, Washington, U.S.A., from information furnished by foreign Governments, is as follows :—

WORLD'S PRODUCTION OF GOLD AND SILVER SINCE 1860.

Period.	Gold.		Silver.	
	Ounces—Fine.	Value.	Ounces—Fine.	Value—Commercial.
		£		£
1860 to 1869	61,314,500	260,450,800	378,311,600	103,714,600
1870 to 1879	52,764,400	224,131,700	628,717,300	159,639,000
1880 to 1889	51,405,100	218,357,900	921,103,100	197,783,000
1890 to 1899	95,081,700	403,886,400	1,568,876,900	235,663,700
1900	12,315,100	52,312,000	173,591,400	22,115,800
1901	12,625,500	53,630,500	173,011,300	21,330,900
1902	14,354,700	60,975,600	162,763,500	17,726,200
1903	15,852,600	67,338,500	167,689,300	18,607,200
1904	16,804,400	71,381,300	164,195,300	19,569,200
1905	18,396,500	78,144,200	172,317,700	21,599,400
1906	19,471,100	82,708,900	165,054,500	22,957,200
1907	19,977,300	84,859,000	184,207,000	24,982,500
1908	21,422,200	90,923,000	203,131,400	22,327,200
1909	21,965,100	93,303,000	212,149,000	22,678,400
1910	22,022,200	93,545,500	221,715,700	24,602,300
1911	22,348,800	94,922,400	226,192,900	25,098,900
1912	22,551,800	95,784,700	224,310,700	28,333,300
1913	22,249,600	94,511,700	223,907,900	27,791,300
1914	21,240,416	90,224,650	160,626,019	18,256,542
1915	22,758,808	96,674,451	179,753,978	19,167,355

Mining district gold yields.

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 ounces, fall short of the total output of 1915 by 2,454 ounces, but exceed that of 1916 by 6,606 ounces.

DISTRICT YIELDS OF GOLD, ALLUVIAL AND QUARTZ, 1915 AND 1916.

Mining District.	1915.			1916.		
	Alluvial.	Quartz.	Total.	Alluvial.	Quartz.	Total.
	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.
Ararat and Stawell ...	26,786	6,006	32,792	26,061	3,326	29,387
Ballarat	10,010	33,436	43,446	5,660	21,808	27,468
Beechworth	39,150	22,261	61,411	34,785	22,453	57,238
Bendigo	3,583	118,966	122,549	5,001	86,780	91,781
Castlemaine	8,944	39,940	48,884	7,104	36,999	44,103
Gippsland	3,902	5,082	8,984	1,825	6,009	7,834
Maryborough ...	25,091	6,661	31,752	20,551	4,432	24,983
Total	117,466	232,352	349,818	100,987	181,807	282,794

Gold-mining dividends.

The amount of 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, 1912 TO 1916.

Mining District.	Amount Distributed.				
	1912.	1913.	1914.	1915.	1916.
	£	£	£	£	£
Ararat and Stawell	2,637	40,550	36,675	30,950	27,500
Ballarat	6,850	19,767	19,167	5,000	4,200
Beechworth	38,627	27,324	35,447	44,910	30,165
Bendigo	113,189	133,744	126,548	61,911	8,875
Castlemaine	41,937	46,414	47,225	39,300	19,760
Gippsland	675	650	750	1,350	450
Maryborough	12,867	5,750	5,000	10,000	7,600
Total	216,782	274,199	270,812	193,421	98,550

By comparison with 1915 the amount of the dividends declared in 1916 shows a decrease of 49 per cent.

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

NUMBER OF MEN EMPLOYED IN GOLD MINING, 1907 TO 1916.

Year.	Alluvial Miners.	Quartz Miners.	Total.
1907	10,390	12,901	23,291
1908	8,673	12,180	20,853
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

The number of men employed in each mining district in 1916 was as follows :—Ararat and Stawell, 289 ; Ballarat, 498 ; Bendigo, 2,431 ; Beechworth, 1,339 ; Castlemaine, 589 ; Gippsland, 349 ; and Maryborough, 907.

Value of machinery on gold-fields. 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, 1912 TO 1916.

Year.	Approximate Value of Machinery Employed in—		
	Alluvial Mining.	Quartz Mining.	Total.
	£	£	£
1912	552,856	1,208,798	1,761,654
1913	538,279	1,129,513	1,667,792
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

Dredging and sluicing. A feature of alluvial mining in Victoria for the past sixteen 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 1916 the number of bucket dredges at work was 34, and the number of pump hydraulic sluices 21, in addition to which 12 jet elevators and 6 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.	ozs.	tons.
1912	99	676	19,722,227	73,781	21
1913	97	565	16,796,585	65,433	32
1914	85	459	13,979,696	56,796	45
1915	73	366	11,788,247	50,152	87
1916	67	344	10,235,000	48,724	105

These plants employed 851 men in 1916. The yield of gold per cubic yard of material was 2·3 grains in 1916, which was ·3 of a grain more than in the previous year.

Cyanidation. 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.	ozs.	£
1912	209	881,306	55,470	200,277
1913	207	692,256	45,397	163,371
1914	194	607,260	39,920	144,969
1915	140	317,636	21,511	79,160
1916	105	203,016	14,635	49,332

Records show that the total amount of tailings which have been treated by the cyanide and other processes is 15,627,898 tons, and that the gold that has been won thereby amounts to 1,242,181 ounces, which is equal to an average yield of 1 dwt. 14 grs. per ton.

A Sludge Abatement Board, appointed by the Government, is intrusted 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.	Net Cost of Batteries to Mines Department.
		tons.	ozs.	£
1912	25	2,887	2,491	2,418
1913	26	2,742	2,127	2,503
1914	27	2,128	1,321	3,009
1915	28	4,761	3,012	2,608
1916	30	4,511	2,450	*

* Not available.

Since 1897, the year in which the first battery was erected, 55,947 tons of ore have been crushed for 35,725 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 output of brown coal in 1916 was only 2,915 tons, and the total output for all years has been only 84,663 tons.

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, 1916, was 354,146 tons, valued at £173,840. The total output up to the end of 1916 was 3,085,130 tons, valued at £1,362,204. The average number of men employed at the mine throughout the year ended 30th June, 1916, was 1,034, and comprised 453 coal miners, 100 wheelers, 204 others below ground, and 277 surface men. The mine was worked 237 days during the year, and the earnings of the miners averaged 15s. 2·29d. 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 1916 was 6,883,787 tons, valued at £3,489,985. The total production prior to 1892, and the annual production for the years 1892 to 1916, 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	1904 ..	121,742	11 6
1892 ..	23,363	17 2	1905 ..	155,136	10 2
1893 ..	91,726	10 9	1906 ..	160,631	10 0
1894 ..	171,660	11 1	1907 ..	138,585	11 6
1895 ..	194,226	12 2	1908 ..	113,462	11 5
1896 ..	226,562	10 0	1909 ..	128,173	12 0
1897 ..	236,277	9 2	1910 ..	369,059	10 3
1898 ..	242,859	8 6	1911 ..	653,864	9 2
1899 ..	262,380	8 8	1912 ..	589,143	8 9
1900 ..	211,596	9 7	1913 ..	593,913	9 3
1901 ..	209,329	14 1	1914 ..	617,536	9 4
1902 ..	225,164	13 11	1915 ..	588,104	9 4
1903 ..	64,200	12 9	1916 ..	417,183	10 4

In addition to the above there were raised, up to the end of 1916, 84,663 tons of brown coal, valued at £28,663. The quantity produced in 1916 was 2,915 tons, valued at £583.

Coal produced in Australasia. The quantities of coal raised in Victoria, the other Australian States, and New Zealand from the date of the

earliest records are given below. There is no record of any coal mining having been done in South Australia.

COAL PRODUCED IN AUSTRALASIA.

Period.	Tons of Coal raised in—					
	Victoria.	New South Wales.	Queensland.	Western Australia.	Tasmania.	New Zealand.
Prior to 1878	13,747	17,538,869	507,226	..	92,176	709,931
1878 to 1882 ...	1,987	8,503,937	305,692	..	54,110	1,408,893
1883 to 1887 ...	10,196	13,902,101	911,416	..	60,744	2,506,631
1888 to 1892 ...	107,454	17,738,842	1,444,669	..	208,060	3,179,846
1893 to 1897 ...	940,954	18,982,101	1,587,973	..	211,990	3,785,485
1898 to 1902 ...	1,154,348	26,721,213	2,440,078	434,716	235,221	5,566,597
1903 ...	69,861	6,354,846	507,801	133,000	49,069	1,420,193
1904 ...	121,742	6,019,809	512,015	138,550	61,109	1,537,838
1905 ...	155,186	6,632,138	529,326	127,364	51,993	1,585,756
1906 ...	160,631	7,626,362	606,772	149,755	52,896	1,729,536
1907 ...	138,634	8,657,924	683,272	142,372	58,891	1,831,009
1908 ...	113,962	9,147,025	696,332	175,248	61,067	1,860,975
1909 ...	128,673	7,019,879	756,577	214,302	61,162	1,911,247
1910 ...	369,709	8,173,508	871,166	262,166	82,445	2,197,362
1911 ...	659,998	8,691,604	891,568	249,899	57,067	2,066,073
1912 ...	593,155	9,885,815	902,166	295,079	53,560	2,177,615
1913 ...	596,896	10,414,165	1,037,944	313,828	55,043	1,888,005
1914 ...	620,251	10,390,322	1,053,990	319,210	60,794	2,275,593
1915 ...	590,968	9,449,008	1,024,273	286,666	64,536	2,208,624
1916 ...	420,098	8,127,161	907,727	301,526	55,575	2,257,135

The figures for Victoria include 84,663 tons of brown coal produced up to the end of 1916.

Coal and Lignite produced in different Countries.

The coal production of the world (exclusive of brown coal and lignite) in 1912, the latest year for which complete figures are available, was about 1,126 million tons, of which the United Kingdom produced nearly one-fourth, and the United States three-sevenths. The production of lignite during the same year was 119 million tons, of which 81 million tons were obtained in Germany, and 35 million tons in Austria and Hungary. The quantities of coal and lignite produced in different countries in the year mentioned are given in the appended table :—

COAL AND LIGNITE PRODUCED IN VARIOUS COUNTRIES.

Country.	Coal.	Lignite.	Coal and Lignite.
	Tons.	Tons.	Tons.
United States	484,997,000	...	484,997,000
United Kingdom	264,670,000	...	264,670,000
Germany	174,875,000	80,935,000	255,810,000
France	40,560,000	748,000	41,308,000
Russia	26,423,000	...	26,423,000
Belgium	22,972,000	...	22,972,000
Japan	19,919,000	...	19,919,000
Austria	15,798,000	26,284,000	42,082,000
British India...	14,947,000	...	14,947,000
China	13,190,000	...	13,190,000
Canada	13,170,000	...	13,170,000
Australia	11,730,000	...	11,730,000
South African Union	7,366,000	...	7,366,000
Spain	3,664,000	252,000	3,916,000
Mexico	2,450,000	...	2,450,000
New Zealand	2,178,000	...	2,178,000
The Netherlands	1,725,000	...	1,725,000
Chili	1,334,000	...	1,334,000
Hungary	1,302,000	9,138,000	10,440,000
Turkey	723,000	...	723,000
Servia	32,000	273,000	305,000
Italy	...	663,000	663,000
Bulgaria	...	252,000	252,000
Roumania	...	242,000	242,000
Other Countries	1,888,000	...	1,888,000
Total	1,125,913,000	118,787,000	1,244,700,000

Minimum wage of miners.

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 winze sinking—	
" in wet places	65	Machine labour	64
Shaft sinkers	66	Hand labour	62
" in wet shafts	66*	Other quartz miners—	
Wheelers	50	Machine labour	60
Timbermen and repairers	60	Hand labour	58
Blacksmiths	60	Miners (alluvial), shaft or winze sinking—	
Carpenters	60	Machine labour	69
Brushers	60	Hand labour	67
Bracemen	50	Other alluvial miners—	
Winch drivers	49	Machine labour	62
Screen hands	46	Hand labour	60
Labourers (underground)	49	Other underground workers	52
" (surface)	45	Retortmen	54
Engine-drivers	66	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 781, the earnings of the miners in the State coal mine averaged 15s. 2·29d. per day in the year 1915-16, after deducting the cost of explosives and lights.

Mining accidents. 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.
1907	23,291	27	91	599	1	3
1908	20,853	19	87	542	1	7
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

As a result of gold mining accidents during the past ten years 148 persons were killed and 643 were injured and rendered unfit for work for a period of at least fourteen days. These numbers were equivalent to annual rates of 1·04 and 4·50 respectively per 1,000 employed. Coal mining accidents during the same period accounted for 23 deaths and 157 injuries resulting in disablement for at least fourteen days, these being equal to yearly rates of 1·93 and 13·20 respectively per 1,000 employees.

Boring for gold, coal, &c.

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.	
						feet.
1912	6	7	8	94	102	37,738
1913	6	7	58	55	113	39,185
1914	3	7	84	21	105	29,038
1915	1	15	153	2	155	28,780
1916	1	11	119	8	127	19,627

Antimony.

Up to the end of 1916 the quantity of antimony ore produced in Victoria was 75,145 tons valued at £428,258. Nearly the whole of it was obtained at Costerfield. The production for 1916 was 12,382 tons of ore, which yielded 3,259 tons of concentrates valued at £77,275. For the previous year the production was 11,113 tons of ore, which yielded 3,189 tons of concentrates of the value of £49,320.

Tin. The production of tin ore in the State up to the end of 1916 was 16,043 tons, valued at £816,996. In the year 1916 the quantity produced was 122 tons as against 96 tons in the preceding year, and 53 tons in 1914. Of the tin won during the past two years nearly the whole was obtained in the Beechworth district.

Gypsum. The quantity of gypsum produced in the State in 1916 was 1,853 tons, which was obtained at Boort. The output for the previous year was 690 tons, of which 582 tons were from Boort, 48 tons from Fairley, and 60 tons from Lake Boga. Up to the end of 1916 the quantity raised in Victoria was 26,494 tons, valued at £20,234.

Kaolin. The quantity of kaolin produced in 1916 was 810 tons, of which 610 tons came from Egerton, and 200 tons from Pyalong. The quantity raised in the previous year was 402 tons. Up to the end of last year the total output was 9,073 tons, valued at £15,718.

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

QUARRIES: 1912 TO 1916-17.

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.	£
1912 ...	88	837,088	8,351	1,687	58,755	161,843
1913 ...	89	841,803	2,861	1,485	60,566	167,567
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

In 1916-17 the number of persons employed in quarries was 1,207, and the wages paid amounted to £112,970. 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 in 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 29 per cent., the number of employees by 53 per cent., the amount of salaries and wages paid by 147 per cent., the value of output by 160 per cent., the value of machinery and plant by 74 per cent., and the engine power of factories by 235 per cent. The difference between the cost of materials used and the value of the output was equivalent to an added value of £196 3s. per person employed in 1916–17, as compared with £128 in 1904. This favorable economic result coincides with a larger proportion of establishments using mechanical power in 1916–17, when 77½ per cent. were so equipped, as against 60½ 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 34 per cent. in the proportion of child labor 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 62 per cent., and the number of hands employed therein by 97 per cent., as against increases of 28 per cent. in the number of, and 31 per cent. in the hands engaged in, factories employing less than 100. The cost of treating raw materials in factories was higher in the period 1912 to 1916–17 than in the preceding five-year period. For every £100 worth of raw material dealt with the cost in salaries and wages was £35 19s. 6d. in 1912 to 1916–17, as against £34 6s. 5d. in 1907–11. The expenditure on fuel and light on a similar basis was £2 13s. 8d. in 1912 to 1916–17, and £2 15s. 5d. in 1907–11, being slightly less in the later than in the earlier period.

A gratifying feature disclosed by the figures relating to distinct industries is the steady progress 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 1903 to 1916-17 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

* 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.

Production of different Industries, 1916-17.

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 number of factories in each industry, the power used, the number of persons employed, the wages paid, the

FACTORIES—POWER, WORKERS, WAGES, ETC., AND PRODUCTION, 1916–17.

values of materials used and of fuel and light used, also the value of articles produced or work done in 1916–17, were as follows :—

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.				
							£	£	£	£
Class I.—Treating Raw Material the product of Pastoral Pursuits, or Vegetable Products, not otherwise classed.										
Boiling down	17	296	9	118	..	..	15,127	3,377	112,073	151,593
Bone milling	16	576	18	83	..	1	11,140	5,391	41,361	67,445
Tanning	45	2,475	51	1,771	1	11	241,934	18,089	1,926,154	2,464,798
Fellmongering	29	712	30	498	..	..	58,862	11,431	1,257,272	1,497,404
Chaffcutting and grain crushing ..	189	2,050	181	626	1	2	45,776	7,951	367,232	485,203
Other	8	69	4	130	..	..	16,448	432	31,322	56,003
Total	304	6,178	293	3,226	2	14	389,287	46,671	3,735,414	4,722,446
Class II.—Oils and Fats, Animal and Vegetable.										
Oil, grease, glue	9	139	4	96	..	11	13,165	3,684	145,378	212,152
Soap and candle	18	471	15	580	..	90	84,036	18,937	536,265	802,179
Total	27	610	19	676	..	101	97,201	22,621	681,643	1,014,331

FACTORIES—POWER, WORKERS, WAGES, ETC., AND PRODUCTION, 1916-17—*continued.*

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.				
							£	£	£	£
Class III.—Processes relating to Stone, Clay, Glass, &c.										
Brick, pottery, &c.	79	3,802	57	1,576	..	60	200,781	67,196	35,842	387,317
Cement, including cement pipes ..	7	992	1	258	..	4	37,714	19,953	37,258	154,856
Glass, including bottles	7	226	8	816	..	5	107,804	26,792	32,123	200,866
,, bevelling	18	59	13	161	..	2	20,567	606	35,426	70,240
Marble and stone dressing ..	37	182	45	249	..	6	34,581	889	38,777	100,380
Modelling	5	42	10	69	..	1	10,636	617	9,134	27,206
Other	17	186	15	163	..	..	18,613	8,359	7,003	43,890
Total	170	5,489	149	3,292	..	78	430,696	124,412	195,563	984,755
Class IV.—Working in Wood.										
Cooperage	8	200	5	101	..	..	16,904	712	15,901	36,004
Saw-milling (forest)	151	3,193	173	1,677	..	1	206,709	1,119	10,610	361,954
Saw-milling, moulding, &c. ..	217	6,222	210	3,536	1	57	464,448	15,862	1,007,464	1,686,319
Mantelpiece	9	66	11	144	..	4	18,385	322	29,764	54,147
Wood carving, turning	31	461	38	244	..	7	28,364	1,521	33,091	78,893
Other	8	93	6	92	..	29	12,758	617	24,873	46,753
Total	424	10,235	443	5,794	1	98	747,568	20,153	1,121,703	2,264,070

Class V.—Metal Works, Machinery, &c.										
Agricultural implement	63	1,362	68	1,810	..	22	250,450	18,666	359,342	743,196
Engineering, iron foundry, &c. ..	364	7,964	396	7,223	3	104	1,008,627	104,334	1,365,280	2,936,342
Railway workshop	17	1,534	..	4,174	..	6	615,960	25,087	665,650	1,409,770
Sheet-iron, tin, &c.	77	415	64	1,116	1	243	145,753	5,718	419,405	673,927
Brass, copper smithing	62	423	79	752	1	37	87,712	6,699	110,384	248,418
Wireworking	17	191	17	184	..	10	25,033	994	48,221	93,699
Metallurgical, &c., cyanide ..	30	283	29	174	..	1	22,027	6,671	82,431	135,048
Oven, range	19	128	25	161	..	..	19,369	1,195	30,173	64,570
Other	51	1,089	51	421	2	6	57,342	5,664	187,572	301,044
Total	700	13,389	729	16,015	7	429	2,232,273	175,028	3,268,458	6,606,014
Class VI —Connected with Food and Drink or the preparation thereof.										
Bacon curing	23	1,000	28	385	..	20	58,191	7,243	808,691	972,477
Butter, cheese, butterine ..	186	3,148	47	1,319	3	114	190,038	40,142	3,993,654	4,908,160
Meat freezing, preserving ..	15	5,460	3	913	..	23	116,978	28,433	796,639	980,371
Biscuit	7	386	5	841	..	560	119,628	12,122	499,301	735,158
Flourmilling	54	4,305	40	851	..	6	126,280	28,342	2,941,140	3,458,633
Jam, sauce, &c.	35	439	25	1,106	3	1,047	180,083	13,310	836,430	1,225,856
Oatmeal, starch, &c.	24	1,313	16	317	..	179	57,873	9,960	386,351	541,161
Sugar, confectionery, &c. ..	48	4,032	42	1,558	5	1,458	280,077	56,646	2,690,891	3,435,831
Aerated water, cordial, &c. ..	135	473	114	701	8	74	87,543	3,297	181,407	400,101
Malt	22	267	8	226	..	4	35,977	9,228	314,113	442,717
Brewing	19	3,382	9	854	..	3	168,041	33,711	505,579	1,118,288
Distilling	9	299	3	132	..	1	20,117	5,488	91,117	147,538
Condiments, coffee, cocoa, &c. ..	20	693	11	207	..	112	39,379	4,601	260,264	355,281
Tobacco, &c.	13	376	8	1,017	..	686	211,866	3,796	920,872	1,470,715
Other	25	1,210	16	206	2	18	30,387	8,200	31,634	112,748
Total	635	26,783	375	10,633	21	4,305	1,722,458	264,519	15,258,083	20,305,035

FACTORIES—POWER, WORKERS, WAGES, ETC., AND PRODUCTION, 1916-17—*continued.*

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.				
Class VII.—Clothing and Textile Fabrics, and Fibrous Material.							£	£	£	£
Woollen mill	10	3,215	9	917	..	1,123	181,358	24,205	535,409	1,006,635
Clothing, tailoring, &c.	448	496	410	1,705	35	7,754	667,228	13,881	1,422,740	2,448,673
Dressmaking and millinery ..	448	331	80	218	298	8,425	438,932	8,885	912,680	1,629,543
Underclothing, shirt	175	599	78	219	109	6,006	324,293	7,893	749,821	1,273,032
Hat, cap	40	468	41	616	4	1,048	156,639	7,522	283,683	539,335
Hoisery	45	359	28	133	30	1,443	101,069	2,665	432,180	643,450
Oilskin, waterproof clothing ..	4	16	2	44	1	159	19,796	981	40,415	77,398
Boot, shoe	201	1,674	248	4,800	7	3,439	843,772	15,074	2,171,812	3,460,404
Fur	23	16	18	66	10	198	19,265	461	49,825	85,259
Rope, twine, &c.	8	1,300	6	472	..	342	78,343	7,325	350,770	541,318
Sail, tent, &c.	17	33	10	111	..	120	21,262	342	99,556	139,425
Other	22	109	13	148	5	285	32,488	2,600	85,764	146,976
Total	1,441	8,616	943	9,449	499	30,342	2,884,445	91,834	7,134,655	11,991,448

Class VIII.—Books, Paper, Printing, Engraving, &c.										
Printing	357	3,255	400	4,414	6	1,339	793,609	23,364	962,234	2,424,873
Account-book, stationery, paper, &c.	23	438	25	541	2	582	98,706	3,102	199,849	384,884
Fancy box	30	152	23	155	6	630	51,453	1,164	112,530	193,329
Die sinking, engraving, &c. ..	19	66	20	199	1	7	25,397	741	25,244	77,936
Other	16	1,648	13	414	..	53	55,094	17,741	107,814	246,473
Total	445	5,559	481	5,723	15	2,611	1,024,259	46,112	1,407,671	3,327,495
Class IX.—Musical Instruments ..	9	240	8	178	..	12	25,146	422	20,455	55,480
Class X.—Arms and Explosives ..	12	746	2	688	..	907	176,106	10,710	497,503	761,241
Class XI.—Vehicles and Fittings, Saddlery, Harness, &c.										
Coachbuilding	294	691	348	1,914	..	19	217,286	8,820	243,301	575,791
Bicycle, &c.	181	576	173	1,229	1	41	152,029	5,150	124,807	347,776
Saddle, harness	45	54	53	498	..	147	77,135	679	161,045	279,990
Other	13	47	10	133	..	9	16,727	320	30,665	57,816
Total	533	1,368	584	3,774	1	216	463,177	14,969	559,818	1,261,373
Class XII.—Shipbuilding, Fitting, &c.	11	1,341	8	453	..	3	67,235	2,842	54,720	151,950
Class XIII.—Furniture, Bedding, &c.										
Upholstery, bedding, &c. ..	44	276	27	308	1	190	50,094	1,764	135,983	222,267
Cabinet, including billiard table ..	191	1,142	225	1,569	..	49	184,379	4,240	245,034	524,611
Picture frame	22	33	21	140	1	31	16,626	575	34,626	63,947
Other	11	148	8	186	..	10	22,108	1,541	50,098	82,506
Total	268	1,599	281	2,203	2	280	273,207	8,120	465,741	893,331

FACTORIES—POWER, WORKERS, WAGES, ETC., AND PRODUCTION, 1916-17—*continued.*

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.				
Class XIV.—Drugs, Chemicals, and By-products.							£	£	£	£
Blacking, blue, &c.	14	195	8	158	..	156	31,285	1,355	186,436	280,041
Chemicals, drugs, &c.	33	585	21	455	2	309	84,546	6,362	209,855	380,104
Fertilizers	6	1,494	..	631	..	6	92,689	13,003	493,536	749,437
Other	41	137	43	284	1	12	27,975	1,375	60,071	112,371
Total	94	2,411	72	1,528	3	483	236,495	22,095	949,898	1,521,953
Class XV.—Surgical and Scientific Appliances	28	37	25	102	..	8	11,383	516	11,179	33,872
Class XVI.—Timepieces, Jewellery, and Platedware	91	220	104	727	..	117	97,135	2,988	169,600	352,611

Class XVII.—Heat, Light, and Energy.											
Electric apparatus	29	230	27	216	..	8	24,264	800	36,092	77,818
Electric light	74	42,144	3	1,101	..	40	178,430	129,743	2,009	673,769
Gas, coke	47	1,985	2	2,045	..	46	365,777	4,406	383,675	1,181,096
Other	8	1,154	1	196	..	479	50,991	5,315	147,337	276,163
Total	158	45,513	33	3,558	..	573	619,462	140,264	569,113	2,208,846
Class XVIII.—Leatherware (except Saddlery and Harness) ..	38	210	45	366	..	300	58,083	1,861	251,644	370,474
Class XIX.—Wares, not elsewhere included.										
Umbrella	8	13	6	49	..	114	11,836	267	48,667	69,795
Rubber goods	13	6,305	12	1,454	..	419	220,139	26,986	609,194	987,893
Brush, broom	18	120	17	282	1	83	35,202	731	81,973	135,815
Basket, wickerware	18	3	20	105	..	1	10,724	35	11,055	27,056
Total	57	6,441	55	1,890	1	617	277,901	28,019	750,889	1,220,559
Grand Total	5,445	136,985	4,649	70,275	552	41,494	11,833,517	1,024,156	37,103,750	60,047,284

Increase in value of output of each industry 1911 to 1916-17.

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 1911 and 1916-17 is shown in the following table, the industries being arranged in order of increase in value : —

OUTPUT OF INDUSTRIES, 1911 TO 1916-17.

Industry.	Value of Output.		Increase in Five Years.	
	1911.	1916-17.	Total.	Per cent.
	£	£	£	
Tanning and fellmongering ..	1,843,189	3,962,202	2,119,013	115·0
Sugar, confectionery ..	1,580,491	3,435,831	1,855,340	117·4
Boot, shoe	1,878,308	3,460,404	1,582,096	84·2
Flour mills..	2,456,533	3,458,633	1,002,100	40·8
Butter, cheese, and creameries	3,964,312	4,815,833	851,521	21·5
Dress, millinery, and hosiery ..	1,422,376	2,272,993	850,617	59·8
Engineering, iron foundries, &c.	2,194,805	2,936,342	741,537	33·8
Arms and explosives ..	135,068	761,241	626,173	463·6
Printing	1,874,922	2,424,873	549,951	29·3
Clothing, tailoring, &c. ..	1,904,037	2,448,673	544,636	28·6
Woollen mill	473,686	1,006,635	532,949	112·5
Jam, sauce, &c.	725,311	1,225,856	500,545	69·0
Bacon-curing	549,748	972,477	422,729	76·9
Electric light	270,498	673,769	403,271	149·1
Underclothing, shirt ..	880,109	1,273,032	392,923	44·6
Oil, grease, glue, soap and candle	635,718	1,014,331	378,613	59·6
Rubber goods	612,830	987,893	375,063	61·2
Gas, coke	810,414	1,181,096	370,682	45·7
Chemicals, &c.	808,201	1,129,541	321,340	39·8
Tobacco, cigars, snuff ..	1,155,047	1,470,715	315,668	27·3
Sheet-iron, tin, &c.	370,460	673,927	303,467	81·9
Rope, twine, &c.	260,875	541,318	280,443	107·5
Biscuit	467,114	735,158	268,044	57·4
Brewing	912,829	1,118,288	205,459	22·5
Coach, cycle, motor	720,222	923,567	203,345	28·2
Oatmeal, starch, &c. ..	340,408	541,161	200,753	59·0
Malt	288,324	442,717	154,393	53·5
Account book, stationery, &c.	249,132	384,884	135,752	54·5
Saddle, harness	148,321	279,990	131,669	88·8
Blacking, blue, &c.	157,347	280,041	122,694	78·0
Hat, cap	420,963	539,335	118,372	28·1
Ship, boat-building, dock, slip	39,661	151,950	112,289	283·1
Cement, including cement pipes	49,516	154,856	105,340	212·7
Leatherware, except saddlery..	266,801	370,474	103,673	38·9
Distilling	48,082	147,538	99,456	206·8
Sail, tent, &c.	54,789	139,425	84,636	154·5
Brass, copper	173,142	248,418	75,276	43·5
Fancy-box, &c.	119,935	193,329	73,394	61·2
Condiments, coffee, cocoa, &c.	292,490	355,281	62,791	21.5
Glass, including bottles ..	138,421	200,866	62,445	45·1
Others	10,053,428	10,712,391	658,963	6·6
	41,747,863	60,047,284	18,299,421	43·8

INDIVIDUAL INDUSTRIES.

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

Tanneries, &c. 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, ETC.: 1907 TO 1916–17.

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.
			£			£
1907	90	1,223	124,064	1,893	100	140,436
1908	92	1,379	133,376	2,001	98	160,091
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

The quantity of bark used in connexion with tanning operations in 1916–17 was 12,340 tons. The output of tanneries for each of the last ten years was as follows :—

OUTPUT OF TANNERIES, ETC.: 1907 TO 1916–17.

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.	£
1907	492,572	188,007	548,765	851,516	7,230,675	1,512,009
1908	498,947	127,798	1,027,460	1,253,875	7,803,992	1,441,651
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

The figures for 1909 and subsequent years do not include skins and wool dealt with in small tanneries. The work done in such tanneries in 1908 was the tanning of 1,540 hides, 1,620 calf skins, and 4,916 sheep and other skins. The value of the leather imported into Victoria from oversea countries during the year ended 30th June, 1917, was £365,825.

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

SOAP AND CANDLE WORKS—1907 TO 1916-17.

Year.	Number of Establishments.	Value of Machinery and Plant in Use.	Number of Employees.	Amount of Wages Paid.	Products.		Value of Output.
					Soap.*	Candles.	
		£		£	cwt.	cwt.	£
1907 ..	15	106,326	499	43,429	153,478	47,688	404,251
1908 ..	17	109,768	523	43,463	162,757	37,705	402,306
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

* Not including soap made in small soap works not classified as factories, viz., 10,527 cwt. in 1907, 7,125 cwt. in 1908, 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, and 927 cwt. in 1916-17.

The quantity of tallow used in 1916-17 in the manufacture of soap and candles was 146,455 cwt. in factories, and 398 cwt. in minor works.

The imports from oversea countries in 1916-17 included 252,863 lbs. of soap valued at £17,859, and 34,232 lbs. of candles valued at £1,507.

Brickyards, potteries, &c. Particulars relating to brickyards and potteries for the ten years 1907 to 1916-17 are shown in the following statement. The value of the land, plant, buildings, &c., used in connexion with such works in 1916-17 was £492,425.

BRICKS, POTTERY, PIPES, AND TILES: 1907 TO 1916-17.

Year.	Number of Establishments.	Number of Employees.	Amount of Wages Paid.	Number of Bricks Made.*	Value of—	
					Pipes and Tiles.	Pottery.
			£		£	£
1907 ..	117	1,714	155,768	123,281,100	66,390	29,070
1908 ..	119	1,711	165,246	124,985,500	72,024	33,029
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

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

The estimated value of bricks made in 1916-17 was £182,211, being a decrease of £65,290 as compared with the value of those made in the preceding year.

Forest saw-mills.

Particulars in regard to the forest saw-mills in the State for the ten years 1907 to 1916–17 are given in the table which follows :—

FOREST SAW-MILLS : 1907 TO 1916–17.

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.	£
1907 ..	119	99,723	1,548	118,258	55,873,500	181,590
1908 ..	120	98,804	1,486	126,409	54,602,200	177,460
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

In addition to forest saw-mills there were 273 other factories working in wood. The particulars for 1916–17 relating to these are given on page 790.

Firewood, &c.

It is estimated that the approximate value of the production of firewood for consumption in the year is £521,770. 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.

Engineering, iron foundry, &c.

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 57 per cent., the number of persons employed therein by 67 per cent., the amount of wages paid by 158 per cent., the value of machinery and plant by 84 per cent., the value of materials used by 202 per cent., and the value of the output by 169

per cent. The chief particulars of the industry for the years 1907 to 1916-17 are given in the next table :—

ENGINEERING, IRON FOUNDRY, ETC., 1907 TO 1916-17.

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.
			£		£	£	£	£
1907 ..	262	2,990	486,649	5,847	531,398	667,867	55,541	1,515,440
1908 ..	278	3,130	491,208	5,928	549,868	650,990	58,629	1,535,907
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	7,899	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

The above figures are exclusive of railway workshops, which in 1916-17 numbered 17, and gave employment to 4,180 hands, who were paid £615,960; the value of the materials dealt with was £665,650, and the value of the output was £1,409,770, of which 77 per cent. was from the Newport Workshops.

Agricultural Implement works.

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

AGRICULTURAL IMPLEMENT WORKS, 1907 TO 1916-17.

Year.	No. of Factories.	No. of Employees.	Wages Paid.	Approximate Value of—		
				Fuel, &c., Used.	Materials Used.	Output.
			£	£	£	£
1907	55	1,553	147,675	9,554	188,173	452,841
1908	52	1,381	134,884	9,253	177,488	437,023
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

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 1916–17 the position showed some improvement, but even in that year the number of employees was 31 per cent. and the value of the output 11 per cent. less than in 1911.

The wages averaged for each employee £89 19s. 5d. in 1904 and £136 14s. 2d. in 1916–17. The stripper-harvester, which is a Victorian invention, is one of the principal implements manufactured.

Bacon curing.

In the following table particulars of bacon and ham curing establishments are given for the ten years 1907 to 1916–17. The value of the machinery, plant, land and buildings in connexion with these establishments was £57,350 in 1907 and £154,215 in 1916–17.

BACON CURING: 1907 TO 1916–17.

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.	£
1907 ..	27	316	27,472	145,513	13,609,144	447,585
1908 ..	26	310	27,862	129,677	11,518,404	446,199
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	549,748
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

This table does not include pigs slaughtered for curing, nor bacon and hams cured in small curing works; the pigs so slaughtered numbered 2,771 in 1907, 2,263 in 1908, 2,691 in 1909, 1,637 in 1910, 695 in 1911, 671 in 1912, 666 in 1913, 974 in 1914, 439 in 1915, and 379 in 1916–17; the quantity (in pounds) of bacon and hams cured was 244,837 in 1907, 194,328 in 1908, 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, and 31,300 in 1916–17.

In addition, the following quantities of bacon and hams were returned as having been cured on farms:—3,691,739 lbs. in 1907,

2,698,669 lbs. in 1908, 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, and 2,738,428 lbs. in 1916–17. The total quantity of bacon and hams cured in 1916–17 was thus 18,146,328 lbs.—an increase of 4,441,324 lbs. as compared with 1915.

Butter and cheese factories.

The number of butter, cheese, and kindred factories was 182 in 1916–17. Of these factories, 141 made butter, 6 butter and cheese, 2 butter and cheese and casein, 1 butter and concentrated and powdered milk, 1 concentrated milk, 1 condensed milk, 1 concentrated and condensed milk, 1 powdered milk, 1 casein, 1 butter, cheese, concentrated, and condensed milk, while 26 made cheese only. There were 32 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 1907 to 1916–17 were as follows :—

BUTTER AND CHEESE FACTORIES: 1907 TO 1916–17.

Year.	Number of Factories.	Value of Machinery, Plant, Land, and Buildings.	Number of Employees.	Amount of Wages Paid.	Value of Output.
		£		£	£
1907	223	560,035	1,384	119,684	2,831,670
1908	215	526,700	1,235	108,152	2,327,328
1909	211	515,966	1,134	109,412	2,391,893
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

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 756.

Meat freezing and preserving works.

Meat freezing and preserving works numbered fifteen in 1916–17, and gave employment to 936 hands and three working proprietors, the wages of the hands amounting to £116,978. The approximate value of machinery, plant, land and buildings in the same year was £697,657. The output for each of the last ten years is given in the following table :—

MEAT FREEZING AND PRESERVING, 1907 TO 1916–17.

Year.	Frozen.			
	Cattle.	Sheep.	Rabbits.	Poultry.
	Qrs.	No.	No.	No.
1907	10,760	866,498	6,413,560	56,275
1908	16,508	773,396	4,057,896	22,826
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

Year.	Preserved.			
	Beef.	Mutton.	Rabbits.	Other Meats, &c.
	Cwt.	Cwt.	Cwt.	Cwt.
1907	11,944	2,478	64	2,229
1908	7,557	2,309	1,730	1,391
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

NOTE.—In addition to the above, there were treated at freezing works 8,047 calves, 2,196 pigs, and 55,196 hares in 1907 ; 11,662 calves, 2,296 pigs, and 29,796 hares in 1908; 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, 1,669 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 ; and 1,120 calves, 156 pigs, and 6,872 hares in 1916-17.

Imports and exports of meats.

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, 1917 :—

MEATS IMPORTED AND EXPORTED OVERSEA, 1916-17.

—	Imports.		Exports.	
	Quantity.	Value.	Quantity.	Value.
Meats, Frozen—		£		£
Mutton	...	...	2,940,770 lbs.	64,568
Lamb	...	...	12,999,314 ,,	329,476
Beef	...	...	4,895,505 ,,	121,329
Pork	7,270 lbs.	400	15,642 ,,	618
Rabbits and Hares	...	...	1,426,888 prs.	111,632
Poultry	50 lbs.	3	993 ,,	977
Game	159 ,,	13	9,232 lbs.	263
Other	...	...	97,067 ,,	1,631
Meats—Fresh and Smoked ...	136 lbs.	3	...	...
,, Potted and concentrated	...	13,320	...	3,651
,, Preserved in tins ..	144,795 lbs.	9,119	1,601,411 lbs.	61,937
,, Not elsewhere included	21 cwt.	75	21 cwt.	73
Total value ...	...	22,933	...	696,155

Flour mills.

The value of the machinery, plant, land and buildings used in connexion with flour mills was estimated at £501,873 in 1907, and at £498,470 in 1916-17. Particulars of the industry for the ten years 1907 to 1916-17 are as follows :—

FLOUR MILLS: 1907 TO 1916-17.

Year.	Number of Mills.	Number of Employees.	Amount of Wages Paid.	Wheat Ground into Flour.	Flour Made.	Value of Total Output.
			£	bushels.	tons.	£
1907 ..	68	788	85,544	11,731,183	235,185	2,370,957
1908 ..	63	728	78,906	9,564,068	192,687	2,275,024
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

In addition to the flour made, the wheat ground in 1916-17 produced 5,763,240 bushels of bran and 5,063,820 bushels of pollard. Other

grain operated on amounted to 123,885 bushels in 1907, 123,879 bushels in 1908, 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, and 44,150 bushels in 1916–17.

Exports of bread-stuffs.

During the year 1916–17, 3,325,716 lbs. of biscuits valued at £79,129, and 101,991 tons of flour valued at £1,213,751 were exported from Victoria to countries beyond Australia.

Jam, pickle, and sauce works.

In 1916–17 there were 35 establishments in which the manufacture of jams, pickles, and sauces was carried on, and the number of persons employed therein was 2,181, of whom 28 were working proprietors. The wages paid to the employees amounted to £180,083, and the value of machinery, plant, land and buildings was £211,598. The fruit and sugar used and the output for each of the last ten years were as shown below :—

JAM, PICKLE, AND SAUCE WORKS, 1907 TO 1916–17.

Year.	Fruit Used.	Sugar Used.	Jams and Jellies Made.	Fruit Preserved.	Fruit Pulped.	Sauce Made.	Pickles Made.
	cwt.	cwt.	cwt.	cwt.	cwt.	pints.	pints.
1907 ...	218,276	105,518	190,211	33,819	95,885	3,257,471	1,253,280
1908 ...	191,282	133,283	226,481	31,336	18,783	3,014,835	1,187,136
1909 ...	265,353	143,427	268,927	40,746	49,797	3,607,968	1,324,392
1910 ...	311,168	159,439	303,733	49,797	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

These works also candied fruit peel amounting to 3,283 cwt. in 1908, 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, and 3,360 cwt. in 1916–17. The value of the output in 1916–17 was £1,225,856.

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 manufacturing campaigns, 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 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 following particulars summarize the results of the last seven 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

The price of beet was advanced to 27s. 6d. per ton for the 1916–17 season and a larger area than usual was planted. Some of the crops were severely damaged by floods, but 1,320 acres were harvested and generally brought good returns to the growers. A fine grade of white sugar was manufactured, and, after meeting all expenses and charges the factory showed a substantial profit for the season.

Breweries. Particulars regarding breweries for the ten years 1907 to 1916–17 are set forth in the next table. Machinery and plant were valued at £249,579 in 1907 and at £452,988 in 1916–17, whilst land and buildings were valued at £529,047 in 1907 and at £471,170 in 1916–17. The wages paid in 1916–17 amounted to £168,041.

BREWERIES: 1907 TO 1916–17.

Year.	Number of Breweries.	Number of Employees.	Materials Used—			Beer Made.	Value of Output.
			Sugar.	Malt.	Hops.		
			cwt.	bushels.	lbs.	gallons.	£
1907 ...	37	1,005	106,004	542,806	665,236	16,900,336	810,321
1908 ..	35	1,107	109,347	556,040	684,879	17,582,833	832,459
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

Distilleries. The number of distilleries working in 1916–17 was 9, and the persons employed numbered 136, of whom 3 were working proprietors. The estimated value of the machinery, plant, land, and buildings was £186,365. The materials used in manufacture and the quantity of spirits distilled in each of the last ten years were as follows:—

DISTILLERIES: 1907 TO 1916–17.

Year.	Materials Used.				Spirits Distilled.
	Wine.	Malt.	Other Grain.	Sugar and Molasses.	
	Gal.	Bush.	Bush.	lbs.	Proof gal.
1907	413,242	141,876	...	49,280	375,183
1908	591,248	53,761	...	...	220,690
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

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:—53,517 gallons in 1907, 50,954 gallons in 1908, 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, and 9,937 gallons in 1916–17.

Tobacco factories.

The number of tobacco, cigar and cigarette factories licensed in 1916–17 was twenty-eight, of which fifteen were too small to be classified as ordinary factories and were consequently not included in the statistical tabulation. In the year mentioned the remaining thirteen employed 1,703 hands, who were paid £211,866 in wages, also eight working proprietors; and the machinery, plant, land, and buildings used were valued at £290,930. The subjoined 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: 1907 TO 1916–17.

Year	Unmanufactured Leaf Operated on.		Quantity Manufactured of—			
	Australian	Imported.	Tobacco.	Snuff.	Cigars.	Cigarettes.
	lbs.	lbs.	lbs.	lbs.	No.	No.
1907... ...	332,271	4,479,073	4,782,061	993	17,740,782	146,699,600
1908... ...	269,354	5,566,522	5,331,117	605	19,741,355	178,776,650
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	123,430,200

Woollen mills.

There were ten woollen mills working in 1916–17, and the number of persons employed therein was 2,049, of whom nine were working proprietors. The wages paid to employees amounted to £181,358, and the approximate value of the machinery plant, land, and buildings to £422,120. The value of the raw materials used in mills during the year was £535,409, and that of

the goods manufactured in the same period, £1,006,635. The quantities of wool and cotton used and of goods manufactured in each of the last ten years were as follows :—

WOOLLEN MILLS : 1907 TO 1916–17.

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.	£
1907 ..	3,311,097	914,003	867,789	4,088,383	199,743	12,089	368,784
1908 ..	3,210,925	965,042	922,176	4,396,862	228,621	15,222	388,218
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

During the period 1907 to 1916–17 the value of output of woollen mills increased by 173 per cent. The quantity of tweed and cloth manufactured increased by 43 per cent., of flannel by 28 per cent., and of blankets by 30 per cent.

Boot factories.

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

BOOT FACTORIES : 1907 TO 1916–17.

Year.	Number of Factories.	Persons Employed.	Value of Land, Buildings, and Machinery.	Wages Paid.
			£	£
1907 ...	139	6,303	292,474	368,503
1908 ...	139	6,348	284,982	371,081
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

OUTPUT OF BOOT FACTORIES: 1907 TO 1916-17.

Year.	Goods Manufactured—		Value of Materials Used.	Value of Output.
	Boots and Shoes.	Slippers.*		
	No. of pairs.	No. of pairs.	£	£
1907	4,290,122	182,039	808,879	1,322,893
1908	4,164,410	193,949	780,760	1,307,329
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

* Includes canvas shoes and house-boots.

During the period 1907 to 1916-17 the wages paid increased by 129 per cent., the value of materials used by 168 per cent., and the value of output by 162 per cent., while the quantity of boots and shoes manufactured increased by only about 45 per cent.

Dress (exclusive of boot) factories.

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 £6,765,326 in 1916-17, as compared with £2,952,393 in 1907. During the period 1907 to 1916-17 the persons employed increased by 22 per cent., the wages paid by 93 per cent., the value of materials used by 144 per cent., and the value of the output by 129 per cent. Particulars of the industry for each of the last ten years are as follow:—

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.			
					£	£	£
1907 ..	1,040	3,032	21,132	24,164	903,320	1,603,583	2,952,393
1908 ..	1,064	3,191	22,124	25,315	965,425	1,693,450	3,112,211
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

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: 1907 TO 1916–17.

Year.	Number of Stations.	Horse-power of Machinery.	Value of Machinery and Plant.	Persons Employed.	Wages Paid.	Electricity Supplied.	Value of Output.
			£		£	British Units.	£
1907 ..	11	9,948	496,314	398	44,489	12,542,614	177,044
1908 ..	12	11,702	541,489	441	50,442	14,310,482	191,317
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

The electricity supplied in 1916–17 represents an increase of 471 per cent. on that supplied in 1907.

Gasworks.

The approximate value of the machinery and plant, land and buildings connected with gasworks in Victoria was £1,710,306 in 1907, and £1,726,300 in 1916–17. The gas made in the latter year was 125 per cent. in excess of that made in 1907. Particulars in regard to these works are given below.

GASWORKS: 1907 TO 1916–17.

Year.	Number of Works.*	Persons Employed.	Wages Paid.	Coal Used.	Gas Made.	Coke Produced.	Value of Output.
			£	Tons.	Cubic Feet.	Tons.	£
1907 ..	48	1,272	157,525	189,190	1,975,892,500	112,050	574,002
1908 ..	47	1,298	168,077	206,408	2,144,834,000	126,530	618,501
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

* 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 163,215 in 1907, 187,237 in 1908, 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, and 345,272 in 1916–17.

Number and Location of Factories, 1903 to 1916–17.

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, 1907, 1911, and 1916–17 is exhibited in the following statement:—

NUMBER AND LOCATION OF FACTORIES.

Class of Industry.	Number of Factories.							
	Metropolis.				Remainder of State.			
	1903.	1907.	1911.	1916–17.	1903.	1907.	1911.	1916–17.
Treating raw material, product of pastoral pursuits, &c. ..	97	76	84	81	227	247	253	223
Treating oils and fats, animal, vegetable, &c.	12	12	12	16	12	9	11	11
Processes in stone, clay, glass, &c. ..	79	86	96	89	112	117	119	81
Working in wood ..	107	125	168	194	161	165	207	230
Metal works, machinery, &c.	304	363	440	497	241	256	234	203
Connected with food and drink, &c. ..	160	182	197	217	461	474	454	418
Clothing and textile fabrics, &c. ..	827	938	1,128	1,139	281	282	288	302
Books, paper, printing, &c.	193	223	255	290	104	118	165	155
Musical instruments, &c.	2	3	5	9	..	..	..	..
Arms and explosives	2	2	6	8	3	3	3	4
Vehicles, saddlery, harness, &c. ..	164	192	219	251	170	185	191	282
Ship and boat building and repairing ..	6	10	11	10	2	2	1	1
Furniture, upholstery, and bedding ..	169	176	222	239	18	18	20	29
Drugs, chemicals, and by-products ..	45	42	50	61	17	22	31	33
Surgical and other scientific appliances	9	11	16	27	..	..	1	1
Jewellery, time-pieces, and platedware ..	47	50	74	87	5	7	6	4
Heat, light, and power	25	24	29	52	43	46	54	106
Leatherware, n.e.i. ..	20	23	32	38	1	1	..	..
Minor wares, n.e.i. ..	25	40	44	55	..	..	..	2
Totals ..	2,293	2,578	3,088	3,360	1,858	1,952	2,038	2,085

Since 1903 the number of factories has increased by 1,294, the greatest numerical increase in the classes being that of the clothing and textile factories, of which there were 333 more in 1916–17 than in 1903.

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

AVERAGE NUMBER OF PERSONS EMPLOYED IN FACTORIES.

Class of Industry.	1903.	1913.	1914.	1915.	1916–17.
Treating raw materials, product of pastoral pursuits, &c. ..	2,976	3,246	3,310	3,345	3,535
Treating oils and fats, animal, vegetable, &c.	528	656	711	740	796
Processes in stone, clay, glass, &c.	3,076	4,137	4,283	3,822	3,519
Working in wood	3,713	7,653	7,472	6,345	6,336
Metal works, machinery, &c. ..	10,350	20,138	19,694	19,217	17,180
Connected with food and drink, &c.	10,602	15,153	15,308	13,778	15,334
Clothing and textile fabrics, &c...	26,301	40,140	39,446	38,041	41,233
Books, paper, printing, &c. ..	6,525	9,118	9,153	8,881	8,830
Musical instruments, &c. ..	25	181	170	145	198
Arms and explosives	342	856	970	1,324	1,597
Vehicles, saddlery, harness, &c...	2,973	5,230	5,086	4,589	4,575
Ship and boat building and repairing	98	433	593	1,085	464
Furniture, bedding, and upholstery	1,978	3,240	2,986	2,689	2,766
Drugs, chemicals, and by-products	987	1,931	1,834	1,860	2,086
Surgical and other scientific appliances	35	102	114	115	135
Jewellery, time-pieces, and plated ware	594	951	925	825	948
Heat, light, and power	988	3,419	3,769	4,012	4,164
Leatherware, n.e.i.	283	568	566	604	711
Minor wares, n.e.i.	855	1,592	2,009	2,417	2,563
Total	73,229	118,744	118,399	113,834	116,970

The total increase in the number of hands employed during the period covered by the above table is 43,741, and represents an advance of about 60 per cent. The greatest development has taken place in clothing factories, metal works, and industries connected with food, drink, &c., which show increases of 14,932, 6,830, and 4,732 respectively in the number of persons employed in 1916–17 as compared with the number in 1903.

Size of Factories. An examination of the figures relating to different factories in 1903 and 1916–17 reveals the great increase in the number of hands employed which has taken place in factories of the largest size. During the past thirteen years the number of factories employing over 100 hands has increased by 62 per cent., and the number of hands engaged therein by 110 per cent., whilst the factories employing less than 100 and their employees have increased by only 30 and 35 per cent. respectively. Particulars of

factories of different sizes in 1903 and 1916–17 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.	
	1903.	1916–17.	1903.	1916–17.
Under 4 hands	587	1,165	1,714	2,632
4 „	487	595	1,948	2,380
5 to 10 „	1,631	1,744	11,293	12,033
11 to 20 „	722	867	10,509	12,616
21 to 50 „	471	647	14,520	20,427
51 to 100 „	135	236	9,109	16,219
Over 100 „	118	191	24,136	50,663
Total	4,151	5,445	73,229	116,970

PROPORTION OF FACTORIES OF DIFFERENT SIZES.

Size of Factory.	Percentage to Total.			
	Factories		Hands.	
	1903.	1916–17.	1903.	1916–17.
Under 4 hands	14·14	21·40	2·34	2·25
4 „	11·73	10·93	2·66	2·03
5 to 10 „	39·29	32·03	15·42	10·29
11 to 20 „	17·40	15·92	14·35	10·79
21 to 50 „	11·35	11·88	19·83	17·46
51 to 100 „	3·25	4·33	12·44	13·87
Over 100 „	2·84	3·51	32·96	43·31
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.	1913.	1914.	1915.	1916–17.
Working proprietors ..	4,190	5,649	5,707	5,366	5,201
Managers, overseers ..	2,520	3,314	3,283	3,347	3,619
Clerks, accountants ..	2,213	3,927	3,981	4,062	4,345
Engine-drivers, firemen ..	1,441	1,821	1,835	1,685	1,758
Workers in factory or works	57,721	98,112	97,923	94,338	96,706
Outworkers	955	1,910	1,737	1,473	1,814
Carters, messengers ..	2,778	2,925	2,835	2,657	2,725
Others	1,411	1,086	1,098	906	802
Total	73,229	118,744	118,399	113,834	116,970

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 Distribution in Factories. The average numbers of males and females employed in factories, and their proportions to the male and female populations for the years 1904 to 1916-17 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.
1904 ..	50,554	833	25,733	422	76,287	627
1905 ..	52,925	868	27,310	445	80,235	656
1906 ..	56,339	914	28,890	465	85,229	689
1907 ..	59,691	957	31,212	496	90,903	726
1908 ..	60,873	965	32,935	518	93,808	741
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

Males formed 66·3 per cent. in 1904 and 64·1 per cent. in 1916-17 of the total persons employed. The increase during the period 1904 to 1916–17 in the number of males employed was 24,370, or 48·2 per cent., and in the number of females employed 16,313, or 63·4 per cent.

Employment of Females.

Of the total females in factories 73·4 per cent. are engaged in the textile and clothing industries, and 10·3 per cent. in the preparation of food and drink. The extent of female employment in certain industries is shown in the next table.

FEMALE EMPLOYMENT IN FACTORIES, 1916–17.

Industry.	Number employed.		Females per 100 Males.
	Males.	Females.	
Biscuit	846	560	66·19
Jam, pickle, and sauce	1,131	1,050	92·84
Confectionery	1,109	1,428	128·76
Tobacco, &c.	1,025	686	66·93
Woollen mills	926	1,123	121·27
Clothing, tailoring, &c.	2,115	7,789	368·27
Dressmaking, millinery	298	8,723	2,927·18
Underclothing	297	6,115	2,058·92
Hats, caps, &c.	657	1,052	160·12
Hosiery	161	1,473	914·91
Waterproof clothing	46	160	347·83
Boots and shoes	5,048	3,446	68·26
Printing, &c.	4,814	1,345	27·94
Bookbinding, stationery, &c.	566	584	103·18
Fancy-box, &c.	178	636	357·30
Rope, twine	478	342	71·55
Sail, Tent	121	120	99·17
Ammunition	487	843	173·10
Match	169	478	282·84
Fancy leather	296	270	91·22
Rubber Goods	1,466	419	28·58
All other factories	52,690	3,404	6·46
Total	74,924	42,046	56·12

Child labour in Factories.

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 4·10 and 5·47 per cent. respectively in 1916–17, as against 6·05 and 11·47 per cent. in 1904. The number of children employed in factories and their proportion to the total employees are given in the subjoined table for the years 1907 to 1916–17 :—

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.
1907	3,253	3,095	6,348	5·45	9·92	6·98
1908	3,049	3,065	6,114	5·01	9·31	6·52
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

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, 1907 to 1916–17 :—

MACHINERY IN FACTORIES.

Year.	Number of Factories equipped with Machinery.	Value of Machinery and Plant.	Horse-power of Engines.
		£	
1907	2,835	6,771,458	52,703
1908	2,923	6,957,606	58,945
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

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.

POWER USED IN FACTORIES.

Year.	Number of Factories using—					
	Steam.	Gas.	Electricity.	Oil.	Water, Wind, and Horses.	Manual Labour.
1907	1,270	727	558	162	118	1,695
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

Year.	Actual Horse-power of Engines.				
	Steam.	Gas.	Electricity.	Oil.	Total.
1907	42,945	4,516	4,182	1,060	52,703
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

Although steam is the principal motive power, and was used to supply nearly 60 per cent. of the total mechanical power employed in factories in 1916–17, a remarkable development is shown in the use of electricity, which in 1907 was used by 558, and in 1916–17, by 2,142 factories, the actual horse-power rising from 4,182 to 34,348 in the same interval.

Wages in factories.

The total amount and the average amount of salaries and wages paid to male and female employees in factories are shown 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

Owing to the lack of data, a comparison of the wages of males and females is not possible prior to 1910, but 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 1916–17, £11,833,517, represents an average payment for all employees of £105 17s. 6d., which is an increase of £4 2s. 6d. on the average wage for 1915, of £7 7s. 6d. on that for 1914, of £11 2s. 6d. on that for 1913, of £14 13s. 6d. on that for 1912, of £22 7s. 6d. on that for 1911, of £27 13s. 6d. on that for 1910, and of £32 6s. 6d. on that for 1909. 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 1915, 66 in 1911, 1912, 1913 and 1914, 64 in 1908, 1910, and 1916–17, and 63 in 1909. The above average wage for 1916–17 (£105 17s. 6d.) is 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.

Cost and value of production in factories.

The cost of production and the value of the output in each class of manufacturing industry during the year 1916-17 are given in the subjoined statement :—

FACTORY COSTS AND OUTPUT, 1916-17.

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. ..	3,735,414	46,671	389,287	4,722,446
Treating oils and fats, animal, vegetable, &c. ..	681,643	22,621	97,201	1,014,331
Processes in stone, clay, glass, &c.	195,563	124,412	430,696	984,755
Working in wood	1,121,703	20,153	747,568	2,264,070
Metal works, machinery, &c. ..	3,268,458	175,028	2,232,273	6,606,014
Connected with food and drink, &c.	15,258,083	264,519	1,722,458	20,305,035
Clothing and textile fabrics, &c.	7,134,655	91,834	2,884,445	11,991,448
Books, paper, printing, &c. ..	1,407,671	46,112	1,024,259	3,327,495
Musical instruments, &c. ..	20,455	422	25,146	55,480
Arms and explosives.. ..	497,503	10,710	176,106	761,241
Vehicles, saddlery, harness, &c.	559,818	14,969	463,177	1,261,373
Ship and boat building and repairing	54,720	2,842	67,235	151,950
Furniture, upholstery, and bedding	465,741	8,120	273,207	893,331
Drugs, chemicals, and by-products	949,898	22,095	236,495	1,521,953
Surgical and other scientific instruments	11,179	516	11,383	33,872
Jewellery, time-pieces, and plated-ware	169,600	2,988	97,135	352,611
Heat, light, and power ..	569,113	140,254	619,462	2,208,846
Leatherware, n.e.i.	251,644	1,861	58,033	370,474
Minor wares, n.e.i.	750,889	28,019	277,901	1,220,559
Total	37,103,750	1,024,156	11,833,517	60,047,284

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, 1916–17.

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.	79·10	1·00	8·24	11·66
Treating oils and fats, animal, vegetable, &c.	67·20	2·23	9·58	20·99
Processes in stone, clay, glass, &c. ..	19·86	12·63	43·74	23·77
Working in wood	49·54	·89	33·02	16·55
Metal works, machinery, &c. ..	49·48	2·65	33·79	14·08
Connected with food and drink, &c. ..	75·14	1·30	8·48	15·08
Clothing and textile fabrics, &c. ..	59·50	·76	24·05	15·69
Books, paper, printing, &c ..	42·30	1·38	30·78	25·54
Musical instruments, &c.	36·87	·76	45·32	17·05
Arms and explosives	65·35	1·41	23·13	10·11
Vehicles, saddlery, harness, &c. ..	44·38	1·19	36·72	17·71
Ship and boat building and repairing ..	36·01	1·87	44·25	17·87
Furniture, upholstery, and bedding ..	52·13	·91	30·58	16·38
Drugs, chemicals, and by-products ..	62·41	1·45	15·54	20·60
Surgical and other scientific instruments	33·00	1·52	33·60	31·88
Jewellery, time-pieces, and plated-ware	48·10	·85	27·55	23·50
Heat, light, and power	25·76	6·35	28·04	39·85
Leatherware, n.e.i.	67·92	·50	15·68	15·90
Minor wares, n.e.i.	61·52	2·29	22·77	13·42
Total	61·79	1·75	19·71	16·75

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 44 per cent. and that of raw materials 20 per cent. of the value of the finished article, whilst in the industries connected with food and drink the expenditure on wages amounts to less than 9 per cent. and that on raw materials to over 75 per cent. of the value of the output.

Cost of Production, 1907 to 1916-17.

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 1907 to 1916–17 :—

COST OF PRODUCTION AND VALUE OF OUTPUT OF FACTORIES, 1907 TO 1916–17.

Year.	Cost of Production.				Total Value of Output.
	Materials.	Fuel, Light, and Power.	Salaries and Wages.	All other Expenditure, Interest, and Profit.	
	£	£	£	£	£
1907	18,632,439	498,454	5,982,677	5,286,375	30,399,945
1908	18,662,070	538,571	6,380,296	5,206,823	30,787,760
1909	19,706,530	566,763	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

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

PROPORTIONATE COST OF OUTLAY TO OUTPUT OF FACTORIES, 1907 TO 1916–17.

Year.	Proportion of Outlay to Output.				Total.
	Materials.	Fuel, Light, and Power.	Salaries and Wages.	Other Expenses, Interest, and Profit.	
	%	%	%	%	%
1907	61·3	1·6	19·7	17·4	100·0
1908	60·6	1·8	20·7	16·9	100·0
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

The ratio of salaries and wages to the value of the output of factories was 21·5 per cent. on the average of the past five years as against 20·7 per cent. for the period 1907–11. The cost of materials was 59·9

per cent. of the value of output in the period 1912 to 1916–17 as compared with 60·3 per cent. in 1907–11. 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 19s. 3d. in every £100 of the total output value in the period 1912 to 1916–17 as against £17 7s. 4d. 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 1916–17 :—

VALUE OF MACHINERY AND PLANT AND LAND AND BUILDINGS CONNECTED WITH FACTORIES, 1916–17.

Class of Industry.	Value of Machinery and Plant.	Value of Land and Buildings.
	£	£
Treating raw material, product of pastoral pursuits, &c.	338,195	410,759
Treating oils and fats, animal, vegetable, &c.	146,780	126,035
Processes in stone, clay, glass, &c.	436,269	459,545
Working in wood	539,895	413,650
Metal works, machinery, &c.	1,634,972	1,590,177
Connected with food and drink, &c.	2,463,738	2,936,768
Clothing and textile fabrics, &c.	952,994	2,073,475
Books, paper, printing, &c.	1,023,278	1,006,125
Musical instruments, &c.	7,310	29,290
Arms and explosives	163,623	159,320
Vehicles, saddlery, harness, &c.	134,650	552,155
Ship and boat building and repairing	88,905	234,360
Furniture, upholstery, and bedding	82,840	342,050
Drugs, chemicals, and by-products	303,748	374,168
Surgical and other scientific instruments	5,803	25,235
Jewellery, time-pieces, and plated-ware	39,565	127,575
Heat, light, and power	3,163,925	936,950
Leatherware, n.e.i	16,115	62,720
Minor wares, n.e.i.	198,457	191,870
Total	11,732,062	12,052,227

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 £12,726,530, 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 a series of years :—

VALUE OF MACHINERY AND PLANT AND LAND AND BUILDINGS CONNECTED WITH FACTORIES, 1903 to 1916–17.

Year.	Value of Machinery and Plant.	Value of Premises.
	£	£
1903	5,010,896	7,967,945
1905	6,187,919	7,771,238
1907	6,771,458	8,376,642
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

It will be seen from these figures that the value of machinery and plant more than doubled between 1903 and 1916–17, whilst that of the land and buildings showed an increase of £4,084,282, or 51 per cent., in the same interval.

Accidents in factories. In the appended table the number of accidents in factories is given for the past fourteen 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

Factories, &c., in Australia. The number of factories and of the persons employed therein in the Australian States are shown in the following table. The figures for Western Australia relate to the year 1915, those for New South Wales to the year ended 30th June, 1916, those for Victoria and South Australia to the year ended 30th June, 1917, and those for the other States to the year 1916 :—

FACTORIES AND FACTORY EMPLOYEES IN AUSTRALIAN STATES.

State.	Number of Factories.	Average Number of Persons Employed.			Number of Working Proprietors.	Number of Employees—	
		Males.	Females.	Total.		Under 16 Years of Age.	Over 16 Years of Age.
Victoria ..	5,445	74,924	42,046	116,970	5,201	5,373	106,396
New South Wales	5,210	87,724	28,677	116,401	3,959	5,183	111,218
Queensland ..	1,782	32,365	7,783	40,148	1,479	1,956	38,192
South Australia	1,286	20,798	5,212	26,010	1,172	1,330	24,680
Western Australia	780	12,290	2,341	14,631	561	725	13,345
Tasmania ..	568	7,046	1,316	8,362	396	319	8,043

Factory costs and output in Australian States. The next table shows the expenditure on materials, wages, fuel, &c., and the value of the output in factories in Western Australia in 1915, in New South Wales in the year ended 30th June, 1916, in Victoria and South Australia in the year ended 30th June, 1917, and in the other States in 1916 :—

FACTORY COSTS AND VALUE OF PRODUCTION IN AUSTRALIAN STATES.

State.	Amount of Wages Paid to—			Value of Materials Used.	Value of Fuel, Light, and Power Used.	Value of Output.
	Males.	Females.	Total.			
	£	£	£	£	£	£
Victoria ..	9,590,851	2,242,666	11,833,517	37,103,750	1,024,156	60,047,284
New South Wales	11,888,028	1,525,817	13,413,845	44,227,079	1,528,220	70,989,864
Queensland ..	3,823,488	357,766	4,181,254	16,127,926	310,454	25,541,024
South Australia	2,852,334	241,760	3,094,094	11,331,814	558,524	17,392,352
Western Australia	1,667,477	123,799	1,791,276	2,634,700	187,121	5,712,793
Tasmania ..	772,789	62,678	835,467	2,342,623	116,704	4,576,530

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 1916-17 was £14,810, and that of the materials used £8,400. The articles produced are used principally in 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: 1912 TO 1916-17.

Produce.	Value in—				
	1912.	1913.	1914.	1915.	1916-17.
Cultivation.	£	£	£	£	£
Wheat	4,343,202	5,352,141	1,391,647	10,972,820	10,232,488
Oats	953,750	777,903	397,078	942,607	828,929
Barley, malting ...	259,217	151,771	105,602	171,966	158,735
,, other ...	73,213	85,033	56,297	122,631	140,746
Maize	119,305	121,234	234,597	191,645	163,638
Other Cereals ...	48,458	46,059	46,676	52,900	49,592
Grass and Clover Seed	5,802	5,177	495	6,022	4,446
Potatoes	678,448	573,227	800,269	1,017,563	550,086
Onions	176,142	138,257	167,098	105,244	118,423
Other Root Crops ...	26,691	25,469	17,379	16,505	9,892
Hay	4,010,979	2,565,740	4,181,827	4,098,664	2,033,990
Straw	105,407	101,614	152,640	104,495	78,302
Green Forage* ...	211,150	247,408	418,962	181,278	149,001
Tobacco	1,587	3,266	2,254	1,840	840
Grapes, not made into wine, raisins, &c.	31,486	25,639	30,826	31,715	23,454
Raisins, ordinary ...	41,934	49,375	28,544	66,410	41,832
,, sultanas ...	171,884	126,651	152,633	295,469	185,616
Currants	60,421	71,413	37,085	123,473	91,355
Wine	120,611	116,822	63,087	138,036	146,549
Hops	9,062	6,279	5,900	3,990	4,875
Other Crops ...	56,015	63,937	64,388	58,293	64,821
Fruit grown for Sale in Orchards and Gardens	656,363	769,647	498,151	769,611	602,584
Fruit in Private Orchards and Gardens	8,180	8,250	7,820	7,476	7,680
Market Gardens ...	260,350	269,425	323,375	284,475	268,650
Total ...	12,429,657	11,701,737	9,184,630	19,765,128	15,956,524

* Exclusive of area under sown grasses.

VALUE OF VICTORIAN PRODUCTION, 1912 TO 1916–17—*continued.*

Produce.	Value in—				
	1912.	1913.	1914.	1915.	1916–17.
	£	£	£	£	£
Dairying and Pastoral.					
Milk consumed in natural state	1,419,900	1,274,590	1,413,980	1,895,160	1,646,520
Butter made ...	3,478,640	3,341,920	2,998,820	2,528,360	4,224,420
Cheese made ...	125,480	126,670	117,210	129,110	223,040
Cream made (not for butter)	22,940	23,800	25,960	13,760	26,840
Condensed, Concentrated, and Powdered Milk	362,480	396,436	381,640	386,456	777,810
Horses	328,020	454,820	...	...	262,020
Cattle	1,165,430	2,277,170	1,766,473	226,480	4,774,610
Pigs	389,350	678,355	735,065	472,050	825,450
Sheep (without wool)	709,660	1,572,420	1,134,678	784,575	3,928,860
Wool	3,751,083	4,032,954	3,410,913	4,066,003	5,927,814
Total ...	11,752,983	14,179,135	11,984,739	10,501,954	22,617,384
Mining.					
Gold	2,039,464	1,847,475	1,755,236	1,397,793	1,090,194
Coal	259,321	274,940	289,099	275,343	216,875
Stone from Quarries (including limestone)	161,843	167,567	183,376	209,539	125,106
Other Metals and Minerals	39,067	54,762	51,298	64,022	104,212
Total ...	2,499,695	2,344,744	2,279,009	1,946,697	1,536,387
Forest Produce.					
Timber (Forest Sawmills only)	265,980	290,280	316,400	234,700	297,660
Firewood (estimated)	457,890	494,580	505,350	506,260	521,770
Bark for Tanning ..	82,380	78,950	91,200	140,400	117,230
Total ...	806,250	863,810	912,950	881,360	936,660
Miscellaneous.					
Honey and Beeswax	39,425	26,077	9,704	18,774	30,504
Poultry production (estimated)	1,659,100	1,706,700	1,743,860	1,747,000	1,714,770
Rabbits and Hares	261,534	349,671	176,104	114,800	110,770
Fish	89,648	100,489	104,007	109,429	121,634
Total ...	2,049,707	2,182,937	2,033,675	1,990,003	1,977,678
Total Value of Primary Products	29,538,292	31,272,363	26,395,003	35,085,142	43,024,633
Manufacturing — Added Value*	17,752,167	18,714,999	19,633,098	20,053,552	21,678,039
Grand Total ...	47,290,459	49,987,362	46,028,101	55,138,694	64,702,672

* Exclusive of value of output of butter and cheese factories, and forest saw-mills (as regards Victorian timber) included above.

In comparison with previous years increases were shown in 1916-17 under dairying and pastoral and manufactures. In the former case this was due to a considerably augmented production, while in the case of manufactures the annual normal increase occurred.

The total value of primary production in 1916–17 was £43,024,633, or £7,939,491 more, and that of manufactures was £21,678,039, or £1,624,487 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: 1912 TO 1916–17.

Produce.	Value of Produce per head in—														
	1912.			1913.			1914.			1915.			1916–17.		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
Cultivation	9	3	7	8	8	0	6	9	1	13	17	2	11	8	0
Dairying and Pastoral	8	13	7	10	3	7	8	8	5	7	7	3	16	3	2
Mining	1	16	11	1	13	8	1	12	0	1	7	5	1	1	11
Forest	0	11	11	0	12	5	0	12	10	0	12	5	0	13	5
Miscellaneous ...	1	10	3	1	11	4	1	8	7	1	7	10	1	8	3
Total Primary Produce	21	16	3	22	9	0	18	10	11	24	12	1	30	14	9
Manufactures ...	13	2	1	13	8	8	13	15	9	14	1	3	15	9	9
Grand Total ...	34	18	4	35	17	8	32	6	8	38	13	4	46	4	6

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, in 1916-17, 18 per cent. higher than in 1912, and 91 per cent. higher than in 1905.