

PRODUCTION.

LAND SETTLEMENT, ETC.

The total area of the State is 56,245,760 acres. On 31st December, 1911, 29,758,022 acres were held privately, of which 23,727,962 acres had been alienated in fee simple and 6,030,060 acres were in process of alienation. The total area of Crown lands is thus 26,487,738 acres, which comprise roads in connexion with lands alienated and in process of alienation, 1,702,843 acres; agricultural college and water reserves, 400,849 acres; State forests and timber reserves (under *Forests Act 1907*), 3,902,520 acres; other reserves, 694,151 acres; unsold land in cities, towns, boroughs, beds of rivers, creeks, lakes and lagoons, water frontages (including coast reserves) and various Departmental reserves, 2,114,595 acres; in occupation under grazing area leases, 2,950,226 acres; Mallee pastoral leases, 327,149 acres; all other licences and leases, 763,544 acres; and areas remaining for disposal as tabulated on page 614, 13,631,861 acres.

Private and Crown lands.

During the year 1900, 494,752 acres, including land selected in previous years, were alienated in fee simple; 406,145 acres were so alienated in 1901; 523,574 acres in 1902; 510,080 acres in 1903; 584,010 acres in 1904; 907,339 acres in 1905; 344,519 acres in 1906; 181,050 acres in 1907; 137,023 acres in 1908; 150,948 acres in 1909; 127,993 acres in 1910; and 159,892 acres in 1911; the purchase money being £526,650 in 1900; £438,363 in 1901; £555,538 in 1902; £542,011 in 1903; £613,511 in 1904; £934,386 in 1905; £375,296 in 1906; £208,619 in 1907; £176,335 in 1908; £188,017 in 1909; £171,904 in 1910; and £136,277 in 1911. The area of Crown lands absolutely or conditionally sold during the last twelve years was 232,783 acres in 1900; 523,464 in 1901; 306,806 in 1902; 347,813 in 1903; 263,180 in 1904; 226,197 in 1905; 179,755 in 1906; 197,545 in 1907; 220,435 in 1908; 264,572 in 1909; 254,489 in 1910; and 209,776 acres in 1911.

Alienation of land, 1900 to 1911.

The particulars of Crown lands leased out for pastoral occupation on 31st December, 1911, are as follows:—

Pastoral occupation of Crown lands.

Number of Licences and Leases	17,664
Area (acres)	14,719,149
Annual Rental	£44,393

These licences and leases are not all on the same footing as regards the term 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

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 Enquiry Office, Melbourne.

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. Persons who may select land.

The present system of disposing of the Crown lands of Victoria Land Acts. 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 all consolidated into the *Land Act 1901*, which has been amended by the Land Acts of 1903, 1904, 1905, 1909, and 1911. 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 621.

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

The lands of the first class, comprising 7,228 acres, are situated principally in the county of Buln Buln, 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 151,716 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 like the second class lands are to be found in almost every county in the State, is very extensive, amounting to 2,088,710 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 1st, 2nd, or 3rd 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 thereout, as provided in the lease, under the provisions of sections 47, 50, or 54 of the *Land Act* 1901, and sections 8 or 13 of the *Land Act* 1911. Grazing area leases are transferable with consent obtained through the Department.

Selection
purchase
leases.

A person desirous of selecting land and obtaining the freehold thereof may do so by either taking up a grazing area lease and selecting thereout 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 following table, with or without a 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 1st, 2nd, or 3rd class land respectively. Specified conditions must be complied with, and improvements effected during the first six years, as indicated in the table (p. 617), 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 the 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.										
	Ordinary Crown Lands.	Mallee Lands.	Total (Minimum).	Annual Rental (payable half-yearly).		Residence Lease (Section 11 of <i>Land Act 1911</i>).				Non-Residence Lease (Section 13 of <i>Land Act 1911</i>).						
				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.	£ 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	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	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	0 10 0

Production.

(a) Under Act 1831 the value may be fixed higher if the value of the land is greater than the minimum stated, in which case the half-yearly payments are 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) is 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 five 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 by the utilization of some of the surplus waters of the Murray for irrigation there will be great scope for successful settlement in this country. There are now 6,991,395 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., 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 $1\frac{1}{2}$ 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 689,781 acres, and are distributed over twenty-one 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 reclassified 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 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 Acts 1890 and 1897, are entitled to occupy for the purpose of residence or business a maximum area of one acre or a less area 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.

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.

Special settlement areas.

The area of swamp or reclaimed lands unalienated amounts to 989 acres. The most important of these are situated at Koo-weerup, 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.

Swamp or reclaimed lands.

Country lands specially classed for sale by auction (not including swamp or reclaimed lands) and remaining unalienated on 31st December, 1911, comprised 13,668 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.

Lands for sale by auction.

The "pastoral lands" unalienated comprise 3,291,874 acres, and are situated in the counties of Wonnangatta, Croajingolong, Benambra, Tambo, Tanjil, Bogong, Delatite, Dargo, Lowan, and Borung. Generally speaking these lands 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 reclassified Agricultural and Grazing lands for selection.

Pastoral lands.

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.

Annual grazing licences.

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 9, *Land Act 1905*. A bee range licence may be secured on payment of one halfpenny 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 areas, even though held under grazing leases or licences.

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, brickworks, &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 which case any rents previously paid will be 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 1904* to one not exceeding £200 in value as the maximum. The total area now occupied is 30,057 acres, and this is divided amongst 1,180 settlers, giving an average of 25 acres each.

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 1901*.

Monetary aid to the extent of £67,379 has been afforded to settlers by way of loans, but no advances have been made since 1903. At 30th June, 1912, £38,883 of the amount advanced had been repaid by the settlers.

Lands inquiry.

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.

The "Torrens System," whereby persons acquiring possession of land may receive a clear title, was introduced into Victoria in 1862. The system was originated previously in South Australia by the late Sir R. R. Torrens, and 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 cheapens 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 1911 there were submitted 671 applications to have brought under the Act land amounting to 63,283 acres in extent, and to £1,014,997 in value; whilst the land actually brought under the Act during the year by application was 60,271 acres, valued at £1,637,986. Up to the end of 1911 there had been brought under the Act 2,754,502 acres valued at £54,874,475. The number of certificates of title issued in 1911 was 16,124.

Transfer of Land Act.

When application is made to have land brought under the Transfer of Land Act, a contribution to the assurance fund of $\frac{1}{2}$ d. in the £1 on the value of the land is levied on the applicant, to assure and indemnify the Government in granting a clear title against all the world, as some other person may have a latent interest in the property, and it may be necessary for the Government to recompense such person out of the fund for the loss of his interest. The amount at credit of the fund at 30th June, 1910, was £250,275. Receipts during 1910-11 comprised contributions £4,811, interest on stock £3,187, and interest on £75,073 advanced for the purchase of land adjoining the Titles Office £3,003. The expenditure during the year comprised claims paid £230, and amounts transferred under the authority of Act No. 2297 as follows:—Teachers' Residences Fund £18,000, Closer Settlements Fire Insurance Fund £15,000, Government Buildings Fire Insurance Fund £15,000, Government Employés' Accident Fund £4,000, Office of Titles Strong Room Fund £11,000, and Public Officers' Fidelity Guarantee Investment Account Fund £15,000. The balance at credit of the Assurance Fund on 30th June, 1911, was £183,046. The amount paid up to 30th June, 1911, as compensation and for judgments recovered, including costs, was £6,793, representing 36 claims.

Assurance fund.

CLOSER SETTLEMENT.

Under the provisions of the Closer Settlement Acts, 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

Closer Settlement.

adapted for settlement are thus made available in the established portions of the State, where railways, water supply, and markets are provided and roads and other facilities are good. These include ordinary farming lands, some in a more or less improved condition, and areas in irrigated districts with plentiful supplies of water for irrigation. Only one allotment can be granted to any one person.

Every application for a Closer Settlement Allotment must be made on the prescribed form and lodged with the Secretary, Lands Purchase and Management Board, 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.

In addition to the provisions for the purchase of large estates for subdivision, the Closer Settlement Acts provide that a person resident in Victoria may choose a farm for himself. Any one or more persons who are eligible to acquire a farm allotment under the Closer Settlement Acts may enter into a provisional agreement with the owner of a block of private land for the purchase thereof. The value of the land must not exceed the maximum allowed under the Act unless two or more eligible persons agree to purchase same.

Agreements, with full details, and an application, on the proper forms, must be filled in and lodged with the Lands Purchase and Management 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 Acts with regard to payments, residence, improvements, &c.

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

Conditional purchase leases are granted to successful applicants under the Closer Settlement Acts, 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. The deposit lodged with the application is credited as part of the principal, and the balance bears interest at $4\frac{1}{2}$ per cent. Each instalment includes interest upon the balance of purchase money remaining unpaid, and is 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 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 approval of the Board, be considered personal residence by the lessee. The 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.

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.

Farm
allotments.

These allotments are made available in the vicinity of larger holdings, with the object not only of providing workmen for the farmer (as the name applies) but also of providing small areas for agricultural labourers who in their spare time may work the allot-

Agricultural
labourers'
allotments.

ments with the aid of their families. Lands for agricultural labourers' allotments are subdivided into suitable areas not exceeding in value a maximum amount of £200, 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 substantial 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.

Workmen's
home
allotments.

These allotments are made available near centres of population, and being large in extent, 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 £100, 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; (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 £250. 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 erected thereon within one year from the date of the lease, and additional improvements of a value of at least £25 must be made within two years from the date of the lease.

Advances to
settlers.

The Closer Settlement Acts provide for Advances by the Lands Purchase and Management Board to settlers who are—

- (a) Lessees under the *Closer Settlement Act 1904*, &c.
- (b) Licensees of an agricultural or grazing allotment under the *Land Act 1901*.
- (c) Licensees under Section 103 of the *Land Act 1901* or corresponding sections of any repealed Act.
- (d) Conditional purchase lessees under *Land Act 1901*; or
- (e) Conditional purchase lessees under the *Murray Settlements Act 1907*.
- (f) Selection purchase lessees under the *Land Act 1911*.

Advances of not more than £500, and not exceeding 60 per cent. of the value of improvements effected on the land, may be made 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.

The amounts allowed by the Board to lessees under the Closer Settlement Acts towards the cost of erecting dwelling-houses and outbuildings are made on the following bases:—

For a farm allotment.—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.—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 fifteen 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.

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

Wire netting
advances.

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

The wire netting supplied is No. 17 gauge, $1\frac{1}{2}$ -inch 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 shall be deemed to be the amount of the advance (provided that where the wire netting is to be erected on a boundary fence between the land of the applicant and any unoccupied Crown land, or separated only by a public road therefrom, the price charged shall be only 80 per cent. of the value of such wire netting). The amount of the advance is repayable by a cash payment, or on terms over a period not exceeding ten years with interest at 4 per cent. per annum. No advance shall exceed 60 per cent. of the total cost to the settler of the

improvements on the land, and the maximum amount (inclusive of all other loans and advances, if any) must not exceed £500.

Estates
purchased.

The following is a complete statement of all estates acquired by the Closer Settlement Board for the purposes of closer settlement at 30th June, 1912, 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, 1912.

Estates.	Area.*	Purchase Money.	Price Paid Per Acre.	No. of Lessees.			Area Vacant and Available.
				Farm Allotments.	Workmen's Homes Allotments.	Agricultural Labourers' Allotments.	
	acres.	£	£ s. d.				acres.
Wando Vale ..	10,446	63,985	6 2 6	66	..	..	..
Walmer ..	13,769	44,751	3 5 0	42	..	..	..
Whitfield ..	4,247	36,096	8 10 0	36	..	..	..
Brunswick ..	91	2,644	29 0 0	..	54	..	..
Eurack ..	5,109	53,640	10 10 0	46	..	..	..
Footscray ..	31	2,486	80 0 0	..	84	..	..
Dal Campbell ..	45	2,358	47 8 0	..	62	..	..
Springvale ..	3,396	25,895	7 12 6	21	..	..	..
Memsie ..	10,028	57,159	5 14 0	43	..	..	..
Richmond Vale ..	1,851	11,000	8 11 6	12	..	..	185
Overnewton ..	11,336	71,492	6 4 6	70	..	..	..
Wyuna ..	23,016	120,876	5 5 0	118	..	11	161
Restdown ..	17,894	60,391	3 7 6	54	..	..	..
Strathkellar ..	10,227	74,150	7 5 0	56	..	6	..
Bona Vista ..	2,060	28,832	14 0 0	30	..	4	391
Cadman's ..	18	844	50 0 0	..	42	..	..
The Willows ..	400	5,131	10 6 6	4	..	..	..
Ercildoune ..	1,200	12,199	10 2 6	11	..	..	..
Greenvale ..	304	7,298	24 0 0	4	..	..	..
Lara ..	8,329	45,825	5 10 0	34	..	7	..
Tandarra ..	4,558	21,083	4 12 6	18	..	..	..
Dura ..	337	3,200	9 13 4	7	..	..	..
Exford ..	8,054	64,039	8 0 0	46	..	6	..
Colbinabbin ..	19,164	110,198	5 17 6	85	..	..	..
Pirron Yaloak ..	1,058	23,796	22 7 6	12	..	..	..
Numurkah ..	2,360	18,901	8 0 0	12	..	1	184
Allambee ..	5,023	31,779	6 6 4	22	..	..	1,577
Pender's Grove ..	233	23,292	100 0 0	..	85	57	32
Phoenix ..	23	968	40 0 0	..	47	..	..
Keayang ..	1,494	14,966	10 0 0	10	..	..	251
Werneth ..	6,588	31,043	4 15 0	21	..	..	..
Staughton Vale ..	9,857	66,466	6 15 0	47	..	..	..
Glen Huntly ..	74	7,038	94 0 0	..	155	..	1
Hogan's ..	444	6,197	14 0 0	9	..	..	..
Balure ..	183	1,463	8 0 0	10	..	..	..
Wein Wein Gurk ..	3,021	8,684	2 17 6	13	..	..	..
Inverary ..	1,260	7,548	6 0 0	24	..	..	..
Springs ..	398	2,290	5 15 0	8	..	..	..
The Heart ..	3,798	56,322	14 12 2	43	..	..	..

* 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, 1912—continued.

Estates.	Area.*	Purchase Money.	Price Paid Per Acre.	No. of Lessees.			Area Vacant and Available.
				Farm Allotments.	Workmen's Homes Allotments.	Agricultural Labourers' Allotments.	
	acres.	£	£ s. d.				acres.
Mooralla ..	17,199	60,197	3 10 0	27	..	..	626
Maribyrnong ..	1,112	10,842	9 15 0	12	..	..	..
Kenilworth ..	18,440	55,321	3 0 0	25	..	16	600
Shepparton ..	9,730	139,545	14 6 10	68	..	31	5,195
Doogalook ..	4,640	29,002	6 5 0	17	..	..	..
Allendale ..	1,108	9,728	9 1 0	7	..	..	..
Warmambool ..	46	1,188	25 10 8	..	25	..	..
Maddingley ..	13	1,300	100 0 0	..	8	5	..
Leongatha ..	53	1,325	25 0 0	3	..	..	..
Mortlake ..	2,350	10,945	4 13 1	8	..	20	..
Dowling Forest ..	225	1,350	6 0 0	..	16	1	..
Geelong ..	3	300	100 0 0	..	9	..	..
Bellarine ..	204	5,457	26 15 0	6	..	..	65
Daylesford ..	70	2,958	42 5 2	16	..	..	..
Highton ..	425	11,032	26 0 0	19	..	..	38
Belmont ..	113	3,161	28 0 0	17	..	..	..
Mordialloc ..	460	7,850	17 1 6	38	..	..	..
Thomastown ..	581	11,200	19 5 6	29	..	..	13
Wangaratta ..	796	9,683	12 3 4	31	..	..	42
Warragul ..	98	2,060	21 0 0	6	..	..	..
Geelong (Newtown) ..	157	1,955	12 9 1	7	..	..	..
Werribee ..	23,214	298,207	12 16 11	17	..	7	4,300
Koonong Wootong† ..	10,181	103,330	10 3 0	64	..	7	..
Cornelia Creek ..	37,035	175,918	4 15 0	125	..	10	2,389
Bamawm ..	13,526	123,125	various	134	..	10	2,262
Meadowbank ..	313	9,085	29 0 0	5	..	..	..
Werribee Police Paddock ..	55	1,650	30 0 0	..	..	16	..
Oaklands ..	8,069	26,163	3 5 0	6	..	..	4,140
Hurstwood ..	6,493	30,994	4 15 0	8	..	..	3,014
Eumeralla ..	10,034	57,000	5 13 7	26	..	6	1,945
Morven ..	8,029	39,141	4 17 6	16	..	..	4,137
Mt. Widderin ..	8,300	48,123	5 15 6	7	..	..	5,911
Tooronga ..	101	17,500	178 4 4	..	62	..	27
Nerrin Nerrin ..	6,802	57,866	8 10 0	12	..	..	5,089
Swan Hill ..	5,095	58,332	various	68	..	..	337
Cohuna ..	11,754	116,469	..	99	..	3	2,081
Sec. 6—Purchases ..	20,380	153,569	..	111	..	..	..
Cremona ..	1,291	19,938	..	7	..	..	500
Tongala ..	15,227	170,654	11 4 0	85	..	17	4,305
Westmere ..	933	9,325	10 0 0	..	..	..	..
Glenaladale ..	2,109	28,477	13 10 0	15	..	..	43
Deepdene ..	2,985	35,563	12 0 0	14	..	..	690
Boisdale ..	2,520	71,402	various	44	..	..	144
Nanneella ..	9,303	85,550	9 4 0	88	..	9	1,433
Panoo ..	15,101	97,817	various	19	..	..	7,967
Marathon and Willow Grove ..	14,782	57,996	..	13	..	..	8,399
Dunrobin ..	18,813	118,495	6 6 0	54	..	11	20
Kilmany ..	8,746	104,950	12 0 0	42	..	..	2,873
Milwea ..	2,267	20,433	..	..	..	..	..
Waubra ..	47	1,042	..	..	..	..	..
Nathalia ..	30	360	..	..	..	..	..
Total ..	519,077	3,741,498	..	2,449	649	256	71,367

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

† This estate is the only area so far acquired under the compulsory clauses of the Act.

Altogether the Board has 90 properties, with a total area of 519,077 acres, but of these, 4 estates, and portions of four others, comprising in all 21,379 acres, were not available for occupation at 30th June last. The remaining estates having a total area of 497,698 acres, were occupied by 3,354 conditional purchase lessees, and contained 71,367 acres available for occupation.

Extent of
Closer
Settlement.

The extent of the settlement effected by the Board at 30th June, 1908, 1909, 1910, 1911, and 1912 respectively, is summarized in the next statement.

CLOSER SETTLEMENT HOLDINGS OCCUPIED AND VACANT.

	At 30th June.				
	1908.	1909.	1910.	1911.	1912.
In occupation—					
Number of Holdings ...	1,655	1,792	1,880	2,708	3,354
Area ... acres	188,787	196,573	235,938	312,794	478,573
Resident Population ...	5,600	5,608	6,360	10,000	16,770
Vacant and available for occupation—					
Area..... acres	...	...	9,302	54,214	71,367
Allotments—					
Farm ...	...	42	33	...	...
Workmen's Homes ...	189	106	104	...	...
Agricultural Labourers ...	...	...	47	...	...

The sum of £766,410 had been repaid to the Closer Settlement Fund up to 30th June, 1912. Of this amount £417,249 has been transferred to revenue to meet interest due to stockholders, and £311,870 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, 1912, being £37,291. The balance of unredeemed stock is now £3,767,249, on which the interest payable amounts to £132,972 per annum.

Up to the 30th June, 1912, 1,392 applications for advances aggregating £159,955 had been approved, and the money advanced upon the improvements actually effected by the lessees which were valued at a bedrock estimate of over £266,591:

Small im-
proved
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 626 relating to closer settlement estates at 30th June, 1912.

WATER SUPPLY AND IRRIGATION.

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.

Victorian
Water-
works.

WATERWORKS—CAPITAL EXPENDITURE AND ADVANCES BY STATE TO 30TH JUNE, 1911.

Controlling Bodies.	Purposes of Supply.	Storage Capacity of Reservoirs.	Capital Expenditure and Advances by State.
State Rivers and Water Supply Commission—		Gallons.	£
Coliban System	Domestic and Mining	8,825,037,000	1,202,464
Broken River Works	Stock and Domestic	...	14,853
Goulburn-Waranga	Irrigation, &c.	218,090	1,306,473
North-west (Kerang) Lakes	Stock and Domestic	91,830	9,587
Kow Swamp Works	Irrigation, &c.	40,860	180,400
Loddon River Works	" "	14,000	166,585
Lake Lonsdale Reservoir ...	Stock and Domestic	Cubic feet. 1,981,000,000	49,054
Lower Wimmera Compensation Works	" "	125,000,000	8,558
Long Lake Pumping Works	" "	160,000,000	27,346
White Cliffs and Nyah Irrigation Areas	Irrigation, &c. ... ..	...	59,070
Pyke's Creek and Werribee Scheme	" "	Acre feet 14,850	58,027
Irrigation and Water Supply Districts (16)	" "	Cubic feet ...	1,149,297
Waterworks Districts (10) ...	Stock and Domestic	171,500,000	709,135
First Mildura Irrigation and Water Supply Trust	Irrigation ... ..	...	72,430
Waterworks Trusts (86)	Stock and Domestic	Gallons. 922,229,500	1,060,067
Municipal Corporations (28) ...	" "	1,654,189,000	694,565
Abolished Irrigation and Water Supply Trusts (8)	Irrigation ... ..	...	31,953
Miscellaneous Expenditure ...	...	...	229,851
Melbourne and Metropolitan Board of Works	Domestic	6,534,000,000	4,014,248
Geelong Municipal Waterworks Trust	"	1,386,997,000	495,110
Total ... ..	...	...	11,539,073

Of the expenditure given in the case of the Melbourne waterworks, £3,189,934 represents money borrowed by the State, £1,501,271 of which has been redeemed—£800,000 out of consolidated revenue, and £701,271 by payments from the Melbourne and Metropolitan Board of Works, to which body the waterworks were transferred in 1891. The balance, £1,688,663, represents the loan liability to

the State of the Melbourne and Metropolitan Board of Works on 30th June, 1911. Further particulars relating to this Board will be found on page 198, Part III., of this work.

The Geelong Waterworks were sold by the Government to the Geelong Municipal Waterworks Trust on 25th January, 1908, for £265,000, in addition to which amount the expenditure shown in the above table includes the outstanding State loan liability on account of the works, viz., £190,082, and the capital expenditure by the Trust since acquiring the works, viz., £40,028.

Advances
and ex-
penditure
for water-
works.

The succeeding 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 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, 1911.
	£	£	£	£	£	£
State Works	3,082,417	..	2,798*	..	..	3,082,417
Irrigation and Water Supply Districts (16)	1,118,924	..	30,373	575,152	10,457	533,315
First Mildura Irrigation and Water Supply Trust	72,430	..	..	..	..	72,430
Waterworks Districts (10)	677,663	..	31,472	169,927	17,007	490,729
Waterworks Trusts (86)	1,016,982	6,871	36,214	130,989	73,167	819,697
Geelong Water Supply Works	455,082	..	..	..	265,000	190,082
Municipal Corporations (19)	641,043	43,633	..	165,870	97,533	421,273
(9)	9,543	346	..	..	9,889	..
Melbourne and Metropolitan Waterworks System	3,189,934	..	..	..	1,501,271	1,688,663
Abolished Trusts (8)	31,710	..	243	31,680	30	..
Miscellaneous	229,851	..	..	..	..	229,851
Total	10,525,579	50,850	101,100	1,073,618	1,974,354	7,528,457

* 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 also 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, 1911, amounted to £33,143, viz., £15,434 against the First Mildura Trust, £15,047 against Waterworks Trusts, and £2,662 against Municipal Corporations.

STATE RIVERS AND WATER SUPPLY COMMISSION.

The *Water Act* 1905, which came into operation on 1st May, ^{The *Water Act* 1905.} 1906, consolidates and amends the laws relating to the conservation and supply of water, and declares the law relating to certain rights in natural waters, and the property in the beds and banks containing the same. This Act is administered by the State Rivers and Water Supply Commission, consisting of three Commissioners, whose functions thereunder were principally administrative and advisory—the general construction of works on the part of the State being imposed on the Department of Water Supply. All State waterworks were vested in the Commission, and the property, powers, and duties vested in or imposed upon the Commissioners of Irrigation and Water Supply Trusts, with the exception of the First Mildura Irrigation and Water Supply Trust, were transferred to and vested in the Commission. The powers and duties of the Commission under this Act embrace the making and levying of rates and charges for the supply of water; the carrying out of surveys necessary to ascertain the nature and extent of the water supply and water storage resources of the State; determining the means and cost of improving such resources, and of improving and extending works for the conveyance and distribution of water throughout the State, and deciding as to the areas capable of being profitably supplied with water from such works; determining the extent, character, and quality of lagoon, swamp, and marsh lands within the State, the cost of works for their drainage and improvement, and the benefits to be derived from such improvement; preparing proposals for the construction of works of water supply or reports upon proposed works of water supply; the systematic gauging and recording of the volume and flow of rivers and streams, and of the volume of lakes and lagoons within the State, and the effect of climatic conditions thereupon; boring and other explorations for ascertaining the existence and location of subterranean waters, and the character and quality thereof; recording, publishing, and making available for general information the results of all such surveys, gaugings, borings, and other explorations; instructing the occupiers of lands in irrigation and water supply districts in the best methods of irrigated culture, and of the utilization of water as applied to agriculture, also in general rural economy; ascertaining and recording from time to time the extent of land under irrigation in the several irrigation and water supply districts, and the nature of the crops grown in and the products of such districts; and promoting the discussion of matters of general interest among the settlers in the irrigation and water supply districts by public conferences.

The *Water Act 1909.*

Comprehensive amendments of the *Water Act 1905* were made by the passing of the *Water Act 1909*. The latter Act extends the authority of the State Rivers and Water Supply Commission by giving it the general construction of works formerly intrusted to the Department of Water Supply, so that the duties of the Commission are now constructive as well as administrative and advisory. This extension of authority has been effected by making the Department of Water Supply a part of the Water Commission, and by imposing on the Commission all the duties formerly performed by the Water Supply Department. These include in addition to the construction of works the oversight of loans to Waterworks Trusts.

A change in the basis of the compulsory charge for water is another of the important amendments. Under the 1905 Act the charge for irrigation water was based on land values, being one-fifth of the net annual value of land commanded by irrigation works, from which one-half to three-fourths of the water allotted was supplied as a right. Under that Act the price of water varied with the quantity allotted as a right and with the price of land. Under the new Act (1909) the charge for water is based on the cost of supplying it, and includes 4 per cent. on the capital debt for interest, 2 per cent. on the original capital debt for liquidation or redemption fund, and in addition to these two the sum required to pay operation and maintenance expenses,

Water is now sold by measure, and the price of an acre foot of water is fixed, so that if all the water assigned is sold it will meet the entire running expenses of the district. From one-half to three-fourths of the water assigned is apportioned as a right, and the charge for this right is made compulsory. The remainder of the water is sold on demand or under contract.

Surplus or flood waters supplied outside of the irrigation season are sold at a less rate.

For several years the Commission has experienced great difficulty in inducing land-owners in waterworks districts to build storage tanks or dams of sufficient size to hold the year's supply, which are required in the interests of economy, and which will be still more necessary as the service from the present works is extended. The new Act provides that where land-owners neglect or refuse to build tanks of sufficient capacity the Commission may build them and collect the cost thereof from the land-owners.

Another of the amendments provides for temporary diversions of water. Under the old Act there was provision for granting licences or permits up to fifteen years, but the preliminary steps were expensive. The new Act contains a simpler procedure for yearly permits.

The various waterworks and districts vested in the Commission and their capital debit at 30th June, 1911, are set forth in the following statement :—

WATERWORKS UNDER CONTROL OF STATE RIVERS AND WATER SUPPLY COMMISSION.

(a) Free Head-works.							Capital Debit at 30th June, 1911.
							£
Broken River Works .. .. .	..	..	..	..	..	..	14,853
Goulburn River Works .. .. .	..	..	..	..	..	..	730,588
Kerang North-west Lakes Works .. .. .	..	..	..	..	..	..	9,587
Kow Swamp Works .. .. .	..	..	..	..	..	..	180,400
Lake Lonsdale Reservoir .. .. .	..	..	..	..	..	..	49,054
Loddon River Works .. .. .	..	..	..	..	..	..	166,585
Long Lake Pumping Works .. .. .	..	..	..	..	..	..	27,346
Lower Wimmera Compensation Works .. .. .	..	..	..	..	..	..	8,558
Total—Free Head-works							1,186,971

(b) Waterworks Districts.							Balance at Debit, 1st July, 1908.	Capital Expenditure since 1st July, 1908.	Balance at Debit, 30th June, 1911.	
							£	£	£	
Birchip .. .. .	..	..	..	..	..	8,562	}	62,016	130,654
Sea Lake .. .. .	..	..	..	..	..	49,345			
Wycheproof .. .. .	..	..	..	..	..	10,731			
Karkaroc .. .. .	..	..	..	..	..	15,155		15,572	30,727
Long Lake (free head-works excluded)	..	..	..	..	..	7,752		25,234	32,986
Western Wimmera .. .. .	..	..	..	..	..	78,364		12,661	91,025
Wimmera United .. .. .	..	..	..	..	..	113,58		4,484	118,070
Coliban .. .. .	..	..	..	..	..	1,171,622		30,842	1,202,464
Tyntynder .. .. .	..	..	..	..	..	..		8,285	8,285
Wonthaggi .. .. .	..	..	..	..	..	..		48,552	48,552
Wimmera Main Channels .. .. .	..	..	..	..	..	..		30,430	30,430
Total							1,455,117	238,076	1,693,193	1,693,193

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

	Balance at Debit, 1st July, 1908.	Capital Expenditure since 1st July, 1908.	Balance at Debit, 30th June, 1911.	Capital Debit at 30th June, 1911.
	£	£	£	£
<i>(c) Irrigation and Water Supply Districts.</i>				
Bacchus Marsh	5,257	9,827	15,084	
Campaspe	8,710	6,818	15,528	
Deakin	33,477	36,417	69,894	
Rodney	69,039	102,466	171,505	
Shepparton .. .. .	..	11,220	11,220	
Swan Hill	4,695	21,731	26,426	
<i>(Kerang Centre.)</i>				
Cohuna	56,733	42,326	99,059	
Dry Lake	719	..	719	
Kerang	34,520	2,770	37,290	
Koondrook and Myall, Benjeroop and Murrabit	7,769	26,449	34,218	
<i>(Loddon Centre.)</i>				
East Boort	6,517	..	6,517	
Leaghur and Meering	2,422	..	2,422	
North Boort	2,058	..	2,058	
Tragowel Plains	34,870	..	34,870	
Twelve-Mile	1,772	..	1,772	
Wandella	4,517	216	4,733	
Total	273,075	260,240	533,315	533,315
<i>Irrigation Areas.</i>				
Nyah .. .. .	..	20,159	20,159	
White Cliffs .. .. .	..	38,911	38,911	59,070
<i>(d) New Works (to be apportioned to Irrigation and Water Supply Districts benefited).</i>				
<i>Goulburn Main Channels—</i>				
East Goulburn .. .. .	..	132,573	132,573	
Waranga Reservoir to Campaspe .. .. .	..	239,441	239,441	
Campaspe to Loddon .. .. .	..	165,386	165,386	
Main Distributary Channels .. .. .	..	38,485	38,485	575,885
Pyke's Creek and Werribee Scheme .. .. .	..	58,027	58,027	58,027
<i>(e) Waterworks Trusts Districts.*</i>				
Avoca Waterworks Trust .. .. .	..	..	5,603	
Carrum Waterworks Trust .. .. .	..	..	16,989	
Loddon United Waterworks Trust .. .. .	..	..	18,501	
Grand Total .. .. .	..	..	..	4,106,461

*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.

The receipts and disbursements of the State Rivers and Water Supply Commission during the year ended 30th June, 1911, were as follows:—

STATEMENT OF RECEIPTS AND EXPENDITURE, 1910-11.

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	37,477	12,666	2,207	10,459	27,018	..
Goulburn	62	2,469	..	2,469	..	2,407
Loddon River	6	357	..	357	..	351
Kow Swamp	150	2,336	..	2,336	..	2,186
Broken River	7	174	..	174	..	167
North-West Lakes	183	334	..	334	..	151
Lake Lonsdale	147	328	..	328	..	181
Lower Wimmera .. ..	..	202	..	202	..	202
Irrigation Districts	47,294	32,143	4,777	27,366	19,928	..
Waterworks Districts	48,541	20,751	122	20,629	27,912	..
Licences, Diversions, Pumping, &c.	2,883	1,168	..	1,168	1,715	..
	136,750	72,928	7,106	65,822	70,928	..
<i>Not Earning Revenue.</i>						
River Gaugings, Surveys and Reports, New Projects .. ..	..	4,263	..	4,263	..	4,263
Waterworks Trusts— Administration .. ..	..	1,547	..	1,547	..	1,547
Land Settlement— Services by Commis- sion .. ..	..	925	..	925	..	925
Loan Works—Services on account of, de- frayed from vote .. ..	..	2,457	..	2,457	..	2,457
Total	136,750	82,120	7,106	75,014	61,736	..

NOTE.—This table does not take into consideration the question of interest on capital expenditure or capital debt.

The extent to which the different crops were watered, and the actual areas irrigated in the different districts of the State during the year 1910-11 are set forth in the next statement. Areas irrigated.

IRRIGATION—AREAS OF CROPS WATERED, 1910-II.

Districts.	Areas under Irrigation.						
	Cereals.	Lucerne grown for Pasture and Hay.	Sorghum and other Annual Fodder Crops.	Pastures.	Vineyards, Orchards, and Gardens.	Fallows, &c.	Total.
<i>Supplied from Goulburn State Works.</i>							
Rodney	357	13,699	513	6,368	3,907	683	25,507
Deakin	27	1,075	170	854	84	121	2,331
Shepparton	105	415	155	199	95	42	1,011
Total	489	15,189	838	7,421	4,086	826	28,849
<i>Supplied from Kow Swamp State Works.</i>							
Dry Lake	92	..	50	400	6	1	549
Kerang	5,691	793	1,838	11,391	9	41	19,763
Total	5,783	793	1,888	11,791	15	42	20,312
<i>Supplied from Loddon State Works.</i>							
Wandella	643	306	117	1,902	14	30	3,012
East Boort	1,354	7	179	757	34	..	2,331
Leaghur and Meering	579	9	132	1,009	..	..	1,729
North Boort	221	..	147	292	15	60	735
Tragowel Plains	8,839	244	875	6,741	68	141	16,908
Twelve-Mile	550	96	115	1,386	..	..	2,147
Total	12,186	662	1,565	12,087	131	231	26,862
<i>Supplied from other State Works.</i>							
Bacchus Marsh .. .. .	..	356	2	5	16	..	379
Benjeroop and Murrabit	2,374	41	173	1,771	19	1	4,379
Campaspe .. .. .	..	433	7	138	20	..	598
Cohuna	6,302	2,850	2,221	7,995	159	51	19,578
Koodrook and Myall	1,326	152	109	3,268	12	..	4,867
Nyah	941	128	214	173	177	188	1,821
Swan Hill	2,003	1,916	782	1,941	45	235	6,922
Western Wimmera .. .. .	..	59	23	25	926	..	1,033
White Cliffs	966	240	609	..	346	158	2,319
Total	13,912	6,175	4,140	15,316	1,720	633	41,896
<i>Lands supplied from Kerang North-west Lakes</i>							
.. .. .	1,733	157	234	1,372	..	..	3,496
<i>Lands supplied directly from Kow Swamp State Works</i>							
.. .. .	917	1,211	392	806	12	..	3,338
First Mildura	981	673	..	..	9,878	468	12,000
<i>Supplied from Coliban State Works</i>							
.. .. .	167	236	272	233	1,758	494	3,160
<i>Private Diversions in Kerang District</i>							
.. .. .	1,737	336	198	667	6	..	2,944
Grand Totals, 1910-11	37,905	25,432	9,527	49,693	17,606	2,694	142,857
Grand Totals, 1909-10	23,715	24,124	8,094	50,541	17,524	5,773	129,771
Grand Totals, 1908-9	42,413	27,254	10,174	72,120	17,653	7,254	176,873
Grand Totals, 1907-8	54,930	32,185	13,896	108,871	15,694	6,436	232,012

The extent of land under irrigated culture in 1910-11, 142,857 acres, represents an increase of 13,086 acres over the area irrigated in the previous year, but a decrease of 34,016 acres when compared with 1908-9 and of 89,155 acres when compared with 1907-8. An analysis of the areas watered reveals that, during 1910-11, 34.8 per

cent. of the total was devoted to pastures, 26.5 per cent. to cereals, 17.8 per cent. to lucerne, 12.3 per cent. to vineyards, orchards, and gardens, 6.7 per cent. to annual fodder crops, and 1.9 per cent. to fallows, &c. In addition to the area shown in the table, 11,000 acres were watered in 1910-11 under yearly permits granting authority to divert water from streams throughout the State. The area of country lands within the State artificially supplied with water for domestic and ordinary use and for watering stock was 10,880,000 acres. The number of separate towns supplied, exclusive of Melbourne and suburbs, is 127, the population served being about 279,000.

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 these Trusts are exhibited below.

Waterworks Trusts.

WATERWORKS TRUSTS—CAPITAL INDEBTEDNESS AND INTEREST OUTSTANDING, 30TH JUNE, 1911.

Waterworks Trusts.	Cost of Works at 30th June, 1911, defrayed from—		Capital indebtedness.				Interest Outstanding at 30th June, 1911.
	Free State Grant.	Loan Advances made by State.	Increased by Interest Capitalized.	Reduced by—		At 30th June, 1911.	
				Amounts Written Off.	Payments towards Redemption.		
	£	£	£	£	£	£	£
Alexandra .. .. .	..	3,509	..	184	184	3,325	66
Avenel .. .. .	..	2,383	..	193	193	2,190	43
Avoca *	2,662	8,709	..	2,494	612	5,603	112
Avoca Township .. .. .	..	9,401	..	..	..	9,401	276
Bairnsdale .. .. .	..	43,358	..	23,439	699	19,220	384
Ballan .. .. .	..	1,100	..	..	247	853	17
Ballalla .. .. .	..	15,579	..	..	2,984	12,595	252
Bet Bet Shire	1,384	5,694	..	..	1,196	4,498	90
Boort	28	1,150	..	150	58	942	19
Bright .. .. .	..	2,990	..	..	332	2,658	53
Broadford .. .. .	..	10,600	..	..	..	10,600	659
Carisbrook .. .. .	..	8,400	..	2,400	318	5,682	210
Carrium* .. .. .	..	25,733	..	7,732	1,012	16,989	340
Charlton	2,840	7,877	..	887	79	6,911	138
Cobram .. .. .	..	4,500	..	..	246	4,254	85
Colac .. .. .	..	36,017	..	..	..	36,017	527
Dandenong .. .. .	..	19,128	..	5,128	646	13,354	..
Daylesford Borough .. .. .	..	24,206	2,794	3,139	1,782	22,079	438
Donald	3,058	5,492	..	1,166	322	4,004	63
Donald Shire	1,691	4,353	..	..	1,177	3,176	72
Rehuca Borough .. .. .	..	13,150	..	..	1,297	11,853	644
Elmore .. .. .	..	4,000	..	..	401	3,599	72
Euroa .. .. .	..	17,242	..	..	1,607	15,635	..
Geelong Municipal † .. .. .	..	..	..	..	..	..	..
Gisborne .. .. .	..	4,668	..	..	923	3,745	74
Hamilton .. .. .	..	40,340	..	..	1,975	38,365	743
Healesville .. .. .	..	4,661	..	..	560	4,101	..
Heathcote .. .. .	..	8,480	..	..	520	7,960	158
Horsham Borough .. .. .	..	27,095	..	7,712	659	18,724	315
Kara Kara Shire	1,522	9,447	..	..	464	8,983	180
Kerang	88	7,042	..	..	195	6,847	136
Kerang Shire	213	1,200	..	..	63	1,137	23
Kilmore .. .. .	..	14,148	..	..	2,044	12,104	241
Koroit .. .. .	..	5,502	..	2,047	630	2,825	56
Korumburra .. .. .	..	11,492	..	..	1,240	10,252	..

(For footnotes see end of table.)

**WATERWORKS TRUSTS—CAPITAL INDEBTEDNESS AND INTEREST
OUTSTANDING, 30TH JUNE, 1911—continued.**

Waterworks Trusts.	Cost of Works at 30th June, 1911, defrayed from—		Capital Indebtedness.				Interest Out- standing at 30th June, 1911.
	Free State Grant.	Loan Advances made by State.	In- creased by Interest Capital- ized.	Reduced by—		At 30th June, 1911.	
				Amounts Written Off.	Payments towards Redemp- tion.		
	£	£	£	£	£	£	
Kowree	292	2,707	..	..	167	2,540	..
Kyabram .. .. .	..	2,784	..	..	140	2,644	52
Kyneton Shire .. .. .	..	31,845	..	..	14,302	17,043	339
Lancefield .. .. .	..	7,082	..	..	523	6,559	130
Lawloit	1,302	12,095	..	..	710	11,385	226
Leongatha .. .. .	..	8,459	..	..	209	8,250	..
Lilydale .. .. .	..	6,384	..	..	143	6,241	125
Loddon United*	4,122	21,334	..	1,717	1,116	18,501	503
Longwood .. .. .	..	2,400	..	550	109	1,741	35
Lowan Shire	1,258	11,680	..	..	687	10,993	220
Macedon .. .. .	..	2,824	..	..	216	2,608	52
Mansfield .. .. .	..	7,931	..	..	894	7,037	..
Maryborough .. .. .	..	76,267	..	9,200	4,055	63,002	..
Mooroopna .. .. .	..	3,054	..	1,400	110	1,544	31
Murchison .. .. .	..	2,800	..	..	192	2,608	..
Murtoa .. .. .	..	3,235	..	..	9	3,226	62
Nagambie .. .. .	..	3,275	..	..	391	2,884	52
Nhill	799	10,318	..	2,432	443	7,393	147
Numurkah Shire	1,278	23,394	..	1,376	3,197	19,121	330
Omeo .. .. .	..	3,982	..	..	393	3,589	132
Pyramid Hill .. .. .	..	2,137	..	..	16	2,121	42
Riddell's Creek .. .. .	..	4,050	..	497	178	3,375	67
Rochester .. .. .	..	2,600	..	..	152	2,448	49
Romsey .. .. .	..	4,700	..	..	929	3,771	75
Rushworth .. .. .	..	4,500	..	..	185	4,315	..
Rutherglen .. .. .	..	16,735	..	..	901	15,834	314
Seymour .. .. .	..	27,959	..	..	2,038	25,921	515
Shepparton Urban	24	19,530	..	2,416	1,805	15,309	306
Shepparton Shire	110	16,603	..	1,376	1,372	13,855	275
St. Arnaud Borough	57	43,223	4,077	15,077	1,541	30,632	1,229
Stawell Shire	545	1,370	..	250	1,120	..	..
Swanbury .. .. .	..	16,497	..	..	..	16,497	397
Swan Hill	231	4,333	..	..	186	4,197	84
Swan Hill Shire†	6,421	36,043	..	36,043	..	..	..
Tallangatta .. .. .	..	4,323	..	..	68	4,260	84
Tatura .. .. .	..	3,667	..	650	307	2,710	54
Traralgon .. .. .	..	14,545	..	..	170	14,375	237
Tungamah Shire	4,130	17,102	..	..	766	16,336	322
Upper Macedon .. .. .	..	2,290	..	..	335	1,955	..
Violet Town .. .. .	..	5,750	..	..	232	5,488	..
Wangaratta .. .. .	..	9,889	..	..	323	9,566	190
Warracknabeal	262	5,400	..	..	504	4,896	90
Warragul .. .. .	..	15,470	..	..	91	15,379	306
Warnambool .. .. .	..	38,500	..	..	2,314	36,186	720
West Charlton .. .. .	..	2,822	..	..	44	2,778	55
Winchelsea Shire .. .. .	..	5,689	..	..	256	5,433	108
Wodonga .. .. .	..	7,722	..	..	476	7,246	..
Woodend .. .. .	..	10,163	..	..	2,221	7,942	159
Yarram .. .. .	..	2,082	..	..	49	2,033	40
Yarrowonga Urban	1,897	8,800	..	..	1,481	7,339	146
Yatchaw .. .. .	..	6,262	..	1,661	270	4,331	37
Yea .. .. .	..	3,885	..	..	156	3,729	74
Total	36,214	1,016,982	6,871	130,989	73,167	819,697	15,047

* The property of this trust has been taken possession of by the State Rivers and Water Supply Commission, as provided by sections 277 and 278 of the *Water Act 1905*, section 10 of Act No. 1994, and section 36 of Act No. 2226.

† 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.

The following return contains full particulars of the receipts and expenditure of the Waterworks Trusts during the year ended 31st December, 1911:—

WATERWORKS TRUSTS—RECEIPTS AND EXPENDITURE, 1911.

Waterworks Trusts.	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	548	25	8	581	32	229	232		493
Avenel	175	2	..	177	44	39	99	1	183
Avoca * .. .. .	..	..	..	..	..	..	..	..	..
Avoca Township	380	30	10	420	32	98	238	1	369
Bairnsdale	1,372	229	2	1,603	357	359	885	20	1,621
Ballan	271	5	9	285	120	36	40	8	204
Benalla	703	359	8	1,070	208	314	583	7	1,112
Bet Bet Shire	309	63	1	373	24	23	208	35	290
Boort	339	7	167	513	369	47	65	..	471
Bright	317	107	5	429	181	44	123	1	349
Broadford	639	..	1	640	44	114	580	1	739
Carlsbrook	302	4	12	318	21	45	261	10	337
Carrum * .. .. .	..	..	..	..	..	..	..	..	..
Charlton	768	26	4	798	110	106	457	66	739
Cobram	401	6	2	409	41	132	304	6	483
Colac	1,417	..	8	1,425	29	58	..	3	90
Dandenong	715	20	25	760	115	140	457	4	716
Daylesford Borough	1,074	903	418	2,395	1,457	191	1,021	19	2,688
Donald	534	217	25	776	383	331	..	24	738
Donald Shire	262	..	..	262	8	59	223	..	290
Echuca Borough	1,950	7	54	2,011	703	538	825	17	2,083
Elmore	257	79	3	339	89	102	166	11	368
Euroa	685	232	4	921	62	101	729	4	896
Geelong Municipal †	12,283	4,998	379	17,660	2,467	2,295	12,070	79	16,911
Gisborne	338	..	8	346	23	56	260	..	344
Hamilton	2,795	467	111	3,373	1,192	403	1,727	110	3,432
Healesville	292	100	40	432	124	74	190	17	405
Heathcote	380	103	7	470	70	103	367	7	547
Horsham Borough	1,771	451	99	2,321	1,260	356	827	18	2,461
Kara Kara Shire	711	..	30	741	117	37	414	2	570
Kerang	1,022	..	6	1,028	561	217	161	47	986
Kerang Shire ‡ .. .. .	..	..	..	..	..	..	..	..	..
Kilmore	522	432	6	960	86	225	560	9	830
Koroit	404	322	..	726	309	183	196	..	688
Korumburra	592	354	97	1,043	193	240	496	36	965
Kowree	284	..	1	285	24	55	118	1	198
Kyabram	345	107	3	455	175	173	119	..	467
Kyneton Shire	1,233	974	63	2,270	47	256	1,796	17	2,116
Lancefield	299	98	4	401	18	35	303	..	356
Lawloit	1,371	..	9	1,380	322	346	527	4	1,199
Leongatha	580	70	19	669	183	116	368	..	667
Lillydale	520	25	1	546	26	131	365	3	525

(For footnotes see end of table.)

WATERWORKS TRUSTS—RECEIPTS AND EXPENDITURE, 1911—
continued.

Waterworks Trusts.	Receipts from—				Expenditure on—				
	Water Rates.	Sale of Water.	Other Sources.	Total.	Maintenance and Management.	Salaries and Wages.	Interest and Redemption.	Other Services.	Total.
	£	£	£	£	£	£	£	£	£
Loddon United *	..	..	..	..	..	..	..	..	..
Longwood ..	171	..	2	173	22	34	80	2	138
Lowan Shire ..	1,629	..	13	1,542	440	290	254	22	1,066
Macedon ..	174	..	2	176	12	34	120	..	166
Mansfield ..	516	124	2	642	188	43	327	..	558
Maryborough ..	2,805	1,245	28	4,078	540	306	2,015	14	3,775
Mooroopna ..	411	58	7	476	200	162	71	1	434
Murchison ..	231	199	..	430	94	159	125	6	384
Murtoa ..	488	203	5	696	282	184	169	19	654
Nagamble ..	371	38	1	410	107	113	182	11	413
Nhill ..	1,105	3	480	1,588	1,223	60	342	17	1,642
Numurkah Shire ..	2,290	304	45	2,639	929	559	959	19	2,466
Omeo ..	294	5	24	323	111	89	165	12	377
Pyramid Hill ..	223	9	2	234	35	25	113	29	202
Riddell's Creek ..	221	..	1	222	10	42	156	3	211
Rochester ..	557	6	2	565	384	65	109	6	564
Romsey ..	296	..	2	298	48	42	175	..	265
Rushworth ..	586	19	5	610	149	160	300	24	638
Rutherglen ..	1,662	38	21	1,621	893	215	732	8	1,843
Seymour ..	563	1,079	51	1,693	164	202	1,199	20	1,585
Shepparton Urban ..	1,769	201	27	1,997	767	433	708	42	1,950
Shepparton Shire ..	1,289	23	..	1,312	201	239	975	20	1,435
St. Arnaud Borough..	2,186	17	75	2,278	766	211	1,412	22	2,411
Stawell Shire †	..	..	..	..	..	..	..	..	..
Sunbury ..	290	600	12	902	6	95	785	5	891
Swan Hill ..	625	22	23	670	306	301	194	18	819
Swan Hill Shire §	..	..	..	..	..	..	..	..	..
Tallangatta ..	423	78	5	506	111	125	292	13	541
Tatura ..	358	129	8	495	153	185	124	14	476
Traralgon ..	822	50	1	873	37	96	655	14	802
Tungamah Shire ..	1,787	91	29	1,907	299	837	738	26	1,900
Upper Macedon ..	225	26	10	271	40	47	91	1	179
Violet Town ..	371	2	7	380	12	47	253	3	315
Wangaratta ..	1,411	238	13	1,707	633	468	442	8	1,551
Warracknabeal ..	932	116	20	1,068	678	167	199	3	1,047
Warragul ..	1,145	224	529||	1,898	492	215	767	19	1,493
Warrambool ..	2,632	460	224	3,316	938	598	1,678	71	3,233
West Charlton ..	243	..	2	245	20	23	64	..	107
Winchelsea Shire ..	362	..	18	380	100	†	250	2	352
Wodonga ..	477	35	2	514	52	127	336	2	517
Woodend ..	306	262	1	569	136	147	365	15	663
Yarram ..	281	55	5	341	140	53	152	5	350
Yarrowonga Urban ..	632	147	..	779	173	277	340	..	790
Yatchaw ..	401	..	1	402	30	38	100	2	170
Yea ..	340	200	13	553	231	163	172	4	570
Total ..	72,850	17,173	3,367	93,390	23,773	16,081	47,945	1,105	88,904

* The property of this trust has been taken possession of by the State Rivers and Water Supply Commission. See * note page 638.

† Year ended 30th June, 1911.

‡ This trust is inoperative.

|| Including loan money £386.

§ This trust was abolished under the provisions of the *Water Act* 1905.

¶ Included under Maintenance and Management.

Municipal
Water-
works.

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 851

million gallons. Other important reservoirs in this group are those supplying Beechworth, Clunes, and Talbot, their respective storage capacities being 191, 227, and 200 million gallons. The following return 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, 1911.

Local Bodies.	Cost of Works to 30th June, 1911, defrayed from Loan Advances made by State.	Capital Indebtedness.				Interest outstanding at 30th June 1911.
		Increased by Interest capitalized	Reduced by—		At 30th June, 1911.	
			Amounts written off.	Payments towards Redemption.		
	£	£	£	£	£	£
Arapiles Shire ..	3,600	..	..	1,100	2,500	50
Ararat Borough ..	49,935	..	18,266	1,917	29,752	595
Ballarat Water Commission ..	309,300	41,869	2,111	50,235	298,823	..
Beechworth Shire ..	30,426	1,256	5,958	4,344	21,380	..
Bet Bet Shire ..	1,000	..	985	15	..	..
Castle Donnington (Swan Hill) Shire ..	360	..	..	52	308	9
Chiltern Shire ..	4,500	508	508	772	3,728	74
Clunes Borough Water Commission ..	70,195	..	62,395	458	7,342	147
Creswick Borough ..	3,500	..	..	3,500	..	..
Dimboola Shire ..	358	..	..	53	305	9
Dunolly Borough ..	2,190	..	..	829	1,361	27
Inglewood Borough ..	5,150	..	..	1,638	3,512	70
Kerang Shire ..	2,768	..	..	278	2,490	75
Korong Shire ..	1,565	..	..	419	1,146	23
Ripon Shire ..	3,000	..	..	1,326	1,674	33
Stawell Borough ..	108,506	..	61,661	4,114	42,731	1,467
Talbot Borough ..	15,000	..	13,986	72	942	19
Tarnagulla Borough ..	800	..	..	155	645	13
Wimmera Shire ..	28,890	..	..	26,256	2,634	52
Total ..	641,043	43,633	165,870	97,533	421,273	2,663

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 £4,062 by municipalities whose works have been transferred to the State Rivers and Water Supply Commission.

Abolished
Trusts.

The irrigation and water supply trusts specified below were abolished, and the liabilities in respect of amounts due and owing to the Crown by such trusts on account of principal sums advanced by way of loan, and accrued interest thereon, were cancelled by provision in the *Water Act 1905*.

IRRIGATION AND WATER SUPPLY TRUSTS ABOLISHED AND LIABILITIES
CANCELLED.

Name of Trust.	Cost of Works.			Written off.		
	Advances.	Grants.	Total.	Capital.	Interest.	Total.
	£	£	£	£	£	£
Dookie	630	..	630	630	171	801
Emu Valley	8,167	..	8,167	8,167	2,907	11,074
Harcourt	1,142	..	1,142	1,112*	335	1,447
Lerderberg	447	..	447	447	169	616
Millewa	973	..	973	973	582	1,555
Pine Hills	2,051	243	2,294	2,051	1,065	3,116
Torrumberry North ..	12,300	..	12,300	12,300	5,812	18,112
Werribee	6,000	..	6,000	6,000	3,752	9,752
Total	31,710	243	31,953	31,680	14,793	46,473

* £30 paid to Redemption Fund by Trust.

The Dookie works are now used solely for the supply of water to the Dookie Agricultural College, and the Emu Valley and Harcourt works have been attached to the Coliban scheme.

Mildura
irrigation
settlement.

A full account of the history of the Mildura Irrigation Settlement from its inception will be found in the *Victorian Year-Book, 1904*. The settlement was established in 1887, and the following particulars are an indication of its prosperity:—

POPULATION OF MILDURA, 1891 TO 1911.

1891 April (Census)	2,321	1901 March (Census)	3,325
1896 September	2,000	1911 April (Census)	6,119

The receipts and payments of the Mildura Irrigation Trust during the year ended 30th June, 1911, were as follows:—

RECEIPTS AND PAYMENTS OF FIRST MILDURA IRRIGATION TRUST, 1910-11.

<i>Receipts.</i>		£	<i>Payments.</i>		£
Horticultural Rates	..	17,686	Wages, Salaries, &c.	..	4,448
Town Rates	..	90	Fuel	..	5,705
Special Waterings, &c.	..	899	Interest to Government	..	2,602
Miscellaneous	..	2,641	Miscellaneous	..	6,094
		<hr/>			<hr/>
Total	..	21,316	Total	..	18,849
		<hr/>			<hr/>

The area of land under cultivation in the settlement in April, 1910, 12,189 acres, represents an increase of 289 acres over the area for the previous year, but the record of water acres, 35,475, is lower than the record of 1909, which was 36,909 acres. In the following statement, the principal kinds of fruit, &c., grown are tabulated.

ACREAGE UNDER CULTIVATION, APRIL, 1910.

Vines.				Citrus.		Other Fruit Trees.				Miscellaneous.			Vacant.	Total.
Gordos.	Sultanas.	Currants.	Wine.	Oranges.	Lemons.	Apricots.	Peaches.	Figs.	Unenumerated.	Lucerne.	Crop.	House-garden.		
2,182	3,789	1,572	52	557	292	398	195	63	319	673	981	246	920	12,189

METEOROLOGY.

Interesting 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 is shown the actual rainfall during the years 1909, 1910, and 1911, and the average yearly amount of rainfall deduced from all available records to

Meteorological Records.

December, 1911, in each of the 26 river basins or districts constituting the State of Victoria:—

RAINFALL—YEARLY RECORDS AND AVERAGES.

Basin or District.	Rainfall.			
	Yearly Average, to Dec., 1911.	During 1909.	During 1910.	During 1911.
	Inches.	Inches.	Inches.	Inches.
Glenelg and Wannon Rivers ..	28·01	31·73	32·96	27·51
Fitzroy, Eumerella, and Merrie Rivers	30·93	33·44	34·35	32·09
Hopkins River and Mt. Emu Creek	26·04	27·52	29·31	30·65
Mt. Elephant and Lake Corangamite	25·33	28·53	26·70	29·58
Cape Otway Forest ..	38·43	40·50	42·46	43·51
Moorabool and Barwon Rivers ..	25·40	28·72	26·82	28·39
Werribee and Saltwater Rivers ..	24·56	24·45	23·56	33·23
Yarra River and Dandenong Creek	35·94	36·91	34·63	44·65
Koo-wee-rup Swamp ..	35·42	36·37	33·80	39·88
South Gippsland ..	39·83	42·11	34·61	41·19
Latrobe and Thomson Rivers ..	36·36	40·91	33·78	43·77
Macallister and Avon Rivers ..	23·76	26·73	23·51	31·92
Mitchell River ..	28·56	27·73	26·63	36·53
Tambo and Nicholson Rivers ..	26·79	26·08	24·93	41·45
Snowy River ..	34·07	32·52	31·74	47·65
Murray River ..	20·33	21·77	19·94	21·97
Mitta Mitta and Kiewa Rivers ..	35·63	38·91	34·54	34·20
Ovens River ..	36·44	38·00	33·71	36·70
Goulburn River ..	26·21	28·94	26·95	27·67
Campaspe River ..	24·64	27·33	27·84	29·03
Loddon River ..	19·16	22·35	21·65	22·60
Avon and Richardson Rivers ..	16·58	20·31	19·24	21·42
Avoca River ..	17·44	20·84	21·11	20·45
Eastern Wimmera ..	22·18	24·25	26·54	25·61
Western Wimmera ..	19·81	22·41	24·41	18·04
Mallee ..	14·03	16·67	18·47	17·36
Weighted Averages ..	24·69	26·86	26·42	28·54

The figures in the above table are the averages for each district. The next statement shows the areas of the State subject to different degrees of rainfall.

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

The rainfall recorded for each quarter in 1911, and the quarterly averages up to 1911 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	705	393	823	864	741	932	726	612
Fitzroy, Eumerella, and Merrie Rivers ..	893	504	925	946	799	1,006	592	637
Hopkins River and Mt. Emu Creek	1,084	461	732	769	745	777	504	597
Mt. Elephant and Lake Corangamite	960	471	640	720	768	751	576	591
Cape Otway Forest	1,392	662	1,171	1,186	1,078	1,195	710	800
Moorabool and Barwon Rivers	1,068	476	685	715	491	723	595	626
Werribee and Saltwater Rivers	1,253	503	731	653	715	652	624	648
Yarra River and Dandenong Creek	1,525	720	1,335	1,006	756	946	849	922
Koo-wee-rup Swamp	1,224	695	1,184	1,005	731	980	799	862
South Gippsland	1,352	736	1,115	1,126	858	1,159	794	962
Latrobe and Thomson Rivers	1,329	711	1,327	965	799	1,026	922	934
Macallister and Avon Rivers	1,369	550	817	578	508	568	498	680
Mitchell River	1,545	720	851	731	681	684	546	721
Tambo and Nicholson Rivers	1,914	706	872	613	772	611	557	749
Snowy River	2,208	825	997	906	906	844	654	832
Murray River	922	402	560	599	381	578	334	454
Mitta Mitta and Kiewa Rivers	1,259	646	815	1,030	705	1,067	641	820
Ovens River	1,388	627	1,044	1,107	703	1,123	535	787
Goulburn River	1,012	446	876	801	541	790	338	584
Campaspe River	1,286	417	769	741	557	770	291	536
Loddon River	956	337	557	591	487	565	260	423
Avon and Richardson Rivers	948	279	434	528	512	502	248	349
Avoca River	841	284	457	542	487	536	260	382
Eastern Wimmera	995	348	471	684	693	715	402	471
Western Wimmera	509	257	504	646	471	662	320	416
Mallee	814	243	369	448	366	421	187	291
The whole State	1,089	448	729	729	601	726	435	566

N. B.—100 points=1 inch.

RAINFALL IN REGIONS, DURING EACH QUARTER, 1909, 1910, AND 1911.
Percentage above the average, + (plus); below the average, - (minus).

Regions.	First Quarter.			Second Quarter.			Third Quarter.		
	1909.	1910.	1911.	1909.	1910.	1911.	1909.	1910.	1911.
	%	%	%	%	%	%	%	%	%
Western Districts	-4	+50	+99	+23	-17	-8	+16	+24	-17
Cape Otway Forest	-6	+10	+110	+27	-13	1	+2	+20	-10
Counties surrounding Port Phillip Bay ..	-6	+10	+112	+23	-30	+16	+18	+13	-17
South Gippsland	-1	+25	+84	+21	-42	-1	+14	-10	-26
Basins of the Latrobe, Macallister, and Mitchell Rivers	+6	-17	+114	+57	-48	+33	+36	+9	-13
Basins of the Tambo and Snowy Rivers ..	+19	-11	+169	+22	-33	+23	+6	+8	+15
All Northern Areas between the Ranges and the Murray, East of the Campaspe River	+12	-9	+116	+48	-25	-7	+21	+26	-35
All Northern Areas between the Ranges and the Murray, West of and including the Campaspe River	+17	+83	+154	+36	-10	-13	+51	+45	-12

RAINFALL IN REGIONS, DURING EACH QUARTER, 1909, 1910, AND
1911—*continued.*

Percentage above the average, + (plus); below the average, - (minus).

Regions.	Fourth Quarter.			Year.		
	1909.	1910.	1911.	1909.	1910.	1911.
Western Districts	—12	+17	—5	+12	+14	+6
Cape Otway Forest	—7	+35	—11	+7	+11	+13
Counties surrounding Port Phillip Bay ..	—17	+23	—6	+6	—1	+20
South Gippsland	—23	+26	—17	+5	—13	+3
Basins of the Latrobe, Macalister, and Mitchell Rivers	—23	+35	—16	+9	—4	+27
Basins of the Tambo and Snowy Rivers ..	—41	+17	—22	—1	—4	+46
All Northern Areas between the Ranges and the Murray, East of the Campaspe River	—51	+5	—30	+10	Normal	+2
All Northern Areas between the Ranges and the Murray, West of and in- cluding the Campaspe River	—43	+8	—31	+20	+21	+20

AVERAGES AND EXTREMES OF CLIMATIC ELEMENTS FOR THE SEASONS
AND FOR THE METEOROLOGICAL YEAR DEDUCED FROM ALL
RECORDS OBTAINED IN MELBOURNE IN PAST YEARS.

Meteorological Elements.	Spring.	Summer.	Autumn.	Winter.	Year.	
<i>Averages.</i>						
Mean pressure of air in inches	29·972	29·924	30·081	30·080	30·014	
Monthly range of pressure of air— Inches	0·895	0·800	0·807	0·984	0·872	
Mean temperature of air in shade —°Fahr.	57·6	66·4	59·5	49·9	58·4	
Mean daily range of temperature of air in shade—°Fahr.	18·8	21·5	17·7	14·0	18·0	
Mean percentage of humidity. Saturation = 100	69	64	73	78	71	
Mean rainfall in inches	7·21	5·92	6·69	5·79	25·61	
Mean number of days of rain	37	23	32	41	133	
Mean amount of spontaneous evaporation in inches	10·03	17·00	7·66	3·62	38·31	
Mean daily amount of cloudiness —Scale 0 to 10	6·0	5·2	5·9	6·4	5·9	
Percentage number of hours during which the wind blew from the various points of the compass	North	16·46	8·11	16·75	30·44	17·94
	North-West	9·34	4·18	7·40	12·50	8·36
	West	15·16	10·68	13·14	13·90	13·22
	South-West	16·43	19·52	12·73	10·70	14·85
	South	17·96	26·10	15·48	6·90	16·61
	South-East	9·33	17·55	13·39	5·64	11·48
	East	3·91	5·19	5·82	3·88	4·70
North-East	9·28	6·68	12·71	13·54	10·55	
Calm	2·13	1·99	2·58	2·50	2·29	
Mean number of days of fog	1·1	0·7	5·0	9·9	16·7	

AVERAGES AND EXTREMES OF CLIMATIC ELEMENTS—*continued.*

Extremes.

Barometer corrected for Temperature, Sea Level, and Standard Gravity.	Inches.	Temperature of air in shade. ° Fahr.
Greatest monthly range ...	1·503	Greatest monthly range ... 69·1
Smallest " " ...	0·489	Smallest " " ... 23·4
Greatest yearly range ...	1·719	Greatest yearly range ... 82·6
Smallest " " ...	1·169	Smallest " " ... 66·0
Highest air pressure on record	30·760	Greatest mean daily range ... 27·8
Lowest " " "	28·942	Smallest " " " ... 7·7
		Highest temperature on record 111·2
		Lowest " " " 27·0
Solar radiation—highest on record	..	.. 178·5 ° Fahr.
Terrestrial radiation—lowest on record	..	.. 20·4 "
Greatest rainfall on record ..	..	.. 44·25 Inches.
Smallest rainfall on record ..	..	.. 15·61 ..
Horizontal motion ..	..	.. 81·118 Miles
Mean hourly velocity of wind ..	..	.. 9·2 "

The table below contains the values of the principal Meteorological elements for the calendar year 1911, with the corresponding averages and extremes, based on the official records for 55 years:—

METEOROLOGY, 1857 TO 1911.

Meteorological Elements.	Yearly Averages and Extremes.			
	Year 1911.	Average for 55 Years.	Extremes between which the Yearly Average Values have oscillated in 55 years.	
			Highest.	Lowest.
Mean atmospheric pressure (inches) ...	30·008	30·014	...	...
Highest " " " ...	30·521	30·605	30·760	30·081
Lowest " " " ...	29·306	29·216	29·983	28·942
Range (inches) ...	1·215	1·389	1·719	1·169
Mean temperature of air, in shade (°Fahr.)	58·6	58·3	59·7	57·3
Mean daily maximum ...	66·6	67·3	69·0	66·0
Mean daily minimum ...	50·5	49·4	51·2	47·2
Absolute maximum ...	105·2	105·2	111·2	96·6
Absolute minimum ...	29·5	30·7	33·9	27·0
Mean daily range ...	16·1	17·9	20·3	14·6
Absolute annual range ...	75·7	74·5	82·6	66·0
Solar Radiation (maximum) ...	158·4	161·2	178·5	92·7
Terrestrial Radiation (minimum) ...	27·6	24·9	46·2	20·4
Rainfall (in inches) ...	36·61	25·60	44·25	15·61
Number of wet days ...	168	133	171	102
Year's amount of free evaporation (in inches) ...	38·87	38·31	45·66	31·59
Percentage of humidity (saturation = 100) ...	68	71	...	...
Cloudiness (scale 10 = overcast, 0 = clear)	6·0	5·9	...	...
Number of days of fog ...	28	17	39	5

DEPARTMENT OF AGRICULTURE.

This Department is controlled by a Minister of the Crown, and has a large staff of experts, with a Director of Agriculture at the head. These 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.

AGRICULTURAL EDUCATION.

Agricultural
education.

An Act for the establishment of Agricultural Colleges was passed towards the close of 1884, and five areas were reserved as sites for colleges and experimental farms, viz.—Dookie, Longerenong, Gunyah Gunyah, Olangolah, and Bullarto. The total area of these reserves is 14,460 acres. Particulars are as follows:—

AREAS OF AGRICULTURAL COLLEGE AND EXPERIMENTAL FARM LANDS,
1911.

Name.	Area.	How Used.
	Acres.	
Dookie and Currawa	5,957	College and Experimental Farm
Longerenong (Jung Jung)	2,386	Let for grazing and cultivation
Gunyah Gunyah and Jumbuk	2,500	Let for grazing and cultivation
Olangolah	2,800	Not in use
Bullarto	817	Let for grazing, &c.
Total	14,460	

The Gunyah Gunyah, Olangolah, and Bullarto reserves have never been used for the purposes of colleges, but Gunyah Gunyah is let for grazing and agriculture, and Bullarto for grazing and forestry. Olangolah has been applied for as a catchment area for the water supply of Colac.

Endowment
lands.

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 73,694 acres,

and its location is shown in the following table. At present the areas are let for grazing and agricultural purposes:—

ENDOWMENT AREAS.

Parish.	Acres.	Parish.	Acres.
Ararat	1,100	Leer	125
Ardno	210	Moyston	242
Alexandra	79	Moyston West	319
Bellellen and Illawarra	750	Meering	690
Beveridge Island	2,732	Myrree	394
Brankeet	387	Mooroopna	98
Berringama	199	Miloo	120
Bealiba	135	Mirampiram	99
Bumbang	10,000	Moira	136
Byawatha	108	Mologa	107
Buckrabanyule	220	Nurooing	230
Bringalbart	79	Pental Island	17,350
Bangerang	58	Pannoomiloo	100
Broadwater	198	Peecheber	50
Carraragarmungee	1,864	Purnim	3,678
Cudgewa	732	Quantong	495
Colac Colac	420	Quambatook	380
Corack East	474	Turrumberry North	615
Charam	331	Tullich	400
Carchap	99	Terrick Terrick East and West	160
Charlton East	228	Terrick Terrick East	40
Dropmore and Ruffy	454	Tallandoon	116
Dinyarrak	359	Tarwin	167
Dartagook	120	Turrumberry	281
Estecourt	2,831	Tallygaroopna	430
French Island	340	Tragowel	250
Gooram Gong	582	Toolongrook	160
Granya	586	Wychitella	1,015
Gowangardie and Currawa	272	Walwa	200
Glenpatrick	100	Windham	452
Glynwylln	524	Wabba	335
Jumbuk	2,641	Warrenbayne	145
Kunat Kunat	700	Wappan	293
Karramomus and Tamleugh	672	Woorak	630
Kerrisdale	148	Waratah	148
Kaarimba	429	Wareek	100
Knowsley	103	Warrenmang	120
Knowsley East	296	Wail	240
Korrak Korrak	150	Wonthaggi North	2,535
Kinypanial	80	Yarck	569
Koonik Koonik	37	Yanac-a-Yanac	168
Konnepra	126	Yeringa	160
Kerang	90	Yeerung	1,400
Laen	887		
Longwood	242		
Lang Lang and Yallock	4,780	Total	73,694

The reserves in the parishes of Lindsay Island and Mulroo and Yelta (42,000 and 28,600 acres respectively) have been resumed by the Government.

Agricultural
College,
Dookie.

In order to carry out experiments, devised for the purpose of ascertaining the suitability of the Victorian climate and soil for various kinds of useful products and of obtaining data respecting the rotation of crops, but more especially for the instruction of students in agriculture, a block of 4,846 acres was reserved in 1874, at Dookie, in the North-Eastern District of Victoria, on which to found under the direction of the Council of Agricultural Education, a State Experimental Farm. The area has been increased at different times, 272½ acres being added in 1908, and in September, 1911, an area of 796 acres was purchased and added to the farm.

Under the provisions of the *Agricultural Colleges Act* 1884, the farm has been vested in trustees, and all moneys received from the sale of stock and produce since June, 1885, have been paid into the Agricultural College fund.

There were 124 students in attendance at the College in 1911. The charges per head per annum are:—For maintenance—first year, £30, second year, £25, third year, £20; for medical attendance and medicines, £1 5s.; for books and other school materials, £4. Conduct, deposit, and sports fees are also payable. No charge is made for instruction.

The farm is thoroughly equipped with up-to-date buildings, improvements and appliances, and by means of a line of 4-inch pipes water is pumped from the Broken River to the College reservoirs.

The farm has 34½ acres under vines, and 20 acres under fruit trees, and in 1911 had 867 acres under cereals, hay, and green fodder. The live stock comprised 110 horses, 50 dairy cows, 100 other cattle, 1,750 sheep, and 250 pigs. The produce of the farm supplied to the College and farm for rations, &c., for the year was valued at £3,425, and the receipts comprised £2,987 from fees, and £4,720 from sale of produce, making a total of £11,132. The expenditure for the year, including that on buildings and maintenance, amounted to £11,725.

Considerable attention is devoted to experimental work in connexion with the raising of new varieties of wheat and other cereals suitable for different parts of the country. Experiments with new fodder and other plants of economic importance are carried out, and attention is also paid to indigenous grasses. A variety of medicinal and other plants is grown on the farm for educational purposes, and there is a 4¼ acre plantation of olives, of six varieties.

There is a good demand for seed wheat, oats, and barley from the college farm; whilst, for the commercial training of the students, a good deal of grain is marketed.

The ploughing, harvesting, and threshing are mainly carried out by the students under competent instructors. The students ploughed 1,167 acres last season, and cropped 867 acres. About 8,000 bushels of grain were harvested, and 560 tons of hay, straw and ensilage made.

Attention is being given to the breeding of draught horses and Indian remounts, several highly-bred Clydesdale mares and a first-class stallion being used for stud purposes. Most of the horses used on the farm have been bred on it. The cattle include Ayrshires principally, also Herefords and Shorthorns. The breeds of sheep kept are Lincolns, Merinoes, Hampshire Downs, Border Leicesters, Suffolks, and South Downs. The raising of early lambs for the market receives considerable attention. The pigs kept are pure imported Berkshires, imported large and middle white Yorkshires, and large British Blacks, for all of which there is a good demand for stud purposes. The poultry industry is fostered, and pens of the best breeds are kept, a number of the birds having been imported from England.

The Longerenong Agricultural College and Farm, under the control of the Council of Agricultural Education, is situated about 8 miles from Horsham, and 3 miles from Doon railway station. Provision is made for thirty-five resident students, and non-resident students, the sons of neighbouring farmers, are allowed to attend classes. The farm contains 2,386 acres of land typical of the lighter Wimmera soils, of which about 700 acres are only fit for grazing, being low-lying and subject to floods in winter: the bulk of the remainder is well adapted for wheat-growing and lamb raising. About 400 acres are cropped each year, the staple crop being wheat, of which the average yield per acre for the season 1911-12 was 12 bushels. The yield of oats was 52 bushels per acre.

Longere-
nong
Agricultural
College.

A seed farm of 10 acres for the propagation and crossing of wheat and other cereals has been established for the purpose of distributing new and improved cereals to agriculturists, and experimental work is being carried on with grasses, maizes, and other fodder plants.

The orchard, containing 28 acres—5 of which are planted with phylloxera-resistant vines—50 acres of lucerne, and about 20 acres of summer fodder-crops, are irrigated each season by water obtained from the Western Wimmera Distributary Works.

Considerable attention has been paid to tree-planting—several plantations of fair extent having been established on the estate, and the roadways having been bordered with sugar-gums, pepper-trees, and pines of different kinds. The paddocks are watered by seven tanks, varying in capacity from 1,000 to 5,000 cubic yards, which, in dry years, are filled from the irrigation channel. The college buildings have been thoroughly renovated, are lit by air gas and are sewered on the septic-tank principle.

There are four silos on the farm, and the live stock in 1912 comprised 41 horses, 39 dairy cattle, 66 other cattle, 1,417 sheep, and 25 pigs.

Lamb raising is one of the chief industries at Longerenong, and in 1911 the lambing averaged 80 per cent.

In 1911 the receipts comprised fees £665, and sale of produce, &c., £1,680; whilst the expenditure, including that on buildings, and maintenance, salaries, wages and equipment, amounted to £4,479. Farm produce used for College consumption was valued at £604.

The syllabus of instruction is similar to that given at the other Agricultural Colleges of the Commonwealth.

GOVERNMENT EXPERIMENTAL FARMING.

Wyuna
Irrigation
Farm.

In addition to the experimental farming carried on in connexion with the Dookie and Longerenong Agricultural Colleges, the Government has experimental farms at Wyuna, Rutherglen, and Bamawm. The Wyuna Irrigation Farm is devoted chiefly to raising, under irrigation, all kinds of fodder crops, and carrying on dairying and experimental feeding of stock. It is situated in the Shire of Deakin, nine miles north of Kyabram, and eight miles north-east of Tongala, on the Echuca-Toolamba railway line. The average annual rainfall is about 16 inches.

An abundant supply of water is derived from the Waranga Basin by means of the channels of the State Rivers Commission, which intersect the property. The farm comprises an area of 540 acres, 200 of which are timber, and the balance plain land. One hundred and fifty acres of timber land have been cleared, cultivated, and graded, and 100 acres are permanently laid down to lucerne and provided with a system of irrigation and drainage channels. The lucerne is now permanently established, and large crops are cut, and fed to stock, or converted into hay and sold as opportunity offers. Considerable quantities of various seed wheats have been raised, also other cereal crops for hay and grain and ensilage, while in addition to a small orchard there are irrigated crops raised chiefly for ensilage purposes, comprising maize, sorghum, amber cane, millet, kafir corn, peas, beans, rape, mangolds, &c. The live stock consists of 10 working horses, 100 dairy cows and heifer calves, 32 pigs, and 250 head of poultry. The principal new buildings are brick quarters for a limited number of students, a large wood and iron bungalow for temporary use by immigrants, a cowshed and extensive brick-paved yards, a brick dairy, a boiler house, brick and iron piggeries, and four silos (capacity 520 tons).

Government
Tobacco
Experi-
mental
Farm.

During the year 1911 operations were removed from the Whitfield Government Tobacco Farm, in which district tobacco culture is now firmly established, to Bamawm, an irrigation settlement, with a view to proving the suitability of the crop to irrigation areas. The first season's experiment has given satisfactory results in that the crop grew well and matured from the transplanting stage in twelve weeks. Yields of from 700 lbs. to 1,200 lbs. per acre of cured leaf can be produced, the tendency of the soil and climatic effects being to produce tobacco for pipe use of better quality than cigar as regards the

four varieties tried, viz., Tax and Hyco for pipe tobacco and Comstock and Vuelta for cigar. The Tax proved superior in the former case, and Comstock in the latter. A large quantity of fine plump seed was harvested, and it is intended to distribute it amongst intending growers. A feature of the experiment is the freedom from insect and fungoid pests at Bamawm as compared with other tobacco producing districts, there being a marked absence of cut worms, green caterpillar, and miner, and no occurrence of the disease known as Blue-mould.

Further experimental work in proving varieties suited and the effect of manures will be conducted during the present season.

The Government Viticultural Station is situated near Rutherglen, has an area of 913 acres, and is being used as a viticultural station, model orchard, and experimental farm. The expenditure in connexion with the station, including buildings and maintenance, amounted to £4,767 for the financial year 1911-12.

Government
Viti-
cultural
Station.

The chief work being done at the station is in connexion with the propagation and grafting of the American and Franco-American resistant vines for the reconstitution of phylloxerated vineyards.

As is well known, the ordinary European vines rapidly succumb to an attack of phylloxera—a disease which injures the vine roots and quickly destroys vineyards wherever it obtains a footing. In Victoria, phylloxera was discovered in 1877. By its inevitable spread it soon destroyed the vines in the districts into which it had been introduced, and other districts became infected. The seriousness of these attacks led to the trials of many methods to exterminate the pest, all of which have unfortunately proved futile. French investigators have discovered, however, that certain American vines are able to resist phylloxera, and these are used as stocks on which to graft the desired producing kinds.

There is a number of American vines grown, but all are not equally suitable for all soils, nor adapted as graft-bearers for all European varieties, hence the work undertaken at the viticultural station is to discover the most eligible kinds. To test their adaptability to the different soils, sub-stations have been founded in each viticultural district of the State, and data carefully collected regarding the growth of each variety in the very diverse soils purposely selected for these tests.

To ascertain the grafting affinities of each kind of stock and scion, the principal wine and table varieties are grafted on each kind of resistant stock, after which they are planted out permanently and the results noted. Growers are thus enabled to see readily which stock suits a certain variety best. The grafting of those European vines of wine, table, and drying varieties that are in greatest demand, on suitable resistant stocks is carried out extensively during the season. A few rootlings are used as stocks, but the majority of the grafts are cuttings. A large number of the cuttings grown at the

station are utilized in grafting chosen varieties for vigneron, who may not have the facilities or time to carry out this operation for themselves.

Large areas are devoted to the permanent growth of resistant stocks for the production of cuttings. A considerable area of more suitable land for nursery purposes has been taken up on the banks of the Murray, at Wahgunyah. Here a large irrigation plant, grafting and callusing houses, &c., have been erected. The callusing is done in a heated compartment, and the cuttings are packed in boxes with seaweed and sawdust.

To practically prove the efficacy of resistant stocks, grafted vines have been planted on the very sites of phylloxerated vines that had to be uprooted. These are growing luxuriantly, thus affording striking testimony to their resistant value. By careful attention to the vines it has been amply demonstrated that the yields of Victorian vineyards can be very considerably increased.

The principal resistant stocks grown belong to the genera *Riparia* and *Rupestris*, with their hybrids. As its name indicates, the *Riparia* in its native habitat loves moist, fertile soils along water-courses. Its root system is spreading and horizontal. Placed in such conditions as it is naturally accustomed to, it grows luxuriantly, but from the character of the root system, it is susceptible to drought. The species of *Rupestris* that are cultivated are more erect in habit than the *Riparias*, which are trailing. They are generally deeper rooted plants, and hence are better able to thrive in districts with a less generous rainfall. The hybrids apparently inherit the good qualities of both parent plants, and have so far proved themselves most suitable for all conditions of soil and climate. They have also a wider range of affinity as graft-bearers. Several crosses between European and American vines have recently demonstrated their resistant character and proved their merit as stocks.

In the vineyard attached to the station, interesting and useful experiments are being conducted in methods of pruning, cultivation, manuring, &c.

As a college for the sons of vine-growers the Viticultural Station did not become popular, but the buildings are now occupied by boys from the Neglected Children's Department, who are being trained in scientific and practical agriculture and viticulture, and are already supplying vigneron and farmers with skilled labour of a class now difficult to obtain. This work has been sufficiently long in operation to enable some idea to be formed of its value and possibilities, and the results obtained justify the brightest optimism. Many lads trained in the various rural pursuits have been sent out to employment in different parts of the State, and all are doing well. While the instruction is eminently practical, yet the technical part is not overlooked. Demonstrations and lectures illustrated by lantern and microscope constitute a part of the regular curriculum, and these form topics for subsequent essays.

Experimental work is carried on with manures, cereals, grasses, fodder, and reputedly drought-resisting plants. Experimental dairying and the cross-breeding of strains of dairy cattle also receive attention, the object being to investigate the possibilities of dairying in the drier districts of the State. Milking and feeding sheds with necessary silos have been erected, and dairying, as practised in dry climates, forms part of the regular instruction. Sheep are also kept, and the growth of suitable summer fodder crops is an important branch of the work. In conjunction with the Superintendent of Agriculture, extensive experiments are being carried out with a view to improve the character of the grain and increase the yields of our wheat and other cereal crops. A very large number of carefully selected wheats have been secured by breeding, and these are being cultivated for distribution as seed among farmers.

SCHOOL OF HORTICULTURE.

This school is situated in Richmond Park, Burnley, and is about 3 miles from Melbourne. The site covers 33 acres of ground, and was originally part of the old police paddock. In 1890, the Government decided to establish on this site an institution for the training of orchardists and small settlers, and during the past ten years much has been done to provide for the teaching of regular and casual students, and those visitors who may call in search of special information.

The admission of female students has been arranged for, and these attend twice weekly at a fee of £2 per annum.

Model orchard blocks, gardens, and a students' training ground have been prepared, an entirely new and complete orchard equipment provided, and a large variety of instructive implements got together for use in class and field work. Domestic and farm animals are kept, a poultry run is provided, and an apiary has been established; there are also such other conveniences as will insure a thoroughly practical training for students. The estate includes orchard, grazing and arable land where garden and vegetable crops are largely grown. The collection of fruit varieties now numbers over 2,000, and is unequalled anywhere in Australia.

The course for the Certificate of Horticulture covers two years, at the end of which time four successful students may be selected each year for continued training. Two of these will be trained in fruit-growing at Burnley, and two in floriculture and gardening work at the Melbourne Botanic Gardens. This continued term will last for two years, the students being paid £40 for the first and £52 for the second year.

The school course includes regular lectures in horticultural science, poultry breeding, bee-keeping, and kindred subjects.

Practical work includes the propagation and management of orchard trees, citrus, table grapes, and bush fruits, the harvesting, storing, packing, marketing, and drying of fruit, vegetable culture, the clearing, grading, and trenching of land, and the management of soils, manures, and drainage. The principal and his assistant carry out this programme by giving lessons daily in class-room and field.

The egg-laying competitions are now carried on here, and nearly one hundred competition poultry pens, with manager's house, sheds, &c., have been built. The competition pens are open to public inspection on Wednesdays and Saturdays from 2 p.m. to 4 p.m.

Prior to 1903 instruction was free, but a fee of £5 per annum is now charged. There has been a steady advance in the number of students, and there is every indication that the school is doing generally helpful work in the service of the State. The botanic gardens surrounding the principal's residence are noted for their beauty, and the instructional character of the work in progress makes the place well worth a visit at any season. The school year extends from February to December.

AGRICULTURAL HIGH SCHOOLS.

Agricultural High Schools have been established at Warrnambool, Sale, Shepparton, Wangaratta, Ballarat, Colac, Mansfield, Warragul, and Leongatha, and it is proposed to open one at Mildura. During 1910-11 the expenditure on these schools, including buildings, amounted to £19,113. They have been 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 be at least 14 years of age, and must have obtained the certificate of merit at the local school, or have passed the primary or some higher examination at the Melbourne University, or they must have satisfied an Inspector of Schools that they are qualified to profit by the course of study.

A local council appointed for each school exercises a general oversight of the work, particularly in regard to the farm operations, and expends the maintenance allowance allotted to the school. 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.

AGRICULTURAL AND HORTICULTURAL SOCIETIES.

Agricultural and Horticultural Societies, established on the principle of voluntary membership, and having for their object the improvement of the agricultural, pastoral, and horticultural industries, exist throughout the State. Accounts of some of the more important societies will be found in previous issues of this work. One hundred and seven agricultural societies furnished returns for the year 1911, in regard to which particulars are set out below.

AGRICULTURAL SOCIETIES, 1907 TO 1911.

Societies.	Area of Grounds.	Number of Members.	Government Grant.	Total Receipts (including Government Grant).	Total Expenditure.	Bank Overdraft and Loan Liability.
	Acres.		£	£	£	£
Royal (Melbourne) ...	45	2,270	...	14,523	16,122	9,748
Ballarat ...	11	418	122	1,863	1,705	478
Benalla ...	12	357	32	963	881	460
Bendigo ...	10	305	117	2,419	2,315	103
Colac ...	13	357	71	1,225	991	168
Geelong ...	150	350	57	1,144	1,098	...
Hamilton ...	21	331	70	1,133	1,072	400
Horsham and Wimmera	28	490	45	990	963	610
Korumburra ...	15	236	47	1,087	809	676
Ovens and Murray ...	45	340	90	1,621	1,543	122
Shepparton ...	23	497	93	2,954	2,852	650
Others ...	1,368	14,928	1,964	39,040	38,255	12,450
Total, 1911 ...	1,741	20,879	2,708	68,962	68,606	25,865
Total, 1910 ...	1,722	19,517	2,816	63,914	63,933	24,095
Total, 1909 ...	1,649	17,583	2,598	58,246	55,212	24,609
Total, 1908 ...	1,600	16,726	2,366	55,814	56,043	29,686
Total, 1907 ...	1,613	16,849	2,160	56,801	55,360	28,048

The Horticultural Societies¹ furnishing returns for 1911 numbered 38, their membership being 3,527, the receipts for the year £3,793 (including Government grant £199), the expenditure £3,467, and the liability on account of loans and bank overdraft £1,538.

INSPECTION OF ORCHARDS, NURSERIES, ETC.

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 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 ones run on a commercial basis. Two of these orchards have already been commenced—one at Bamawm and the other at Creswick. Others are under consideration.

Experiments are carried out in the treatment of diseases, lectures and demonstrations are given in 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 at 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 Chief Horticultural Officer has the right of examination, and, if necessary, of ordering a second fumigation.

GENERAL REMARKS ON LIVE STOCK DISEASES IN VICTORIA.

No country in the world is so free from malignant infectious disorders in stock as Victoria. The State interferes in every direction to prevent the spread and importation of disease, and exercises a strict supervision over all animals slaughtered for food.

The inspection of meat products for export is carried out under stringent regulations, and by properly trained officers, and no meats are allowed to be canned unless they are of a perfectly wholesome character, and derived from animals free from disease. The premises where canning of meat is conducted are rigorously inspected, and cleanliness is a factor insisted upon in the packing operations.

The Commonwealth Government controls the inspection of all meats exported from Australia, and all inspectors associated with the work are officials of the Crown. All countries where meats of Victorian origin are consumed are officially assured that meats canned in this State are subjected to the closest scrutiny. The whole of the

milk supply is subjected to a strict inspection by the central government, and cleanliness in production and distribution is rigorously insisted on.

Horses.—Horses are particularly free from malignant infectious disorders. Glanders and farcy do not prevail anywhere in Australia. Tuberculosis does not occur in Victorian horses. Complaints caused by parasites that are common all the world over are occasionally encountered.

Cattle.—Rinderpest, eczema-epizootica (foot and mouth disease), and Texas-fever or tick fever—a disease dependent on a malarial organism, *Pyrosomum Bigeminum*, and introduced into the blood of cattle by the cattle tick (*Ixodes Bovis*)—do not exist in the State. The herds of Victoria are not seriously affected with tuberculosis. In consequence of the mildness of the climate, cattle do not require to be housed at any period of the year, and the continuous life in the open is conducive to the health of the animals, and to the suppression of that disease. Tubercle does not affect more than about 5 per cent. of Victorian cattle, and as greater care is now being exercised by stock-owners in the feeding and sheltering of milch cows than formerly, it is hoped that in a few years the percentage noted will undergo a material decline. Parasitic diseases are rare in Victorian cattle, and none inimical to human health are found.

Sheep.—Scab has been completely exterminated, and as regards other parasitic diseases no country in the world can produce so clean a bill of health for its ovines as Australia.

Swine.—Trichinosis (*Trichina Spiralis*) and “measles” (*Cysticercus Cellulosæ*), the hydatid stage of the tapeworm *Tænia Solium* of man, do not exist in Victoria. The conditions under which pigs are reared and kept in Victoria are conducive to their well-being and general freedom from disease. Mildness of climate, moreover, is a great factor in insuring their healthfulness.

Dogs.—Rabies (*Hydrophobia*) does not exist in Victoria, and there are no serious diseases prevailing in canines.

Poultry.—No serious diseases prevail in Victorian birds, and inspections of the poultry of the State are regularly conducted. The industry of rearing chickens and turkeys for export is now established on a solid basis, and there can be no question as to the wholesomeness of products of this kind which have had their origin in Victoria.

EXPERIMENTAL FIELD WORK, 1910-11.

The expansion of our rural industries, and the permanent adoption of methods considered impracticable only a decade ago, suggest a review of the circumstances which have guided the Victorian farmer towards the present achievement. The Department of Agriculture has played no small part in bringing about increased production in every branch of agriculture, but its most useful teaching has perhaps been through the medium of a widely extended

series of experimental plots designed upon lines which the farmer could follow with economy and profit to himself. In the wheat areas, these experimental plots preceded the grain drill and the now universal fertiliser. The demonstration of the soundness of new ideas, and the proof that wheat soils, instead of being worn out as was generally thought, were in reality unproductive only by reason of the fact that the methods in vogue were incapable of utilizing the unlimited stores of dormant plant food, came at a period when a serious exodus of experienced farmers was threatened. Following upon the success of the field experiments came the widespread demand for grain drills and fertilizers. One has only to study the figures relating to the effects of fertilization to realize that a new lease of life was given to Victorian farming through its agency. The new doctrine was determinedly preached by officers of the Department until the natural conservatism of the farmer was overcome. Since then, however, new problems have arisen, altered conditions having given rise to circumstances which previously were not conspicuous. Among these may be noted the question as to whether the continuous use of phosphatic manures alone over a long term might not react injuriously upon the soil and prejudice its returns. With the purpose of obtaining fundamental data concerning the response of the northern wheat soils under a variety of conditions, a highly interesting group of experiments has been conducted by the Superintendent of Agriculture. Areas of 10 acres have been secured in 26 representative localities in the principal wheat districts, a portion being cropped each year. Reference has already been made in previous editions of the *Year-Book* to the progress results from these fields. Summarizing these results, they have so far confirmed the superiority of the superphosphate over other forms of phosphatic manures for wheat growing, also the inutility up to the present time of manures containing nitrogen and potash. Rotation of crops and deep cultivation are being extensively tested throughout the State, and the effects of subsoiling have served to illustrate the fact that in what are known as the "Northern Plains," a deeper system of cultivation is of advantage in increasing the yield of grain. The benefits of green manuring and rotation of crops are not likely to be manifested until the termination of the trials in 1912; but there is already accumulating evidence that these practices lead to an increased stock-carrying capacity of the land, and a considerable amelioration of the physical texture of the soil itself. Perhaps the most prominent feature in the usefulness of the experimental fields is that they have enabled comparisons to be made between different varieties of wheat and oats grown side by side, under identical conditions of cultivation and manuring. It has taken only one season to reveal the unsuitability of some varieties. Others have required confirmatory trials, and a very limited number have been conspicuous successes from the commencement. Of the latter, the variety which has survived all tests from a grain-producing point of view, is "Federation." An instructive illustration of the superiority of "Federation" over

such a widely-grown variety as "Dart's Imperial," is to be found in the table below:—

Season.	"Federation."			"Dart's Imperial."		
	Mallee.	Wimmera.	North Plains.	Mallee.	Wimmera.	North Plains.
	bushels.	bushels.	bushels.	bushels.	bushels.	bushels.
1905 ..	14.7	21.3	22.4	14.5	21.1	20.6
1906 ..	19.0	30.0	27.8	15.1	26.9	22.3
1907 ..	14.6	18.5	17.0	14.0	15.5	14.2
1908 ..	18.2	19.7	17.2	14.3	18.0	14.0
Average	16.6	22.3	21.1	14.4	20.3	17.7

During 1909, these wheat variety trials were continued upon a more extended scale. The average results of all the experimental wheat fields under the supervision of the Field Branch were:— Federation, 21.7 bushels per acre; Yandilla King, 20.0 bushels; Australian Talavera, 18.1 bushels; College Purple Straw, 16.5 bushels; Jumbuck, 15.4 bushels.

In addition to conducting the trials alluded to, with the view of ascertaining the yielding properties of different wheats, the Department has in view the introduction of varieties having superior milling properties to those now generally in use. Up to the present time, the milling value of his wheat has not concerned the farmer very much; but if one studies the literature of other countries on this matter, it becomes evident that the time is arriving when the commercial value of wheat, which is the staple food-stuff of all civilized nations, must be put upon a more logical basis. Wheat is more or less valuable according as a greater or less amount of flour can be made from it, and the flour has a fluctuating value in proportion to its "strength" or water-absorbing capacity and content of gluten. In order to carry out co-related investigations upon this side of the wheat industry, the Department of Agriculture has installed a miniature flour-milling plant to test all varieties grown in the State. Work of this character, although not on such comprehensive lines, is being carried out in the other States of the Commonwealth, as well as in most European countries.

The potential value of such systematic investigations to Victoria is immense. New markets for our flour are being opened up in the East and South Africa, and, in order to permanently secure that trade, only the best quality of flour can be safely

exported. If our flour is of unknown quality we stand at the mercy of our commercial rivals, whose article may be of superior bread-making capacity. A third safeguard for the wheat-growing industry will be found in the initiation of a vigorous scheme of operations in wheat breeding by cross-breeding and selection. This work is being carried out at Longerenong, and at the Rutherglen Viticultural College, and should be productive of most valuable results.

In Southern Victoria, the necessities of the dairyman, the breeder of lambs for export, and the potato-grower, have not been overlooked. A series of experimental plots, embracing green fodder crops of all kinds, roots, legumes and grasses, has been instituted, the plots being generally under the auspices of an Agricultural Society or other rural body. Varieties of maize, sorghum, and millet, have been given especial attention, and most useful work is being done in investigating the manure requirements of a variety of soils. The advantages of growing all fodder crops in drills, and the imperative necessity of cultivating between the rows, have been conclusively demonstrated and must do much to extend the area of these crops. The old system of broadcasting fodder crops, to languish as the summer advances, is giving way to more reasonable methods. It may also be mentioned that the maize industry is now receiving the same close attention that is being given to wheat. Variety trials in representative potato-growing districts offer information of value to the potato-grower as to the varieties best adapted to the local soil and rainfall.

The experiments in traying seed potatoes before sowing, which have been carried out at the Cheltenham farm during the past three years, have proved beyond doubt the success of sprouted seed potatoes. It has been shown by the demonstration plots that sprouted seed will give greater yields per acre and value per ton than unsprouted seed, whilst in addition the land can be used for fodder crops for two months (July and August) instead of lying idle, waiting for the seed to germinate. Under the old system the seed is planted in July and dug in November, the plants being checked in their growth by the early Spring frosts, while under the new system the seed which is allowed to sprout or mature in the trays, under a shed, is not planted till September, but is ready for digging only a fortnight later than the unsprouted. Not only is a crop assured under the latter system, but the yield is from 50 to 100 per cent. larger than under the other method, and thus it will be readily seen that the market gardeners are amply repaid for the extra expense of £1 per acre incurred in planting sprouted seed.

Important experiments have been conducted to test the efficacy of spraying potato crops to prevent the ravages caused by the dreaded Irish blight. These demonstrate unmistakably the value of spraying as a means of checking the disease in seasons when Irish blight is rampant. A text-book on the diseases of the potato has been written by the Government vegetable pathologist, Mr. D. McAlpine, in which special attention is given to the remedies for fungus diseases of the potato.

It will be gathered from the above brief outline that the objectives of the Departmental inquiries are all in the direction of enabling the producer to handle his soil to more advantage, and at the same time with economy. It is the true function of a Department to demonstrate sound principles in farming, and past results point to the solid advantages accruing from the advice of experienced officers. The standard of cultivation in Victoria is decidedly on the up grade, and with modern implements there is no reason why the present production in all branches should not be doubled or trebled.

The State has about 12,000,000 acres of woodland, and of this area over 4,600,000 acres are set aside as climatic reserves and for the production of timber. Forestry 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, but, 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 600,000 acres) timber cutting is carried on in various parts. The bulk of the forest revenue is derived from a total area of about 200,000 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, thinning 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, the fact 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 existing 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 Warrnambool and 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 thirteen plantation trial stations, having a total area of 13,000 acres. The persons employed in connexion with the State forests and nurseries comprise administrative and professional staff, 20; protective staff, 58; and nursery staff, 30. The revenue from licences and royalties in 1911 amounted to £45,077. The expenditure was £41,686, of which sum about 50 per cent. was devoted to the improvement of the natural forests and the extension of plantations.

A Forests Act, conferring reasonable powers of management and control on the conservancy staff, came into operation on 1st January, 1908, and an amending Act, which remedies certain defects in the principal Act, and gives the conservancy staff greater control over fire-raising and other forest offences, received the approval of Parliament in November, 1910. Under this law, working plans regulating the general fellings and output of timber from the reserves are being put in force, thus maintaining the forests in a productive condition.

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,

Agriculture,
expendi-
ture and
revenue
connected
with.

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.,
1906-7 TO 1910-11.

	1906-7.	1907-8.	1908-9.	1909-10.	1910-11.
<i>Expenditure.</i>	£	£	£	£	£
Department of Agriculture	11,852	12,323	13,965	12,710	12,790
Grants to Agricultural and Horticultural Societies, &c. To promote the Agricultural, Dairying, Fruit, and Wine Industries ...	2,475	3,351	3,382	3,491	3,535
Seed Advances Act—Fees ...	197	213	288	365	87
Carriage of Agricultural Produce at reduced Rates—Allowance to Railway Department ...	67	57	...	...	...
Development of Export Trade	25,000	...	...	...	...
Viticultural Education and Inspection of Vineyards ...	37,681	32,859	24,798	37,400	38,699
Vegetation Diseases ...	3,757	5,196	4,666	4,691	4,509
Maffra Beet Sugar Factory ...	4,297	8,600	8,880	9,043	9,049
Doncaster Cool Stores ...	219	222	347	642	13,019
Doncaster Cool Stores—Additions, Plant, &c. ...	400	1,345	799	987	7,368
Technical Agricultural Education, &c. ...	...	...	...	5,819	...
Traction Engine, Boring Plant, &c. ...	23,316	25,487	25,148	22,066	22,648
Veterinary Institute—Works and Buildings ...	...	...	...	...	10,854
Settlers Stock Fund ...	...	...	1,100	3,785	1,498
Publishing Agricultural Reports ...	...	...	...	...	1,000
Advances to Settlers on account of Losses by Bush Fires, &c. ...	2,293	1,886	2,182	3,645	2,841
Rabbit and Vermin Extinction ...	1,568	11,614	359	1,217	...
Stock and Dairy Supervision	16,513	17,585	22,756	23,005	23,123
Scab Prevention and Stock Diseases ...	5,103	8,092	16,596	18,939	19,693
Village Settlements ...	6,790	6,323	98	98	...
Labour Colonies ...	97	99	550	550	545
State Forests and Nurseries	500	450	21,003	35,759	40,399
	18,358	19,103			
Total ...	160,483	154,805	146,917	189,212	211,657
<i>Revenue.</i>					
Department of Agriculture ...	35,310	39,473	29,594	43,131	50,319
State Forests ...	46,838*	53,894*	38,802	40,572	41,550

* Including licences and leases other than Agricultural.

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, and for relief to farmers on account of bush fires, flood losses, and purchase of seed wheat and fodder, which advances are gradually being repaid.

The loan expenditure in 1910-11 was £956,900, on account of closer settlement, and £43,648 on account of wire netting.

Land occupied, and cultivation and live stock thereon.

Information relating to land occupied and cultivation and live stock thereon was collected in March, 1906, and March, 1910. 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 for 1910 are as follows:—

**LAND OCCUPIED, AND CULTIVATION AND LIVE STOCK THEREON,
MARCH, 1910.**

Privately-owned Land.			Crown Land held in conjunction with that privately owned.	Total Area occupied.	Area under—	
Size of Holdings. (In acres.)	Number of Holdings.	Area occupied.			Cultivation.	Pasture, &c.
		Acres.	Acres.	Acres.	Acres.	Acres.
1 to	5 ..	3,469	10,334	30,668	3,636	37,366
6 "	15 ..	4,420	44,810	13,247	18,306	41,751
16 "	30 ..	4,554	107,968	82,358	35,178	156,178
31 "	50 ..	3,866	159,155	67,217	226,372	44,272
51 "	100 ..	6,696	514,529	248,923	763,452	128,335
101 "	200 ..	9,208	1,389,057	528,348	1,917,405	310,579
201 "	300 ..	5,422	1,362,833	459,424	1,822,257	301,370
301 "	400 ..	5,904	1,968,644	1,111,022	3,109,666	473,986
401 "	500 ..	2,563	1,298,733	241,206	1,589,939	317,174
501 "	600 ..	2,212	1,221,823	459,916	1,681,739	319,610
601 "	700 ..	2,568	1,656,650	1,138,163	2,795,013	463,050
701 "	800 ..	1,249	944,343	325,423	1,269,766	239,259
801 "	900 ..	1,014	867,671	179,064	1,046,735	197,293
901 "	1,000 ..	1,173	1,123,644	467,703	1,591,347	272,677
1,001 "	1,500 ..	2,583	3,175,340	1,601,051	4,776,391	748,061
1,501 "	2,000 ..	1,062	1,849,146	395,788	2,245,234	339,811
2,001 "	2,500 ..	514	1,153,958	467,296	1,621,254	166,520
2,501 "	3,000 ..	270	750,766	913,910	1,664,676	94,535
3,001 "	4,000 ..	329	1,145,013	313,530	1,458,543	149,281
4,001 "	5,000 ..	150	675,665	121,539	797,204	54,330
5,001 "	7,500 ..	161	969,101	187,402	1,156,503	50,189
7,501 "	10,000 ..	78	682,878	1,210,582	1,893,460	35,240
10,001 "	15,000 ..	79	977,245	121,909	1,099,154	20,385
15,001 "	20,000 ..	52	904,037	14,649	918,686	18,167
20,001 "	30,000 ..	22	564,259	508	564,767	2,952
30,001 "	40,000 ..	15	510,762	7,580	518,342	8,324
40,001 "	50,000 ..	5	225,438	400	225,838	579
50,001 and upwards	2	116,486		374	116,860	363
Total ..	60,240	26,400,818	10,709,200	37,110,018	4,796,912	32,313,106

LAND OCCUPIED, AND CULTIVATION AND LIVE STOCK THEREON,
MARCH, 1910—continued.

Size of Holdings (In Acres.)		Live Stock on Land occupied.				
		Horses.	Cattle.		Sheep.	Pigs.
			Dairy Cows.	Other Cattle.		
1 to	5 ..	3,569	4,694	3,953	5,227	1,530
6 "	15 ..	6,293	8,843	6,436	4,981	4,033
16 "	30 ..	8,746	13,082	10,793	11,620	5,563
31 "	50 ..	9,535	15,796	13,193	23,332	7,255
51 "	100 ..	21,214	46,345	37,630	83,333	20,465
101 "	200 ..	41,077	107,001	90,587	255,577	41,797
201 "	300 ..	33,059	78,678	77,826	341,113	27,273
301 "	400 ..	42,472	83,726	99,060	591,634	27,757
401 "	500 ..	25,211	41,769	54,526	404,620	13,346
501 "	600 ..	21,547	29,676	46,354	418,181	9,148
601 "	700 ..	26,661	31,837	52,749	587,736	9,750
701 "	800 ..	14,513	17,228	30,384	393,252	6,096
801 "	900 ..	12,920	14,759	27,323	379,346	4,442
901 "	1,000 ..	14,965	15,100	31,073	514,582	4,544
1,001 "	1,500 ..	38,625	31,654	33,122	1,509,276	9,488
1,501 "	2,000 ..	17,668	12,576	49,445	991,389	3,528
2,001 "	2,500 ..	9,689	6,585	25,517	714,778	1,671
2,501 "	3,000 ..	5,234	3,143	12,842	471,681	1,055
3,001 "	4,000 ..	7,951	5,617	22,670	761,949	1,052
4,001 "	5,000 ..	3,734	2,358	14,516	454,566	518
5,001 "	7,500 ..	5,204	2,939	25,705	739,027	553
7,501 "	10,000 ..	2,510	1,187	12,944	516,204	159
10,001 "	15,000 ..	3,148	2,041	13,240	301,495	465
15,001 "	20,000 ..	2,635	1,165	10,037	691,049	278
20,001 "	30,000 ..	1,069	541	4,602	409,264	92
30,001 "	40,000 ..	1,616	460	4,924	405,540	133
40,001 "	50,000 ..	526	148	3,039	218,683	19
50,001 and upwards		542	62	1,216	39,219	28
Total	..	381,251	578,510	862,206	12,788,704	202,019

The figures are exclusive of live stock travelling, and those in cities, towns, &c.; also of 1,571 holdings containing 975,556 acres of Crown lands not held in conjunction with any private land, on which there were 37,373 acres of cultivation, 4,641 horses, 24,200 cattle, 96,662 sheep, and 3,653 pigs. The position disclosed was that 54,918 persons holding up to 1,000 acres each of private land and occupying in the aggregate 12,700,424 acres of such land, also occupied 5,352,682 acres of Crown land—a total of 18,053,106 acres, and less than half of the total area in occupation. These occupiers, however, controlled 65 per cent. of the total cultivation, and possessed 74 per cent. of the horses, 88 per cent. of the dairy cows, 68 per cent. of the other cattle, 91 per cent. of the pigs, and 31 per cent. of the sheep. To illustrate the uses to which the land was applied in 1906 and 1910, various percentages relating to holdings of different sizes are given for those years in the next

table, which also shows the live stock carried by the holdings, reduced to their equivalent in sheep :—

CULTIVATION AND SHEEP-CARRYING CAPACITY OF LAND IN DIFFERENT DIVISIONS, MARCH, 1906 AND 1910.

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..	1906	3·78	4·68	3·65	6·00	1,440,822	1·33
	1910	3·45	4·76	3·25	6·28	1,586,653	1·51
101 „ 320..	1906	13·02	18·81	12·20	17·73	4,259,999	1·18
	1910	13·19	17·50	12·55	17·50	4,415,168	1·09
321 „ 640..	1906	18·07	28·54	16·58	17·21	4,137,133	·84
	1910	17·58	24·65	16·53	17·00	4,290,653	·80
641 „ 1,000..	1906	12·52	17·52	11·81	11·40	2,739,991	·78
	1910	14·42	17·99	13·90	12·18	3,075,406	·68
1,001 „ 2,500..	1906	21·66	24·04	21·32	17·20	4,135,089	·66
	1910	23·29	26·15	22·87	20·10	5,074,837	·69
2,501 „ 5,000..	1906	12·15	4·31	13·27	8·30	1,994,035	·51
	1910	10·57	6·22	11·21	8·81	2,224,312	·61
5,001 „ 10,000	1906	6·04	1·06	6·74	6·52	1,566,846	·79
	1910	8·22	1·78	9·17	6·29	1,589,021	·54
10,001 and upwards	1906	12·76	1·04	14·43	15·64	3,758,546	·88
	1910	9·28	·95	10·52	11·84	2,989,460	·88
Total ..	1906	100·00	100·00	100·00	100·00	24,032,461	·81
	1910	100·00	100·00	100·00	100·00	25,245,510	·78

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 48.64 per cent. of the land occupied was in areas not exceeding 1,000 acres, and, after supplying 65 per cent. of the cultivation, contained 53 per cent. of the grazing stock; whilst holdings of over 1,000 acres supplied 54 per cent. of the total area used for grazing, and only 47 per cent. of the stock mentioned. As many of the large areas are situated in the rich Western District, which is favoured with a good annual rainfall, it requires only the introduction of labour to utilize the capacity of these lands to carry at least as many sheep per acre as are now carried on holdings of 320 acres or under. The figures show that there is sufficient land in use in Victoria to support at least thirteen million more sheep than there were in 1910. Dairying is principally carried on in the small holdings, as much as 55 per cent. of the number of dairy cows being on holdings of a less area than 320 acres. Naturally, pigs are most numerous where dairying

prevails, the proportion found on holdings of the acreage mentioned being about 41 per cent. of the total in the State. Compared with 1906, the sheep-carrying capacity per acre of the total grazing area in 1910 shows a decline, and of the various sizes of holdings, those having an area of less than 101 acres and of from 1,001 to 5,000 acres are the only ones in which an improvement is apparent. The proportionate increase of pastoral areas in estates of from 5,001 to 10,000 acres is very prominent, especially as it is accompanied by a proportionate reduction in the number of live stock grazed.

Particulars of land occupied and cultivation thereon are in the following table compared with similar information for the year 1906 :—

LAND OCCUPIED, 1906 AND 1910.

Privately-owned Land.				Crown Land held in conjunction with that privately-owned.	Total Area Occupied.	Area under—	
Size of Holdings (in acres).	Year.	Number of Holdings.	Area Occupied.			Cultivation.	Pasture, &c.
			Acres.	Acres.	Acres.	Acres.	Acres.
1 to 100 ..	1906	19,173	721,669	554,759	1,276,428	196,580	1,079,848
	1910	23,305	836,826	442,413	1,279,239	228,227	1,051,012
101 „ 320 ..	1906	16,121	3,459,291	937,727	4,397,018	789,330	3,607,688
	1910	17,533	3,686,498	1,209,660	4,896,158	839,664	4,056,494
321 „ 640 ..	1906	9,319	4,497,331	1,604,280	6,101,611	1,197,536	4,904,075
	1910	9,676	4,623,839	1,900,058	6,523,897	1,182,254	5,341,643
641 „ 1,000 ..	1906	3,876	3,164,404	1,063,166	4,227,570	735,263	3,492,307
	1910	4,354	3,553,261	1,800,551	5,353,812	863,080	4,490,732
1,001 „ 2,500 ..	1906	3,466	5,112,200	2,200,867	7,313,067	1,009,034	6,304,033
	1910	4,159	6,178,744	2,464,135	8,642,879	1,254,392	7,388,487
2,501 „ 5,000 ..	1906	617	2,106,732	1,996,797	4,103,529	180,884	3,922,645
	1910	749	2,571,444	1,348,979	3,920,423	298,146	3,622,277
5,001 „ 10,000 ..	1906	220	1,567,251	471,271	2,038,522	44,347	1,994,175
	1910	239	1,651,979	1,397,984	3,049,963	85,379	2,964,584
10,001 and upwards	1906	195	4,134,067	176,916	4,310,983	43,521	4,267,462
	1910	175	3,298,227	145,420	3,443,647	45,770	3,397,877
Total ..	1906	52,987	24,762,945	9,005,783	33,768,728	4,196,495	29,572,233
	1910	60,240	26,400,818	10,709,200	37,110,018	4,796,912	32,313,106

The most noticeable alteration between 1906 and 1910 is in holdings of over 10,000 acres. The number of these has decreased by 10 per cent. and the area occupied by 20 per cent., yet there has been a small increase in the cultivation. In the case of all other sizes exhibited above there has been an increase in number and, with one exception, in area, and the only holdings which do not show an increase in cultivation are those of from 321 to 640 acres in extent.

The following tables show the land in occupation in March, 1912, in districts, and the uses to which the land was applied:—

LAND IN OCCUPATION IN EACH DISTRICT OF VICTORIA, MARCH, 1912.
(Areas 1 acre and upwards.)

District.	Number of Occupiers.	ACRES OCCUPIED.				Total.
		For Agricultural Purposes.	For Pasture.		Other Purposes and Unproductive.	
			Sown Grasses, Clover, or Lucerne.	Natural Grasses.		
Central ...	15,426	412,581	175,231	2,215,557	39,347	2,842,716
North-Central ...	5,802	159,260	15,596	1,896,824	33,667	2,105,347
Western ...	11,148	419,356	186,967	5,940,741	172,313	6,719,377
Wimmera ...	5,811	1,392,176	1,812	4,430,372	83,116	5,907,476
Mallee ...	4,457	985,360	1,942	3,438,019	2,012,632	6,437,953
Northern ...	10,734	1,458,893	30,356	3,698,756	20,087	5,208,092
North-Eastern ...	5,034	157,307	4,771	3,564,571	733,922	4,460,571
Gippsland ...	8,437	124,916	625,097	2,941,447	689,895	4,381,355
Total ...	66,849	5,109,849	1,041,772	28,126,287	3,784,979	38,062,887
PERCENTAGE OF TOTAL OCCUPIED IN EACH DISTRICT.						
Central ...	...	14·51	6·16	77·94	1·39	100·00
North-Central ...	...	7·56	·74	90·10	1·60	100·00
Western ...	...	6·24	2·78	88·41	2·57	100·00
Wimmera ...	...	23·57	·03	75·00	1·40	100·00
Mallee ...	...	15·31	·03	53·40	31·26	100·00
Northern ...	...	28·01	·58	71·02	·39	100·00
North-Eastern ...	...	3·53	·11	79·91	16·45	100·00
Gippsland ...	...	2·85	14·27	67·13	15·75	100·00
Total ...	...	13·43	2·74	73·89	9·94	100·00
PERCENTAGE IN EACH DISTRICT OF TOTAL IN STATE.						
Central ...	23·08	8·07	16·82	7·88	1·04	7·47
North-Central ...	8·68	3·11	1·50	6·75	·89	5·53
Western ...	16·67	8·21	17·95	21·12	4·55	17·65
Wimmera ...	8·69	27·24	·17	15·75	2·20	15·52
Mallee ...	6·68	19·28	·19	12·22	53·17	16·92
Northern ...	16·06	28·57	2·91	13·15	·53	13·68
North-Eastern ...	7·52	3·08	·45	12·67	19·39	11·72
Gippsland ...	12·62	2·44	60·01	10·46	18·23	11·51
Total ...	100·00	100·00	100·00	100·00	100·00	100·00

It will be seen from these tables that in the Northern, Wimmera, and Mallee districts, the greatest area under cultivation and the greatest proportion of cultivation to land occupied are found. About 28 per cent. of the land occupied in the Northern, and about 24 per cent. of that occupied in the Wimmera district is devoted to

agriculture, and these divisions supplied 56 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, 60 per cent. of all the sown grasses in the State being found in that division.

In the next table the distribution of cattle and sheep on pastoral lands in March, 1912, is given.

AREA OCCUPIED AND STOCK, 1912.

District.	Acres Occupied for—		Number of—		Stock— Equivalent of Sheep— per 100 acres used for Pasture.*
	Agriculture.	Pasture.	Cattle.	Sheep.	
Central ...	412,581	2,390,788	262,895	1,191,787	116
North-Central ...	159,260	1,912,420	102,817	1,109,763	90
Western ...	419,356	6,127,708	351,424	4,399,158	106
Wimmera ...	1,392,176	4,432,184	56,490	2,264,108	59
Mallee ...	985,360	3,439,961	49,639	809,654	32
Northern ...	1,458,893	3,729,112	210,993	2,027,841	88
North-Eastern ...	157,307	3,569,342	222,983	880,024	62
Gippsland ...	124,916	3,566,544	389,886	1,175,469	99
Total ...	5,109,849	29,168,059	1,647,127	13,857,804	81

* Reckoning six sheep as the equivalent of one head of cattle.

The area occupied does not include 3,784,979 acres regarded as mostly in an unproductive state, and horses grazing have not been allowed for in the stock. There has been an increase in the number of sheep—there having been 13,857,804 in 1912, as compared with 12,882,665 a year earlier. A decline in numbers occurred in the Northern district, where there were 21,045 less than in 1911; the other seven districts showed an increase of 996,184 sheep. The practice among farmers of combining sheep-farming with agriculture has been growing in the State recently with very satisfactory results. In the Mallee, the number of sheep showed an increase of 88 per cent. between 1906 and 1910, and of 7 per cent. in the year 1910-11, and a further increase of nearly 20 per cent. in 1911-12.

Occupations of persons settled on the land—
Pastoral and dairying (Census).

The occupations of persons settled on the land are collected in the census years only in full detail.

In 1901 the number of persons engaged in pastoral and dairying pursuits was 30,920, and in 1911 it was 29,260. The full particulars for the 1911 census are as follows:—

RETURN OF PERSONS ENGAGED IN PASTORAL AND DAIRYING PURSUITS, 1911.

Persons following Pastoral and Dairying Pursuits.	Employers of Labour.		In Business on their own account, but not employing labour.		Receiving Salary or Wages.		Relatives Assisting.		Indefinite.		Not at work for more than a week prior to Census.	
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
Grazier, pastoralist, stock breeder, and relative assisting ..	3,663	254	1,256	77	..	..	336	19	504	25	..	..
Station manager, overseer, clerk ..	..	..	..	..	639	8	..	..	21	..	35	..
Stock rider, drover, shepherd, shepherd, pastoral labourer ..	42	..	69	..	5,622	6	6	1	87	..	196	..
Dairy farmer, and relative assisting ..	3,848	564	3,203	343	..	..	1,387	671	657	70	..	..
Dairy assistant, milker, labourer ..	..	..	..	..	4,576	163	..	..	14	..	45	1
Poultry farmer ..	45	15	231	73	52	3	6	..	8	52	18	..
Pig farmer ..	7	2	14	1	16	..	2	..	2	..	..	..
Wool classer, sorter ..	1	..	4	..	130	..	2	..	23	..	59	..
Stock and brands department officer ..	..	..	..	..	..	..	..	..	..	..	..	..
Others ..	8	..	15	..	27	..	..	..	11	..	8	..
Total	7,614	835	4,792	494	11,079	180	1,739	699	1,371	113	343	1
Total Males .. .. .	..		..		..		26,938		..		..
Total Females .. .. .	..		..		..		2,322		..		..
Grand Total .. .. .	..		..		..		29,260		..		..

Occupations of persons settled on the land—
Agricultural (Census).

In 1901 the number engaged in agricultural pursuits was 95,920, and in 1911 it had fallen to 86,134. The following return gives particulars of persons mainly engaged in agricultural pursuits when the census of 1911 was taken.

RETURN OF PERSONS ENGAGED IN AGRICULTURAL PURSUITS, 1911.

Persons following Agricultural Pursuits.	Employers of Labour.		In Business on their own account, but not employing labour.		Receiving Salary or Wages.		Relatives Assisting.		Indefinite.		Not at work for more than a week prior to Census.	
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
Farmer and relative assisting ..	18,670	1,269	8,849	414	..	..	9,751	595	5,842	240	..	..
Farm manager, overseer ..	..	..	..	..	384	..	..	..	..	..	6	..
Farm servant, agricultural labourer ..	..	..	..	..	25,975	27	..	..	295	..	836	..
Market gardener ..	878	13	949	4	1,586	..	177	3	360	3	32	..
Fruit grower, orchardist ..	1,274	73	799	43	2,129	26	313	26	213	2	49	..
Hop, cotton, tea, coffee grower ..	2	..	2	2	6	..	1	..	3	1	..	..
Tobacco grower ..	11	..	41	..	29	1	..	..	5	..	..	..
Vine grower, vigneron ..	121	10	13	3	644	1	16	2	33	1	2	..
Sugar planter ..	1	..	..	..	1	..	..	..	1	..	2	..
Horticulturist, nurseryman, gardener ..	211	14	298	3	1,246	14	40	5	332	..	121	..
Agricultural department officer ..	..	..	..	..	170	1	..	..	..	..	..	..
Others ..	72	..	31	..	70	..	..	..	375	13	4	..
Total	21,240	1,379	10,932	469	32,240	72	10,293	631	7,509	280	1,052	2
Total Males .. .. .	..		..		83,321		..		..		..
Total Females .. .. .	..		..		2,813		..		..		..
Grand Total .. .. .	..		..		86,134		..		..		..

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 nine years the numbers were as follows:—

NUMBER OF PERSONS EMPLOYED UPON FARMING, DAIRYING, AND PASTORAL HOLDINGS, 1903 TO 1911.

Year.	Males.	Females.	Total.
1903	87,322	48,561	135,883
1904	90,396	51,933	142,329
1905	91,336	50,982	142,318
1906	92,652	51,993	144,645
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

The number of persons ordinarily employed on any holding includes the occupier or manager, and those members of his family who actually work on it; but 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, neither are domestic servants nor cooks. It is difficult to arrive at an estimate of the extent of the temporary labour employed upon farms and pastoral holdings. In 1905 the collectors were asked to supply some information on the subject, and from the knowledge gained in this way, and particulars available from other sources it is believed that such labour may be set down as approximately equal to about 24,000 men employed continuously throughout the year.

In the following return will be found particulars of the rates of wages paid (with rations) upon farms and pastoral holdings during 1911-12. The information has been furnished by the occupiers of holdings:—

Wages—
agricultural
and
pastoral.

WAGES, AGRICULTURAL AND PASTORAL, 1911-12.

Occupations.	Range.	Prevailing Rate.
Ploughmen	20s. to 30s. per week ..	25s. per week
Farm labourers	20s. to 30s. " ..	22s. 6d. "
Threshing machine hands ..	7d. to 1s. per hour ..	8d. per hour
Harvest hands	5s. to 8s. per day ..	6s. 6d. per day
Milkers	15s. to 25s. per week ..	20s. per week
Maize pickers (without rations)	5d. to 7d. per bag ..	5½d. per bag
Hop pickers " "	3d. to 4d. per bushel ..	3½d. per bushel
Married couples	27s. 6d. to 50s. per week..	35s. per week
Female servants	10s. to 20s. " ..	13s. 6d. "
Men cooks	20s. to 30s. " ..	25s. "
Stockmen	£52 to £78 per annum ..	£60 per annum
Shepherds	£39 to £68 " ..	£45 "

WAGES, AGRICULTURAL AND PASTORAL, 1911-12—continued.

Occupations.	Range.	Prevailing Rate.
Hut keepers	£26 to £52 per annum ..	£40 per annum
Generally useful men ..	15s. to 30s. per week ..	20s. per week
Sheep washers	20s. to 35s. " ..	30s. "
Shearers, hand*	19s. to 25s. per 100 sheep	20s. per 100 sheep
" machine*	19s. to 25s. " ..	20s. "
Bush carpenters	25s. to 60s. per week ..	40s. per week
Gardeners, market	20s. to 35s. " ..	25s. "
" orchard	20s. to 35s. " ..	25s. "
Vineyard hands	17s. 6d. to 30s. " ..	20s. "

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

Area under
cultivation.

In the following table figures are given showing the land under cultivation in each of the five years ended March, 1908 to 1912:—

CULTIVATION OF PRINCIPAL CROPS, 1907-8 TO 1911-12.

Crop.	Year Ended March.				
	1908.	1909.	1910.	1911.	1912.
	Acres.	Acres.	Acres.	Acres.	Acres.
Wheat	1,847,121	1,779,905	2,097,162	2,398,089	2,164,066
Other Grain Crops ...	487,721	511,698	474,164	479,227	386,635
Root Crops	60,078	55,315	70,516	71,191	52,799
Hay	682,194	956,371	864,359	832,669	860,205
Green Forage	59,897	63,066	56,586	71,826	75,177
Vines	26,465	24,430	22,768	23,412	24,193
Orchards	54,111	54,946	56,108	57,375	59,985
Market Gardens	9,022	9,279	10,214	10,778	10,331
All other Crops	5,914	6,751	6,658	7,503	6,850
Land in Fallow	894,300	1,034,422	1,175,750	1,434,177	1,469,608
Total Cultivation	4,126,823	4,496,183	4,834,285	5,386,247	5,109,849

The area under cultivation, exclusive of permanent and artificial grasses, increased from 50 acres sown down with wheat in 1836 to 5,386,247 acres under crops of various kinds and in fallow in 1910-11. The first returns of oats, maize, potato, and tobacco crops were obtained in 1838, of barley and rye in 1839, of hay

in 1841, of green forage and vines in 1842, of peas and beans in 1849, of mangel-wurzel, carrots, parsnips, turnips, and onions in 1855-6, of garden and orchard produce in 1856-7, and of chicory, grass and clover seeds, and hops in 1867-8. Returns of land under artificial grass were first procured in 1855-6, and since that year steady progress has been made, though the area last year shows a slight decline when compared with that for 1906-7 or 1907-8. The area of land in fallow has been increasing since 1858-9, and in recent years the increase has been very marked, the area in March, 1912, having been in excess of that for the previous year by 35,431 acres.

For the sixteen years, 1896-7 to 1911-12, the total area under cultivation, its proportion to the area of the State—56,245,760 acres—and the yearly increases or decreases, actual and centesimal, were as follows:—

AREA UNDER CULTIVATION, 1896-7 TO 1911-12.

Year ended March.	Area under Tillage (exclusive of area under Artificial Grass).		Yearly Increase (+) or Decrease (-)	
	Total.	Percentage of Area of Victoria.	Total.	Percentage.
1897	Acres. 2,925,416	5·20	Acres. ...	...
1898	3,144,574	5·59	+219,158	+7
1899	3,727,765	6·63	+583,191	+19
1900	3,668,556	6·52	-59,209	-2
1901	3,717,002	6·61	+48,446	+1
1902	3,647,459	6·48	-69,543	-2
1903	3,738,873	6·65	+91,414	+3
1904	4,021,590	7·15	+282,717	+8
1905	4,175,614	7·42	+154,024	+4
1906	4,269,877	7·59	+94,263	+2
1907	4,294,553	7·64	+24,676	+0·5
1908	4,126,823	7·34	-167,730	-4
1909	4,496,183	8·00	+369,360	+9
1910	4,834,285	8·60	+338,102	+7·5
1911	5,386,247	9·58	+551,962	+11·4
1912	5,109,849	9·08	-276,398	-5·1

The land under cultivation, including land in fallow, but excluding that under artificial grasses, was 2,925,416 acres in 1896-7, and 5,386,247 acres in 1910-11, there being an increase in the fifteen years of 2,460,831 acres, or of 84 per cent. The increase was distributed over nearly the whole period, but there were three years in which a slight reduction appeared. The cultivated area for 1911-12 was 5 per cent. below that for the previous year, while the area actually under crops of various kinds—3,640,241 acres—was 8 per cent. less than in 1910-11.

Agricultural production. The following is a statement of the production from cultivated lands for the past three years:—

AGRICULTURAL PRODUCTION, 1909-10 TO 1911-12.

Produce.	Year ended March.		
	1910.	1911.	1912.
Wheat bushels	28,780,100	34,813,019	20,891,877
Other Grain "	10,266,650	12,277,548	6,593,664
Root Crops tons	225,016	225,931	154,524
Hay "	1,186,738	1,292,410	1,032,288
Vines ... cwt. of grapes	548,828	592,438	683,250
Green Forage £	141,465	179,565	187,943
Orchards £	458,557	559,380	593,604
Market Gardens £	255,350	269,450	258,275
Other Agricultural Produce £	289,805	220,873	172,159

The principal crops grown in the State are wheat, oats, barley, potatoes, and hay.

Wheat was first grown in Victoria in 1836, and there was a general increase in the area under cultivation up to 1899-1900, when 2,165,693 acres were harvested. After this there was a reduction, and the area remained fairly uniform until 1909-10. In the succeeding year, 1910-11, the area was 2,398,089 acres, and the yield, 34,813,019 bushels, these figures establishing a record both in regard to cultivation and production of wheat. In 1911-12 there was a falling-off in the area and yield, especially the latter, and the average yield for the season was only 9.65 bushels per acre.

The results in detail of the wheat harvest for the last three years are shown in the accompanying table:—

WHEAT YIELDS FOR THE SEASONS ENDED MARCH, 1910, TO MARCH, 1912, IN COUNTIES.

Districts and Counties.	Year ended March.								
	Area.			Produce.			Average per Acre.		
	1910.	1911.	1912.	1910.	1911.	1912.	1910.	1911.	1912.
Acres.	Acres.	Acres.	Bushels.	Bushels.	Bushels.	Bushls.	Bushls.	Bushls.	
Central—									
Bourke ..	6,332	14,543	4,022	97,994	276,483	41,555	15.35	19.01	10.33
Grant ..	18,898	38,747	17,565	244,765	695,526	183,982	12.95	17.95	10.47
Mornington ..	470	968	167	7,008	11,926	1,363	14.91	12.32	8.19
Evelyn ..	210	426	77	3,510	6,089	318	16.71	14.29	4.13
North-Central—									
Anglesey ..	2,641	4,303	2,204	47,945	83,472	22,323	18.15	19.40	10.13
Dalhousie ..	7,671	9,114	2,301	112,706	123,773	22,557	14.69	14.13	9.80
Talbot ..	23,635	29,500	14,751	318,215	471,586	162,168	13.46	15.99	10.99
Western—									
Grenville ..	18,854	41,036	43,657	279,593	774,856	516,402	14.83	18.88	11.83
Pelwarth ..	155	885	240	2,627	16,317	2,250	16.95	17.31	9.88
Heytesbury ..	69	49	88	1,238	1,515	535	17.94	30.92	14.08
Hampton ..	6,976	18,993	20,333	84,622	322,585	195,258	12.13	16.98	9.60
Ripon ..	71,082	98,448	68,162	1,049,417	1,571,914	554,715	14.77	15.97	8.14
Villiers ..	2,689	3,560	1,840	25,638	61,471	16,917	9.63	17.27	9.19
Normanby ..	1,959	4,614	1,915	31,311	61,007	18,114	15.93	13.22	9.46
Dundas ..	4,359	5,296	6,660	61,743	69,624	70,379	14.19	11.45	10.57
Follett ..	423	453	190	6,914	5,060	1,587	16.15	11.17	8.35
Wimmera—									
Lowan ..	174,213	180,275	160,384	2,223,997	1,766,688	1,692,602	12.77	9.80	9.93
Borong ..	332,322	336,633	315,468	5,663,380	5,314,410	3,760,294	17.06	15.79	11.92
Kara Kara ..	113,648	127,104	127,289	1,659,539	1,880,603	1,541,418	14.60	14.80	12.11
Mallee—									
Millewa ..			526			2,574			4.89
Weeha ..	33,554	46,515	66,332	391,339	582,394	823,113	11.66	12.52	4.95
Karkaroc ..	280,095	351,509	332,984	2,849,633	4,011,903	1,943,436	10.17	11.41	5.84
Tatchera ..	245,010	261,972	217,603	2,532,771	3,259,777	1,410,192	10.34	12.44	6.48
Northern—									
Gunbower ..	30,699	40,716	38,351	395,925	656,148	330,245	12.90	16.12	9.91
Gladstone ..	113,902	124,462	122,830	1,626,284	1,760,662	1,423,613	14.23	14.15	11.63
Bendigo ..	122,016	135,897	123,601	2,039,407	2,571,624	1,671,500	16.71	18.92	12.22
Rodney ..	134,514	152,827	124,905	2,046,596	3,326,845	1,436,022	15.21	15.23	11.50
Moira ..	284,651	290,409	279,761	4,124,932	4,718,602	3,023,612	14.49	16.25	10.83
North-Eastern—									
Delatite ..	13,539	18,101	12,316	177,383	296,963	123,713	13.10	16.41	10.04
Bogong ..	43,689	46,209	41,714	482,092	826,578	400,242	11.03	17.89	9.59
Benambra ..	1,186	1,763	1,341	21,411	34,571	13,451	18.05	19.61	10.03
Wonnangatta ..	40	130	135	411	2,245	840	10.28	17.27	6.22
Gippsland—									
Croajingolong ..	31	89	44	365	1,537	573	11.77	17.27	13.02
Tambo ..	178	275	307	3,476	6,546	5,232	19.53	23.80	17.04
Dargo ..	225	440	160	3,780	8,476	1,584	16.80	19.26	9.90
Tanjil ..	6,416	9,641	7,907	142,953	202,372	103,152	22.28	20.99	13.05
Bulu Bulu ..	816	2,189	986	14,180	35,871	9,041	17.38	16.39	9.17
Total ..	2,097,162	2,393,089	2,164,066	28,780,100	34,813,019	20,891,877	13.72	14.52	9.65

It will be observed that the area harvested for wheat last season was 234,023 acres less than in the previous one, but 66,904 acres more than in 1909-10. The decrease last season was fairly general throughout the State as there was a reduced area under wheat in each county with only eight small exceptions, the greatest reduction being shown in the county of Tatchera. In 1910-11 the area and the production were the highest recorded, and the average per acre was the

highest since 1875-6. The area in 1911-12 was exceeded only on three occasions, but the produce in that year was the lowest during the last nine years with one exception.

The principal districts where wheat is grown are the Wimmera, comprising the counties of Lowan, Borung, and Kara Kara; the Mallee, comprising those of Millewa, Weeah, Karkaroc, and Tatchera; and the Northern, comprising Gunbower, Gladstone, Bendigo, Rodney, and Moira. Of the wheat harvested in 1911-12, that in the counties enumerated was 1,915,034 acres, or 88 per cent. of the total in the State, and the produce therefrom was 18,423,621 bushels, or 88 per cent. of the total. The other districts are, however, not to be regarded as unsuitable for wheat-growing, as though they provided only a small proportion of the area and produce in 1911-12, the average yield per acre was as good as that in the counties mentioned.

The following table shows the area of each of the principal wheat-growing counties, and the cultivation for the years of first and largest record, and for last year:—

WHEAT-GROWING COUNTIES: AREA AND PRODUCTION.

District and County.	Area of County.	First Cultivation Recorded.			Largest Cultivation Recorded.			Cultivation for 1911-12.	
		Year.	Area.	Average Yield per Acre.	Year.	Area.	Average Yield per Acre.	Area.	Average Yield per Acre.
	Acres.		Acres.	Bushels		Acres.	Bushels.	Acres.	Bushels.
Western Dist.— Ripon ..	1,125,760	1855-6	40	35·62	1910-11	98,446	15·97	68,162	8·14
Wimmera Dist.— Lowan ..	3,131,440	1871-2	232	16·69	1892-3	257,685	8·58	160,384	9·93
Borung ..	2,740,480	1871-2	4,590	15·59	1903-4	424,224	13·67	315,468	11·92
Kara Kara ..	1,472,640	1871-2	7,987	14·34	1911-12	127,289	12·11	127,289	12·11
Mallee Dist.— Weeah ..	2,562,560	1891-2	40	21·00	1911-12	66,332	4·95	66,332	4·95
Karkaroc ..	3,797,120	1879-80	233	10·87	1902-3	371,069	·22	332,934	5·84
Tatchera ..	2,138,240	1871-2	2	12·00	1904-5	342,022	3·35	217,603	6·48
Northern Dist.— Gunbower ..	862,720	1871-2	181	13·36	1880-1	75,114	9·29	38,351	9·91
Gladstone ..	1,153,280	1869-70	7,988	17·46	1910-11	124,462	14·15	122,830	11·63
Bendigo ..	1,247,360	1869-70	21,038	16·26	1910-11	135,897	18·92	128,601	12·22
Rodney ..	1,087,360	1855-6	63	26·66	1910-11	152,827	15·23	124,905	11·50
Moira ..	1,986,560	1871-2	14,936	15·93	1904-5	323,811	10·87	279,761	10·83

In the next table the average yield of wheat per acre in each of these counties during the last ten years is given:—

AVERAGE YIELD OF WHEAT PER ACRE IN WHEAT-GROWING COUNTIES, 1902-3 TO 1911-12.

District and County.	Average Yield of Wheat per Acre (in Bushels) during Year ended March.									
	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.
Western District—										
Ripon ..	9·60	15·32	16·57	16·59	14·96	15·05	22·09	14·77	15·97	8·14
Wimmera District—										
Lowan ..	3·21	13·47	11·32	12·43	10·72	9·99	12·46	12·77	9·80	9·93
Borong ..	·47	13·67	11·03	13·61	14·02	9·84	17·62	17·06	15·79	11·92
Kara Kara ..	1·38	15·97	12·50	14·59	14·64	10·04	17·20	14·60	14·80	12·11
Mallee District—										
Weeah ..	·46	12·39	7·24	7·54	9·21	6·23	12·01	11·66	12·52	4·95
Karkaroc ..	·22	10·76	3·30	5·77	8·15	2·51	9·11	10·17	11·41	5·84
Tatchera ..	·10	11·99	3·35	5·33	9·00	1·02	6·57	10·34	12·44	6·48
Northern District—										
Gunbower ..	·27	14·54	8·77	10·70	10·58	3·67	10·51	12·90	16·12	9·91
Gladstone ..	1·25	16·68	12·36	13·45	14·43	7·64	15·19	14·23	14·15	11·63
Bendigo ..	1·40	18·54	13·44	15·13	14·54	6·29	15·84	16·71	18·92	12·22
Rodney ..	4·37	17·40	12·40	15·37	10·38	7·32	15·88	15·21	15·23	11·50
Moira ..	1·15	17·18	10·87	12·71	8·99	5·67	10·77	14·40	16·25	10·83

The following table shows the area of each county, and the rise and fall in the cultivation of wheat in the Central and North-Central districts:—

WHEAT CULTIVATION IN CENTRAL AND NORTH-CENTRAL DISTRICTS.

District and County.	Area of County.	First Cultivation Recorded.		
		Year.	Area.	Average Yield per Acre.
	Acres.		Acres.	Bushels.
Central District—				
Bourke ..	1,101,440	1855-6	13,606	25·08
Grant ..	1,173,780	1855-6	12,072	25·65
Mornington ..	1,040,000	1855-6	943	29·57
Evelyn ..	750,080	1855-6	1,124	31·43
North-Central District—				
Anglesey ..	1,054,080	1855-6	129	28·77
Dalhousie ..	838,400	1855-6	3,113	26·67
Talbot ..	1,037,440	1855-6	445	33·68

District and County.	Largest Cultivation Recorded.			Cultivation in 1910-11.		Cultivation in 1911-12.	
	Year.	Area.	Average Yield per Acre.	Area.	Average Yield per Acre.	Area.	Average Yield per Acre.
		Acres.	Bushels.	Acres.	Bushels.	Acres.	Bushels.
Central District—							
Bourke ..	1861-2	30,263	17·12	14,543	19·01	4,022	10·33
Grant ..	1910-11	33,747	17·95	38,747	17·95	17,565	10·47
Mornington ..	1860-1	3,153	14·08	968	12·32	167	8·19
Evelyn ..	1859-60	1,739	15·43	426	14·29	77	4·13
North-Central District—							
Anglesey ..	1910-11	4,303	19·40	4,303	19·40	2,204	10·13
Dalhousie ..	1869-70	25,124	21·47	9,114	14·13	2,301	9·80
Talbot ..	1871-2	76,555	13·81	29,500	15·99	14,751	10·99

In the succeeding table is shown the area under wheat, the produce, and the average yield per acre, during each of the last fifteen years:—

WHEAT RETURN, 1897-8 TO 1911-12.

Year ended March.		Area under Crop.	Produce.	Average per Acre.
		Acres.	Bushels.	Bushels.
1898	.. ..	1,657,450	10,580,217	6·38
1899	.. ..	2,154,163	19,581,304	9·09
1900	.. ..	2,165,693	15,237,948	7·04
1901	.. ..	2,017,321	17,847,321	8·85
1902	.. ..	1,754,417	12,127,382	6·91
1903	.. ..	1,994,271	2,569,364	1·29
1904	.. ..	1,968,599	28,525,579	14·49
1905	.. ..	2,277,537	21,092,139	9·26
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

In 1902-3 wheat was grown on about 17,100 holdings, in 1905-6 on 18,362 holdings, in 1907-8 on 16,303 holdings, in 1909-10 on 18,593 holdings, in 1910-11 on 21,221 holdings, and in 1911-12 on 18,810 holdings. The decline in the yield and in the average per acre, which is observed in the two years prior to 1903-4, was due to the severity of the seasons experienced all over the wheat-growing districts of the State. The yield in 1905-6 was 23,417,670 bushels, and that in 1906-7, 22,618,043 bushels; in 1907-8, as the result of an adverse season, it again fell to the level of that in 1901-2, but in 1908-9 it reached 23,345,649 bushels, and in 1909-10, 28,780,100 bushels. This quantity was greater than that for any previous year, but it was exceeded in 1910-11, when 34,813,019 bushels were produced. In addition to 2,164,066 acres harvested for grain, there were 304,388 acres of wheat cut for hay in 1911-12, so that the total area sown with wheat in that year was 2,468,454 acres. From information received from growers, it is estimated that the corresponding area for the season 1912-13 is 2,505,000 acres, or 36,546 acres more than in 1911-12, the acreage showing an increase in the counties of Karkaroc, Tatchera, Weeah and Ripon. The standard weight of wheat is reckoned to be 60 lbs. to the bushel; but the actual weight of a bushel of Victorian wheat, according to the standard fixed by the Chamber of Commerce, was 62½ lbs. in 1899-1900, 1900-1, and 1901-2; 61 lbs. in 1902-3; 60½ lbs. in 1903-4; 61½ lbs. in 1904-5; 63 lbs. in 1905-6; 62½ lbs. in 1906-7; 62½ lbs. in 1907-8, 1908-9, 1909-10, and 1910-11, and 61½ lbs. in 1911-12.

The following table shows, for 1898 and each subsequent year to 1906, the mean population of Victoria; the stocks of old wheat and flour on hand at the beginning of each year; the quantity of wheat grown; the quantity (after deducting imports) of wheat, flour, and biscuit exported; and the breadstuffs left over and available for home consumption. In addition to that required for food consumption, a quantity is used for seed purposes, equal, on an average, to three-quarters of a bushel per acre. The particulars given in the table cannot be brought up to date, as information in regard to imports from and exports to other States is not now available:—

POPULATION AND WHEAT RETURNS, 1898 TO 1906.

Year.	Mean Population.	Stocks of old Wheat and Flour on hand (1st January).	Wheat Harvested for Season ended March in each Year.	Wheat, Flour, and Biscuit.	
				Exported after deducting Imports.	Available for Home Consumption.
		Bushels.	Bushels.	Bushels.	Bushels.
1898 ...	1,172,950	330,224	10,580,217	1,855,951	9,054,490
1899 ...	1,186,265	1,282,902	19,581,304	10,662,011	10,202,195
1900 ...	1,193,338	2,121,700	15,237,948	7,011,242	10,348,406
1901 ...	1,202,960	1,872,000	17,847,321	10,248,093	9,471,228
1902 ...	1,207,110	1,525,288	12,127,382	3,899,246	9,753,424
1903 ...	1,208,880	903,616	2,569,364	- 4,495,403*	7,968,383
1904 ...	1,207,537	173,708	28,525,579	18,616,831	10,082,456
1905 ...	1,212,517	2,609,878	21,092,139	15,427,229	8,274,788
1906 ...	1,227,072	549,930	23,417,670	17,053,652	6,913,948

* Net import.

The manner in which the breadstuffs available for home consumption were disposed of in each of the eight years ended with 1905 was as follows:—

DISPOSAL OF BREADSTUFFS, 1898 TO 1905.

Year.	Wheat and Flour.				
	Quantity available for Home Consumption.	How disposed of—			
		Stocks on hand on 31st December.	Required for Seed.	Used for Food, &c.	
	Bushels.	Bushels.	Bushels.	Total.	Per Head.
1898 ...	9,054,490	1,282,902	1,770,941	6,000,647	5·12
1899 ...	10,202,195	2,121,700	1,772,602	6,307,893	5·32
1900 ...	10,348,406	1,872,000	1,696,000	6,780,406	5·68
1901 ...	9,471,228	1,525,288	1,529,249	6,416,691	5·33
1902 ...	9,753,424	903,616	1,616,946	7,232,862	5·99
1903 ...	7,968,383	173,708	1,626,954	6,167,721	5·10
1904 ...	10,082,456	2,609,878	1,807,351	5,665,227	4·69
1905 ...	8,274,788	549,930	1,705,182	6,019,676	4·96

Except in the years 1896 and 1903, the breadstuffs produced in the thirty-five years ended with 1912 have been more than enough to supply home consumption. Wheat has therefore been exported each year, with these two exceptions.

Stocks of
wheat and
flour.

No information is obtainable as to the wheat imported from or exported to other States, and this makes it difficult to account for the disposal of that harvested in 1911-12. It is estimated, however, that about 9,000,000 bushels are required locally for food and seed, which will leave about 12,000,000 bushels of Victorian wheat for export during the year. Information as to the stocks of wheat and flour on hand on 30th June, 1912, has been received from holders, and is as follows:—

WHEAT AND FLOUR ON HAND, 30TH JUNE, 1912.

Where Located.	Quantity in Bushels.		
	Wheat.	Flour (equivalent in Wheat).	Total.
Railway Stations and in transit ...	120,141	12,517	132,658
Sites leased from Railways ...	4,061,598	25,992	4,087,590
Mills and Stores (other than on Railways)	2,312,283	748,417	3,060,700
Farms	843,294	...	843,294
Total	7,337,316	786,926	8,124,242

Wheat
production
of world.

The wheat crop of the world, according to the latest statement of the United States Agricultural Department, except in the case of Australasia, is shown below for the last three years:—

WHEAT PRODUCTION OF THE WORLD, 1909 TO 1911.

Continent.	1909.	1910.	1911.
	Bushels.	Bushels.	Bushels.
Australasia	71,364,000	99,075,000	103,386,000
Europe	1,962,566,000	1,921,958,000	1,799,645,000
Asia	432,231,000	512,256,000	510,088,000
Africa	73,699,000	80,009,000	81,306,000
America, North ...	860,094,000	797,087,000	849,189,000
" South ...	182,500,000	158,503,000	169,990,000
Total	3,582,454,000	3,568,888,000	3,513,604,000

Oats

In 1911-12 the area harvested for oats in Victoria was 302,238 acres, from which a yield of 4,585,326 bushels, or the lowest production since 1903, was obtained, giving an average of 15.17 bushels to

the acre. The following return shows the harvest results for this crop for the last fifteen years:—

OATS GROWN, 1897-8 TO 1911-12.

Year ended March.	Area under Crop.		Produce.	Average per Acre.
	Acres.		Bushels.	Bushels.
1898	294,183		4,809,479	16·35
1899	266,159		5,523,419	20·75
1900	271,280		6,116,046	22·55
1901	362,689		9,582,332	26·42
1902	329,150		6,724,900	20·43
1903	433,489		4,402,982	10·16
1904	433,638		13,434,952	30·98
1905	344,019		6,203,429	18·03
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

In addition to the area shown for last season, there were 535,146 acres of oats cut for hay, so that the total area sown with oats in 1911-12 was 837,384 acres. In August, 1912, it was estimated that the area under this grain for 1912-13 was 1,292,700 acres, or an increase of 455,316 acres as compared with the year 1911-12. Imports into Victoria from oversea countries during 1911 included 662 bushels of oats, as well as 28,945 lbs. of oatmeal, whilst in the same year there were exported from Victoria to these countries 339,442 bushels of oats and 334,879 lbs. of oatmeal.

The area under barley in 1911-12 was 53,541 acres, of which ^{Barley.} 36,748 were under malting, and 16,793 under other barley. There is a remarkable fluctuation in the area of land sown with barley, which seems strange, seeing that the market for this product is uniformly good. The following table shows the returns for the

last fifteen years. It will be noticed that the average per acre in 1905-6, though very little higher than that in 1903-4 or in 1910-11, was the best for the period covered by the table:—

CULTIVATION OF BARLEY, 1897-8 TO 1911-12.

Year ended March.	Area under Crop.		Produce.		Average per Acre.		
	Malting.	Other.	Malting.	Other.	Malting.	Other.	Total.
	Acres.	Acres.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1898	26,118	11,087	502,411	256,043	19·24	23·09	20·39
1899	33,584	14,275	776,785	335,782	23·13	23·52	23·25
1900	65,970	13,603	1,197,948	268,140	18·16	19·71	18·42
1901	49,723	9,130	1,003,477	212,001	20·18	23·22	20·65
1902	25,480	6,943	527,564	166,287	20·71	23·95	21·40
1903	26,436	11,280	394,877	166,267	14·94	14·74	14·88
1904	33,586	14,174	878,721	339,282	26·17	23·80	25·50
1905	30,799	15,290	575,505	298,594	18·69	19·53	18·97
1906	26,279	14,659	645,456	416,683	24·56	28·43	25·95
1907	30,052	22,764	674,043	581,399	22·43	25·54	23·77
1908	41,940	21,134	747,315	311,980	17·82	14·76	16·79
1909	42,882	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	298,781	19·75	17·79	19·14

During 1911, 1,102,131 bushels of barley were used locally in the production of 1,095,097 bushels of malt.

Potatoes.

The greatest area of land planted with potatoes was 62,904 acres in 1910-11; the next being 62,390 acres in 1909-10. The highest yield was 204,155 tons in 1890-1, the next, 200,523 tons in 1891-2. The yield in 1911-12 was 119,092 tons, which is the lowest return for a single year since 1905-6. The following table shows the potato returns for the last fifteen years:—

POTATOES GROWN, 1897-8 TO 1911-12.

Year ended June.	Area under Crop.		Produce.	Average per Acre.	
	Acres.	Acres.	Tons.	Tons.	
1898	44,197	67,296	1·52
1899	41,252	161,142	3·91
1900	55,469	173,381	3·13
1901	38,477	123,126	3·20
1902	40,058	125,474	3·13
1903	49,706	168,759	3·40
1904	48,930	167,736	3·43
1905	46,912	92,872	1·98
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

Trade in potatoes is mainly confined to that with the Australian States, as in 1908, of 10,465 tons imported, all but 1 per cent. were received from Tasmania; while of 21,130 tons exported, 8,954 were sent to New South Wales, 5,009 to Queensland, 3,981 to Western Australia, and 3,010 to South Australia. In 1909, the import section of this trade was interrupted on account of the prevalence of "Irish Blight" in the potato crops of Tasmania, in consequence of which restrictions were placed upon the transfer of potatoes from affected areas. During that year the imports into Victoria amounted to only 2,557 tons, of which all but 76 tons were received from Tasmania; but the exports reached 25,642 tons, the principal consignments being 8,367 tons to South Australia, 7,157 tons to New South Wales, 5,451 tons to Western Australia, and 4,117 tons to Queensland. Later information cannot be supplied, as the practice of keeping records of trade between States has been discontinued by the Commonwealth Government.

Statistics of the hay crop were collected as far back as 1841, ^{May} when 450 acres returned 900 tons. The greatest area of hay, and the maximum production since that date were in 1908, when 956,371 acres were cut for 1,415,746 tons; the next highest record in production was in 1910, when 1,292,410 tons were produced. The quantity of straw returned for the season 1911-12 was 97,426 tons. The following is a return of the hay crop for each of the last fifteen years:—

HAY RETURNS, 1897 TO 1911.

Year.			Area under Crop.	Produce.	Average per Acre.
			Acres.	Tons.	Tons.
1897	..	..	580,000	659,635	1.14
1898	..	..	565,345	723,299	1.28
1899	..	..	450,189	596,193	1.32
1900	..	..	502,105	677,757	1.35
1901	..	..	659,239	884,369	1.34
1902	..	..	580,884	601,272	1.04
1903	..	..	733,353	1,233,063	1.68
1904	..	..	452,459	514,316	1.14
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

Hay making is largely confined to oaten crops, as of the total hay produced last season there were 648,846 tons of oaten hay, equal to 1.21 tons per acre harvested, 357,370 tons of wheaten hay, or 1.17 tons per acre, and 26,072 tons of hay made from lucerne and other crops, equal to 1.26 tons per acre. The average return per acre for all classes of hay was greater in 1910 than in any previous year since 1870 with one exception; but the 1911 return was exceeded ten times in the preceding fourteen years.

The five principal crops.

The area under the five principal crops during each of the last twelve years, the production of these crops, and the proportion of each to the population, are exhibited in the following table. It is interesting to observe the variations per head of the population in the areas under crop, and in the yields during the period covered by the table:—

AREA, PRODUCTION, AND AVERAGES PER HEAD OF POPULATION OF FIVE PRINCIPAL CROPS, 1900-1 TO 1911-12.

Year ended March.	Wheat.	Oats.	Barley.	Potatoes.	Hay.
AREA.					
	Acres.	Acres.	Acres.	Acres.	Acres.
1901 ..	2,017,321	362,689	58,853	38,477	502,105
1902 ..	1,754,417	329,150	32,423	40,058	659,239
1903 ..	1,994,271	433,489	37,716	49,706	580,884
1904 ..	1,968,599	433,638	47,760	48,930	733,353
1905 ..	2,277,537	344,019	46,089	46,912	452,459
1906 ..	2,070,517	312,052	40,938	44,670	591,771
1907 ..	2,031,893	380,493	52,816	55,372	621,136
1908 ..	1,847,121	398,749	63,074	54,149	682,194
1909 ..	1,779,905	419,869	64,648	47,903	956,371
1910 ..	2,097,162	384,226	58,603	62,390	864,359
1911 ..	2,398,089	392,681	52,687	62,904	832,669
1912 ..	2,164,066	302,238	53,541	47,692	860,205
PRODUCTION.					
	Bushels.	Bushels.	Bushels.	Tons.	Tons.
1901 ..	17,847,321	9,582,332	1,215,478	123,126	677,757
1902 ..	12,127,382	6,724,900	693,851	125,474	884,369
1903 ..	2,569,364	4,402,982	561,144	168,759	601,272
1904 ..	28,525,579	13,434,952	1,218,003	167,736	1,233,063
1905 ..	21,092,139	6,203,429	874,099	92,872	514,316
1906 ..	23,417,670	7,232,425	1,062,139	115,352	864,177
1907 ..	22,618,043	8,845,654	1,255,442	166,839	881,276
1908 ..	12,100,780	5,201,408	1,059,295	135,110	682,370
1909 ..	23,345,649	11,124,940	1,511,181	152,840	1,415,746
1910 ..	28,780,100	7,913,423	1,023,384	174,970	1,186,738
1911 ..	34,813,019	9,699,127	1,340,387	163,312	1,292,410
1912 ..	20,891,877	4,585,326	1,024,584	119,092	1,032,288
AREA PER HEAD OF POPULATION.					
	Acres.	Acres.	Acres.	Acres.	Acres.
1901 ..	1.69	.30	.05	.03	.42
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

AREA, PRODUCTION, AND AVERAGES PER HEAD OF POPULATION OF FIVE PRINCIPAL CROPS, 1900-1 TO 1911-12—continued.

Year ended March.	Wheat.	Oats.	Barley.	Potatoes.	Hay.
PRODUCTION PER HEAD OF POPULATION.					
	Bushels.	Bushels.	Bushels.	Tons.	Tons.
1901	14·91	8·00	1·02	·10	·57
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

The next table compares last season's yields of the principal crops with those of the three previous seasons, and the averages of the ten years ended in March, 1907.

AVERAGE YIELD PER ACRE OF PRINCIPAL CROPS, 1897-8 TO 1906-7, 1908-9, 1909-10, 1910-11, AND 1911-12.

Crop.	Yield per Acre.				
	Average of Ten Years, 1897-8 to 1906-7.	1908-9.	1909-10.	1910-11.	1911-12.
Wheat ... bushels	8·64	13·12	13·72	14·52	9·65
Oats	21·26	26·50	20·60	24·70	15·17
Barley—Malting ..	20·62	23·63	16·98	26·30	19·75
.. Other... ..	23·16	22·87	18·41	24·25	17·79
.. Total... ..	21·32	23·38	17·46	25·44	19·14
Potatoes ... tons	2·93	3·19	2·80	2·60	2·50
Hay—Wheaten ..	1·16	1·32	1·33	1·39	1·17
.. Oaten, &c. ..	1·42	1·55	1·38	1·61	1·21
.. Total	1·33	1·48	1·37	1·55	1·20

The yields per acre of the five principal crops for 1911-12 were below the averages of the preceding three years, and, except in the case of wheat for grain and hay, they were also below the averages of the decennium ended March, 1907.

The percentage of total area under the principal crops in each district during last season was as follows:—

PERCENTAGE OF AREA IN EACH DISTRICT TO TOTAL AREA UNDER EACH OF THE PRINCIPAL CROPS, 1911-12.

District.	Percentage in each District of Area under—						
	Wheat.	Oats.	Barley.	Potatoes.	Hay.	Other Crops.	Fallow.
Central	1·01	7·49	49·04	41·75	22·42	34·82	3·75
North-Central	·89	7·12	9·63	20·92	8·74	3·13	1·46
Western	6·61	10·64	16·66	20·70	13·73	6·77	6·32
Wimmera	27·87	28·14	1·14	1·89	17·96	2·61	36·91
Mallee	28·53	11·82	3·87	·04	6·71	8·28	17·34
Northern	32·09	26·45	9·22	·30	19·89	13·83	32·58
North-Eastern	2·57	5·74	·94	5·24	5·41	8·14	1·19
Gippsland	·43	2·60	9·50	9·16	5·14	22·42	·45

NOTE.—For counties contained in each district, see table on page 677.

This statement shows that during last season 88 per cent. of the area under wheat was in the Wimmera, Mallee, and Northern districts; over 54 per cent. of that under oats was in the Wimmera and Northern districts; nearly half of that under barley was in the Central district; and 83 per cent. of that under potatoes was in the Central, North-Central, and Western districts. Hay was more uniformly cultivated over the whole State, though the proportion was somewhat small in the North-Central, Mallee, 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 for gardens and orchards and for peas and beans than in other portions of the State. Naturally, the fallow land is confined 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, 1911-12.

District.	Percentage of Total Cultivation under—						
	Wheat.	Oats.	Barley.	Potatoes.	Hay.	Other Crops.	Fallow.
Central	5·29	5·50	6·36	4·83	46·73	17·94	13·35
North-Central	12·09	13·51	3·24	6·26	47·24	4·17	13·49
Western	34·11	7·67	2·13	2·35	28·17	3·43	22·14
Wimmera	43·32	6·11	·04	·07	11·10	·40	38·96
Mallee	62·66	3·63	·21	·00	5·86	1·79	25·85
Northern	47·60	5·48	·34	·01	11·73	2·02	32·82
North-Eastern	35·28	11·03	·32	1·59	29·64	11·01	11·13
Gippsland	7·54	6·29	4·07	3·50	35·15	38·13	5·32
Total of Victoria	42·35	5·91	1·05	·93	16·84	4·16	28·76

NOTE.—For counties contained in each district, see table on page 677.

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

In Victoria the proportion of the land under each crop to the total area under tillage during each of the last fourteen years was as stated hereunder:—

PROPORTION TO TOTAL CULTIVATION OF LAND UNDER EACH CROP,
1898-9 TO 1911-12.

Year ended March—	Proportionate Area to Total Cultivated Land of— (Exclusive of Area under Artificial Grass.)						
	Wheat.	Oats.	Barley.	Potatoes.	Hay.	Other Crops.	Fallow.
	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
1899	57·78	7·14	1·28	1·11	15·17	3·64	13·88
1900	59·04	7·39	2·17	1·51	12·27	3·74	13·88
1901	54·28	9·76	1·58	1·03	13·51	3·62	16·22
1902	48·09	9·02	·89	1·10	18·08	4·13	18·69
1903	53·34	11·59	1·01	1·33	15·54	4·02	13·17
1904	48·95	10·78	1·19	1·22	18·24	3·90	15·72
1905	54·54	8·24	1·10	1·12	10·84	3·71	20·45
1906	48·49	7·30	·96	1·05	13·86	3·75	24·59
1907	47·31	8·86	1·23	1·29	14·46	3·77	23·08
1908	44·76	9·66	1·53	1·31	16·53	4·54	21·67
1909	39·59	9·34	1·44	1·03	21·27	4·29	23·01
1910	43·38	7·95	1·21	1·29	17·88	3·97	24·32
1911	44·52	7·29	·98	1·17	15·46	3·95	26·63
1912	42·35	5·91	1·05	·93	16·84	4·16	28·76

It is shown on page 675 that during the period covered by this table, the area under cultivation had steadily increased up to last season. By the figures in the table above it would seem that the actual area under wheat has not made anything like a corresponding increase. If, however, it be taken in conjunction with land in fallow which is mainly used for wheat cropping, it will be observed that in proportion to the total area under cultivation, that used for wheat has been fairly uniform in the last fourteen years, but that in recent years the practice to fallow preparatory to sowing has grown considerably.

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 for each of the last fourteen years:—

PRICES OF PRODUCE, 1899 TO 1912.

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.
1899	2 2	1 7 $\frac{1}{2}$	4 2 $\frac{1}{2}$	2 2 $\frac{1}{2}$	34 5	73 0	36 5
1900	2 5	2 1	3 2 $\frac{1}{2}$	2 3 $\frac{1}{2}$	40 9	41 11	26 11
1901	2 5 $\frac{1}{2}$	1 6 $\frac{1}{2}$	2 10 $\frac{1}{2}$	1 11 $\frac{1}{2}$	39 4	73 11	55 10
1902	2 10 $\frac{1}{4}$	2 4	3 9 $\frac{1}{2}$	2 9 $\frac{1}{4}$	55 5	77 7	84 4
1903	6 0	3 2 $\frac{1}{2}$	4 5 $\frac{1}{2}$	3 8	100 1	91 3	47 1
1904	2 8	1 1 $\frac{1}{2}$	2 10 $\frac{1}{2}$	1 9 $\frac{1}{2}$	27 2	52 6	26 1
1905	2 11 $\frac{1}{2}$	1 6	3 2 $\frac{1}{2}$	2 1	33 6	110 0	84 0
1906	2 10 $\frac{1}{2}$	1 10 $\frac{1}{2}$	3 11	2 8 $\frac{1}{2}$	38 0	115 6	101 5
1907	2 9	1 10 $\frac{1}{4}$	4 2	2 2 $\frac{1}{4}$	38 2	59 1	37 6
1908	4 0 $\frac{1}{2}$	3 0 $\frac{1}{2}$	4 11 $\frac{1}{2}$	3 7	88 7	70 4	54 11
1909	3 9 $\frac{1}{2}$	1 9 $\frac{1}{2}$	3 9 $\frac{1}{2}$	2 5	46 0	80 0	51 0
1910	3 9 $\frac{1}{4}$	1 11 $\frac{1}{2}$	3 8 $\frac{1}{4}$	2 4 $\frac{1}{2}$	41 0	78 0	57 0
1911	3 2	1 10 $\frac{1}{2}$	4 3 $\frac{1}{2}$	2 0 $\frac{1}{2}$	38 0	82 0	63 0
1912	3 4 $\frac{1}{2}$	2 10 $\frac{1}{2}$	5 7	3 11 $\frac{1}{2}$	62 0	116 0	101 0

In Melbourne the price of wheat throughout last year was fairly good, ranging from 3s. 2d. to 3s. 8 $\frac{1}{2}$ d. per bushel. The latter rate was quoted in the months of October and November and the former in March. The range of prices was below that for each of the previous four years. The highest and lowest prices in Melbourne during each month in 1911 were as follows:—

PRICES OF WHEAT IN MELBOURNE, 1911.

Month.	Price per Bushel.			
	Highest.		Lowest.	
	s.	d.	s.	d.
January	3	6 $\frac{1}{2}$
February	3	4 $\frac{1}{2}$
March	3	3
April	3	5 $\frac{1}{2}$
May	3	3
June	3	4
July	3	3 $\frac{1}{2}$
August	3	5 $\frac{1}{2}$
September	3	6
October	3	8 $\frac{1}{2}$
November	3	8 $\frac{1}{2}$
December	3	8

Yield of
crops in
Austral-
asia.

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, 1912:—

YIELD OF PRINCIPAL CROPS IN AUSTRALASIA, 1902-3 TO 1911-12.

Year ended March.	Victoria.	New South Wales.	Queensland.	South Australia.	Western Australia.	Tasmania.	New Zealand.
WHEAT.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1903 ...	2,569,364	1,585,097	6,165	6,354,912	970,571	876,971	7,457,915
1904 ...	28,525,579	27,334,141	2,436,799	13,209,465	1,855,460	767,398	7,891,654
1905 ...	21,092,139	16,464,415	2,149,663	12,023,172	2,013,237	792,956	9,123,673
1906 ...	23,417,670	20,737,200	1,137,321	20,143,798	2,308,305	776,478	6,798,934
1907 ...	22,618,043	21,817,938	1,108,902	17,466,501	2,758,567	651,408	5,605,252
1908 ...	12,100,780	9,155,884	693,527	19,135,557	2,925,690	644,235	5,567,139
1909 ...	23,345,649	15,483,279	1,202,799	19,397,672	2,460,823	700,777	8,772,799
1910 ...	28,780,100	28,532,026	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
(OATS.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1903 ...	4,402,982	351,758	520	620,823	161,714	1,752,745	21,766,708
1904 ...	13,434,952	1,252,156	70,713	902,936	255,300	1,621,950	15,107,237
1905 ...	6,203,429	652,646	15,137	555,696	226,318	1,178,819	14,553,611
1906 ...	7,232,425	883,081	5,858	869,146	283,987	1,200,024	12,707,982
1907 ...	8,845,654	1,404,574	28,884	896,166	457,155	1,979,574	11,201,789
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	5,733	1,349,480	961,385	1,504,633	10,118,917
BARLEY.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1903 ...	561,144	18,233	3,595	317,155	45,778	201,133	1,136,232
1904 ...	1,218,003	174,147	510,557	487,920	51,447	212,459	1,160,504
1905 ...	874,099	266,781	331,772	346,718	37,332	163,194	1,128,164
1906 ...	1,062,139	111,266	61,816	505,916	49,497	93,664	1,024,045
1907 ...	1,255,442	152,739	158,283	491,246	48,827	141,895	1,035,346
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
POTATOS.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1903 ...	168,759	30,732	3,257	28,312	6,200	163,518	193,267
1904 ...	167,736	56,743	17,649	31,415	4,315	168,410	208,787
1905 ...	92,872	48,754	19,231	19,521	5,614	110,547	134,608
1906 ...	115,352	49,889	11,308	20,328	6,297	64,606	123,402
1907 ...	166,839	114,856	15,830	22,277	5,028	182,323	169,875
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
HAY.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1903 ...	601,272	243,289	23,181	308,825	91,593	89,210	138,684*
1904 ...	1,233,063	816,810	136,117	479,723	119,156	115,513	154,334*
1905 ...	514,316	366,293	80,662	294,252	113,794	73,457	157,632*
1906 ...	864,177	459,182	56,829	435,546	139,380	90,077	161,498*
1907 ...	881,276	621,846	94,343	398,866	158,112	104,797	140,402*
1908 ...	682,370	376,800	77,601	376,170	137,511	98,406	160,870*
1909 ...	1,415,746	730,014	92,947	591,141	170,008	137,518	173,134*
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	†

* Estimated.

† No Information.

Other crops. The area under other than principal crops and the production since March, 1906, are shown in the subjoined table:—

OTHER THAN PRINCIPAL CROPS, 1906-7 TO 1911-12.

Crop.	1906-7.		1907-8.		1908-9.	
	Area.	Production.	Area.	Production.	Area.	Production.
	Acres.	Bushels.	Acres.	Bushels.	Acres.	Bushels.
Maize	11,559	704,961	10,844	508,761	14,004	650,462
Rye	1,571	20,770	1,441	21,966	2,024	32,504
Peas and Beans ..	12,012	286,636	13,613	213,818	11,153	197,807
		Tons.		Tons.		Tons.
Mangel-wurzel ..	1,360	16,139	1,184	14,295	1,370	15,048
Beet, Carrots, Parsnips, and Turnips	713	5,644	496	3,650	702	4,541
Onions	4,705	28,000	4,249	22,649	5,340	24,384
Green Forage ..	36,502	..	59,897	..	63,066	..
		Bushels.		Bushels.		Bushels.
Grass and Clover Seeds ..	1,859	17,494	1,076	10,685	1,741	18,161
		Cwt.		Cwt.		Cwt.
Hops	323	2,787	248	1,179	189	1,094
Tobacco	133	603	345	2,764	413	2,647
Vines—Grapes ..	25,855	752,826	26,465	535,804	24,430	561,679
Flax	655	{ 1,116 fibre } { 4,853 seed }	1,263	{ 60 fibre } { 2,710 seed }	190	{ 6 fibre } { 153 seed }
Gardens and Orchards ..	61,927	..	63,133	..	64,225	..
Minor Crops ..	2,699	..	2,982	..	4,218*	..
Land in Fallow ..	990,967	..	894,300	..	1,034,422	..
Artificial Grasses	1,095,642	..	1,095,471	..	1,029,711	..

Crop.	1909-10.		1910-11.		1911-12.	
	Area.	Production.	Area.	Production.	Area.	Production.
	Acres.	Bushels.	Acres.	Bushels.	Acres.	Bushels.
Maize	19,112	1,158,031	20,151	982,103	18,223	792,660
Rye	2,309	26,070	2,640	32,647	1,098	9,981
Peas and Beans ..	9,824	145,742	11,068	223,284	11,535	181,113
		Tons.		Tons.		Tons.
Mangel-wurzel ..	1,119	14,116	1,254	17,654	797	9,568
Beet, Carrots, Parsnips, and Turnips	573	4,215	872	7,481	658	4,953
Onions	6,434	31,715	6,161	37,484	3,652	20,911
Green Forage ..	56,586	..	71,826	..	75,177	..
		Bushels.		Bushels.		Bushels.
Grass and Clover Seeds ..	1,595	13,160	1,295	16,262	1,188	9,503
		Cwt.		Cwt.		Cwt.
Hops	140	882	121	937	122	777
Tobacco	321	2,704	329	1,090	356	†
Vines—Grapes ..	22,768	548,828	23,412	592,438	24,193	683,250
Flax	1,213	{ 676 fibre } { 1,515 seed }	600	{ 748 fibre } { 2,457 seed }	443	{ 1,327 fibre } { 1,958 seed }
Gardens and Orchards ..	66,322	..	68,153	..	70,316	..
Minor Crops ..	3,389*	..	5,158*	..	4,741*	..
Land in Fallow ..	1,175,750	..	1,434,177	..	1,469,608	..
Artificial Grasses	988,671	..	991,195	..	1,041,772	..

* For details see page 702.

† Not available.

In the year 1901-2 there were 10,020 acres under maize, from Maize. which a return of 615,472 bushels was obtained. After that year the area of land under this crop was fairly constant until 1909-10, when it was increased to 19,112 acres, which produced 1,158,031 bushels. In 1910-11 the area was further increased to 20,151 acres, but the production was only 982,103 bushels. In 1911-12 the area declined to 18,223 acres and the produce to 792,660 bushels, of which 225,860 bushels were in the county of Tanjil, 174,024 in Dargo, 159,562 in Tambo, 156,960 in Croajingolong, 23,217 in Bogong, 17,745 in Buln Buln, 11,240 in Benambra, 8,783 in Mornington, 8,421 in Grant, and 3,369 in Delatite. Maize is grown in other counties of the State, but to such a small extent that it accounted for only about $\frac{1}{2}$ per cent. of the total production last season.

The area under rye in 1911-12 was 1,098 acres, from which Rye. 9,981 bushels of grain were obtained, the former being 45 per cent., and the latter 63 per cent. below the average of the preceding five seasons. Last season rye was grown throughout the State, except in the counties of Heytesbury, Ripon, Kara Kara, Millewa, Weeah, Tatchera, Gunbower, Bendigo, Tambo, and Dargo. In Talbot the quantity yielded was 2,003 bushels, and in Bogong 1,300 bushels. In each of the counties Bourke, Grant, Normanby, Dundas, and Delatite, the produce exceeded 500 bushels, but in no other county did it reach that quantity.

In the area under peas and beans there was an increase from Peas and beans. 8,297 acres in 1901-2 to 12,253 acres in 1905-6, and to 13,613 acres in 1907-8; there was a decline in 1909-10 to 9,824 acres, and a partial recovery in 1910-11 to 11,068 acres. In 1911-12 the area was 11,535 acres, which was equal to the average of the previous five years. Peas and beans are generally grown in all the counties except Millewa, Weeah, and Tatchera. Those from which the principal crops were obtained last season were Grant with 34,588 bushels, Buln Buln with 33,030 bushels, Mornington with 19,971 bushels, Bourke with 14,900 bushels, Tanjil with 14,315 bushels, Polwarth with 8,933 bushels, and Tambo with 8,155 bushels, which seven counties accounted for 74 per cent. of the whole crop.

In 1911-12 there were only 797 acres under mangel-wurzel as Mangel-wurzel. against 1,254 in the previous season, 1,119 in 1909-10, 1,370 in 1908-9, 1,184 in 1907-8, and 1,360 in 1906-7. The production last year was only 9,568 tons as compared with an average of 15,450 tons for the preceding five-year period. Mangolds are grown principally in the counties of Grant, Mornington, Villiers, Grenville, Heytesbury, Tanjil, and Buln Buln.

Beet, carrots, parsnips, and turnips

The cultivation of beet, carrots, parsnips, and turnips, exclusive of those grown in market gardens, showed a decrease of nearly 25 per cent. in area and about 34 per cent. in production in the last, as compared with the previous season. In 1911-12 the land sown was 658 acres as against 872 in 1910-11, 573 in 1909-10, 702 in 1908-9, 496 in 1907-8, and 713 in 1906-7. The produce for last year was 4,953 tons, which was slightly below the average for the previous five-year period.

Onions.

Onions are grown in nearly every county south of the Dividing Range. In Grenville the yield was 4,421 tons from 762 acres; in Bourke, 3,614 tons from 716 acres; in Villiers, 2,775 tons from 408 acres; in Polwarth 2,443 tons from 396 acres; in Grant, 2,239 tons from 449 acres; in Buln Buln, 2,136 tons from 342 acres; in Mornington, 1,825 tons from 303 acres; and in Hampden, 866 tons from 165 acres. The total area under onions in 1911-12 was the lowest since 1904-5. The following is a return for the last seventeen years:—

ONION CULTIVATION, 1895-6 TO 1911-12.

Year.	Area.	Produce.	Year.	Area.	Produce.
	Acres.	Tons.		Acres.	Tons.
1895-6 ..	3,780	10,759	1904-5 ..	2,862	12,969
1896-7 ..	3,735	11,256	1905-6 ..	4,889	25,597
1897-8 ..	3,751	11,217	1906-7 ..	4,705	28,000
1898-9 ..	4,472	17,308	1907-8 ..	4,249	22,649
1899-1900 ..	4,436	19,905	1908-9 ..	5,340	24,384
1900-1 ..	2,815	12,766	1909-10 ..	6,434	31,715
1901-2 ..	4,151	20,859	1910-11 ..	6,161	37,484
1902-3 ..	5,565	27,467	1911-12 ..	3,652	20,911
1903-4 ..	4,176	25,218			

Green forage.

During the last ten seasons the area devoted to green forage was lowest in 1904-5, when it was 29,902 acres. In 1908-9 it had increased to 63,066 acres, and in 1910-11 to 71,826 acres; in 1911-12 it was 75,177 acres, which was the largest area recorded.

Grass and clover seed.

The area under grass and clover for seed last season was, with one exception, the lowest during the last forty years. The product returned in 1911-12 was 9,503 bushels from 1,188 acres; in the previous season it was 16,262 bushels from 1,295 acres, and in 1909-10 it was 13,160 bushels from 1,595 acres. It is remarkable that such favorable results have not led to the reservation of a greater area for seed purposes.

The hop-growing industry attained its maximum development in ^{Hops.} 1883-4, when 1,758 acres yielded 15,717 cwt. In 1911-12 there were only 23 growers whose return from 122 acres was 777 cwt., which was the lowest production since 1873-4. Delatite, Bogong, Dargo, Tanjil, and Polwarth were the chief counties in which hops were grown last season, but yields were also recorded in Heytesbury and Buln Buln.

Flax ("Linum Usitatissimum") has, for many years, been grown ^{Flax.} in various parts of this State, the total area cultivated in any one season varying from a few acres only to a maximum of about 2,000 acres.

Experience proves that this plant, in most parts of Victoria and under normal conditions, yields satisfactory returns, but owing to several reasons—chiefly the need of local mills for treating the raw material—the industry has not made the progress that its value merited; it is now, however, on a better footing, and as there is a large local demand for fibre at payable figures, there is no reason why it should not, in the future, be of some importance.

The Commonwealth Government has for the past five years granted growers a 10 per cent. bounty on the value of the fibre. The term of the bounty regulations has recently expired, but the bounty will, in all probability, shortly be renewed for a further period, and when this is done it will give flax production a further impetus, which should help a struggling industry to become established.

Particulars of the industry for the last three years are contained in the following statement:—

FLAX: 1909-10 TO 1911-12.

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

In 1911, imports into Victoria from countries outside Australia included linseed to the value of £1,888, linseed oil worth £78,472, and fibre worth £87,474.

Tobacco.

In addition to the Government tobacco experimental station (see page 652), there are plantations in the counties of Delatite, along the banks of the King River, and in Bogong; last season there were also small areas cultivated in Benambra and Moira. Particulars relating to the cultivation of tobacco for the last sixteen years are as follows:—

CULTIVATION OF TOBACCO, 1896-7 TO 1911-12.

Year.	Number of Growers.	Area.		Produce.
		Acres.	Cwt. (dry.)	
1896-7	233	1,264	7,890	
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	..	

The quantity of tobacco grown in a year reached its maximum in 1880-1, when 17,333 cwt. of dry leaf was produced. Of late years tobacco growing in Victoria has been upon a small scale.

Vines, wine,
raisins, &c.

The area under vines showed a steady increase from 4,284 acres in 1879-80, to 30,307 acres in 1894-5. In 1900-1 the area was 30,634 acres, but since then there has been a falling off to 25,855 acres in 1906-7, and 24,193 acres in 1911-12. The vineyards are distributed fairly well over the State. There are, however, districts where the principal industries are connected with vine-growing; the Shire of Mildura produced last season 484,685 cwt. of grapes; Rutherglen, 60,498 cwt.; and Yackandandah, 16,710 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 9,425 cwt. of grapes was produced in 1911-12.

At Mildura the crop was principally dried for raisins and currants. The results of sixteen years' operations are as follows:—

VINE PRODUCTION, 1897 TO 1912.

Year ended June.	Number of Growers.	Area.	Produce.			
			Grapes Gathered.	Wine Made.	Raisins Made.	Currants Made.
			Acres. Cwt.	Gallons.	Cwt.	Cwt.
1897 ..	2,603	27,934.	601,053	2,822,263	11,276	762
1898 ..	2,364	27,701	457,437	1,919,389	13,234	462
1899 ..	2,453	27,568	468,887	1,882,209	17,979	1,033
1900 ..	2,382	27,550	298,920	933,282	17,847	3,315
1901 ..	2,486	30,634	631,912	2,578,187	29,370	3,715
1902 ..	2,469	28,592	497,269	1,981,475	27,533	2,546
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	537,804	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

Of the total quantity of grapes gathered in 1912, 140,489 cwt. was used for making wine, 480,715 cwt. for raisins and currants, and 62,046 cwt. for table consumption and export. Of the 102,924 cwt. of raisins made, 60,822 cwt. were sultanas almost entirely from Mildura. That destructive insect affecting the vines, the phylloxera vastatrix, has not during recent years shown itself to any marked extent. Attempts are being made to completely stamp out the pest by the Department of Agriculture through the distribution of disease-resistant stocks.

Raisins are being produced in Victoria upon a scale far in excess of local requirements. It is estimated that a year's consumption of raisins is about 20,000 cwt., consequently, 80,000 cwt. of the production in 1912 is available for export. With regard to currants, a year's consumption is about 30,000 cwt., but it was not until 1910 that anything approaching the required quantity was produced locally.

The total number of persons in the State growing fruit for sale Orchards. was 5,955 in 1911-12 as against 5,780 in 1910-11, 5,647 in 1909-10, 5,241 in 1907-8, and 5,163 in 1905-6. The area under orchards in these years was 55,769, 53,325, 51,578, 49,212, and 47,312 acres respectively. The orchards are fairly spread over the whole State. The counties having the largest areas last season and the acreage in

each were as follows:—Evelyn, 12,110 acres; Bourke, 11,647 acres; Mornington, 8,832 acres; Rodney, 3,851 acres; Talbot, 2,706 acres; Karkaroc (including Mildura), 2,223 acres; Bendigo, 1,810 acres; Borung, 1,659 acres; Grant, 1,548 acres; Buln Buln, 1,211 acres; Moira, 1,122 acres; and Bogong, 1,057 acres.

In the following table will be found a statement of the number of fruit trees and plants bearing and non-bearing, which produced the various kinds of fruit grown during the seasons 1907-8 and 1910-11—the latest years for which this information is available:—

RETURN SHOWING THE NUMBER OF FRUIT TREES, PLANTS, ETC., IN ORCHARDS AND GARDENS WHERE FRUIT WAS GROWN FOR SALE, 1907-8 AND 1910-11.

Fruit.	Number of Trees, Plants, &c.					
	1907-8.			1910-11.		
	Not Bearing.	Bearing.	Total.	Not Bearing.	Bearing.	Total.
Apples	795,188	1,155,966	1,951,154	764,890	1,449,381	2,214,271
Pears	225,916	261,959	487,875	268,330	364,638	632,968
Quinces	18,505	48,309	66,814	22,820	58,116	80,936
Plums	187,353	296,915	484,268	134,129	355,332	489,461
Cherries	100,228	231,084	331,312	73,739	242,891	316,630
Peaches	109,406	295,189	404,595	179,240	292,054	471,294
Apricots	43,312	260,351	303,663	44,641	236,536	281,177
Nectarines	1,807	5,048	6,855	2,951	4,279	7,230
Oranges	27,117	34,024	61,141	45,403	40,190	85,593
Lemons	14,111	46,465	60,576	20,070	47,880	67,950
Loquats	2,170	5,248	7,418	1,621	4,926	6,547
Medlars	63	197	260	93	361	454
Figs	4,846	29,274	34,120	8,965	35,132	44,097
Passion	4,203	7,251	11,454	5,293	9,795	15,088
Guavas	352	949	1,301	323	162	485
Pomegranates	152	93	245	87	117	204
Persimmons	253	517	770	242	504	746
Total Large Fruits ..	1,534,982	2,678,839	4,213,821	1,572,837	3,142,294	4,715,131
Raspberries .. ..	..	1,547,847	1,547,847	..	663,315	663,315
Strawberries .. ..	..	4,157,534	4,157,534	..	4,018,944	4,018,944
Gooseberries .. ..	..	297,853	297,853	..	177,661	177,661
Mulberries	430	1,145	1,575	465	1,220	1,685
Olives	652	3,165	3,817	3,037	3,473	6,510
Currants (Red, White, and Black)	10,327	77,906	88,233	13,572	49,282	62,854
Almonds	8,605	19,772	28,377	9,690	21,053	30,743
Walnuts	4,726	3,787	8,513	4,252	4,461	8,713
Filberts	1,197	2,052	3,249	1,214	3,637	4,851
Chestnuts	410	476	886	498	533	1,031
Total Nuts	14,938	26,087	41,025	15,654	29,684	45,338

The area under orchards growing fruit for sale increased steadily from 5,800 acres in 1872-3 to 10,048 in 1882-3, 31,370 in 1892-3, 44,502 in 1902-3, 47,205 in 1904-5, 49,086 in 1906-7, 51,578 in 1909-10, and 55,769 in 1911-12, which is the largest area returned

up to date. Details of the produce from orchards growing fruit for sale for the last twelve years are as follows:—

ORCHARDS GROWING FRUIT FOR SALE, 1900-1 TO 1911-12.

Year ended March.	Number of Fruit-growers.	Area under Gardens and Orchards.	LARGE FRUITS GATHERED.			
			Apples.	Pears.	Quinces.	Plums.
			Bushels.	Bushels.	Bushels.	Bushels.
1901 ..	5,400	44,688	893,418	251,384	71,357	172,467
1902 ..	5,693	45,885	652,525	118,742	64,145	201,291
1903 ..	5,301	44,502	903,853	248,030	91,665	154,112
1904 ..	5,254	46,642	805,034	158,186	81,516	289,972
1905 ..	5,341	47,205	1,019,816	188,849	90,735	121,725
1906 ..	5,163	47,312	578,700	219,864	56,898	130,917
1907 ..	5,367	49,086	1,010,381	303,647	77,277	237,468
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

LARGE FRUITS GATHERED—continued.							
Cherries.	Peaches.	Apricots.	Oranges.	Lemons.	Figs.	Others.	
Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	
1901 ..	105,032	160,968	228,686	37,184	57,866	21,846	9,901
1902 ..	111,891	284,312	234,101	60,150	64,954	18,135	9,363
1903 ..	102,512	173,414	168,348	23,210	48,083	19,214	8,187
1904 ..	124,423	260,589	336,899	27,670	61,429	26,405	8,863
1905 ..	82,504	230,130	186,360	34,088	81,716	23,500	7,335
1906 ..	116,845	132,870	154,791	21,364	63,904	32,467	12,339
1907 ..	120,496	276,077	258,049	23,431	37,662	29,549	16,817
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

SMALL FRUITS GATHERED.					NUTS GATHERED.				
Rasp-berries.	Straw-berries.	Goose-berries.	Currants (Red, Black, & White).	Others.	Almonds.	Walnuts.	Filberts.	Chest-nuts.	
cwt.	cwt.	cwt.	cwt.	cwt.	lbs.	lbs.	lbs.	lbs.	
1901 ..	20,396	4,246	12,431	1,794	882	66,837	25,294	6,818	6,469
1902 ..	13,610	4,435	10,436	1,383	968	72,528	18,435	3,469	6,990
1903 ..	20,185	3,101	11,573	1,456	1,011	41,551	19,378	3,437	8,262
1904 ..	22,377	3,122	14,199	2,312	1,327	113,791	13,276	2,223	6,677
1905 ..	12,480	5,456	13,558	1,805	1,320	80,758	28,306	1,756	4,396
1906 ..	6,821	2,643	9,814	2,113	1,320	81,077	23,131	6,144	4,696
1907 ..	13,816	5,487	12,276	2,054	3,307	69,378	15,863	5,339	3,506
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

The following return shows the average produce per tree for all trees, and for bearing trees only, for the years 1907-8 and 1910-11—the latest years for which such particulars are available:—

PRODUCE OF FRUIT TREES, 1907-8 AND 1910-11.

Fruit Trees.	AVERAGE PER TREE.			
	1907-8.		1910-11.	
	All Trees.	Bearing Trees.	All Trees.	Bearing Trees.
	Bushels.	Bushels.	Bushels.	Bushels.
Apples	·32	·53	·75	1·15
Pears	·37	·70	1·01	1·76
Quinces	·72	·99	1·07	1·49
Plums	·32	·53	·67	·92
Cherries	·22	·31	·38	·50
Peaches	·72	·98	·67	1·09
Apricots	·79	·92	·57	·68
Nectarines	·73	·98	·66	1·11
Oranges	·47	·84	·70	1·49
Lemons	·77	1·01	1·05	1·48
Loquats	·12	·17	·89	1·19
Medlars	·24	·32	·11	·14
Figs	·60	·70	·70	·88
Passion Vines	·38	·60	·64	·98
Guavas	·04	·05	·05	·14
Pomegranates	·33	·88	·99	1·73
Persimmons	·38	·56	1·01	1·50
Total Large Fruits only ..	·41	·64	·74	1·11
	lbs.	lbs.	lbs.	lbs.
Almonds	2·22	3·18	4·13	6·03
Walnuts	2·38	5·35	2·78	5·43
Filberts	·59	·94	·66	·88
Chestnuts	5·70	10·60	3·44	6·65

This table shows a good increase in the average production of the principal large fruits between 1907-8 and 1910-11, whether all trees or only bearing trees be taken into consideration.

In addition to the fruits shown (p. 699), large quantities of melons, rhubarb, and tomatoes were produced in the orchards, the following being the quantities returned for 1911-12—Melons, 10,805 cwt.;

rhubarb, 35,015 dozen bundles; and tomatoes, 39,563 cwt. There were also 4,216 acres laid down in private fruit gardens, the value of the produce from which was estimated at about £8,500.

According to prices received by growers the value of fruit which reaches market was estimated to be £341,891 in 1904-5, £345,844 in 1905-6, £451,672 in 1906-7, £386,807 in 1907-8, £373,600 in 1908-9, £423,500 in 1909-10, £524,380 in 1910-11, and £558,604 in 1911-12. 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.

The Agricultural Department's action, several years ago, of importing a cider-making plant for the purpose of lending it to those desirous of testing or entering the industry, and also of imparting technical instruction concerning the work, has been much appreciated and has resulted in cider-making being now an established industry. So satisfactory is the product that the output of the various firms engaged in making the beverage is each season increasing, and Victorian cider can now be obtained at most of the leading hotels and cafés.

The area under market gardens for the year 1911-12 was 10,331 acres. In view of the fact that these gardens are generally situated near large centres of population, and that the producers are consequently able to dispose of the bulk of their goods with a minimum of 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 £258,275. This does not include crops of one acre and over of potatoes, onions, mangel-wurzel, beet, carrots, parsnips, and turnips grown in market gardens, such crops being tabulated under their respective heads in the returns relating to agriculture.

The quantity of dried fruit (weight after drying) was for the first time collected in 1895-6, when 179,460 lbs. were returned, and it increased to 636,294 lbs. in 1900-1, after which date the quantity, principally by reason of a reduction in apricots, declined to 338,173 lbs. in 1905-6. In the next three years there was a notable improvement, and in 1909-10 the quantity dried reached 811,935 lbs., which was the greatest for the years recorded. In 1910-11 the production fell to 566,209 lbs., but in 1911-12 it again increased, the

total being 777,011 lbs. The details for the last twelve seasons are as follows:—

DRIED FRUIT, 1900-1 TO 1911-12.

Year ended June.	Apples.	Prunes.	Peaches.	Apricots.	Figs.	Pears.	Total.
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
1901 ..	28,944	35,931	97,254	411,526	62,639	..	636,294
1902 ..	42,218	33,789	90,328	328,599	66,472	..	561,406
1903 ..	18,178	28,996	70,759	110,666	69,069	8,935	306,603
1904 ..	25,137	58,293	114,096	184,960	17,599	..	400,085
1905 ..	28,021	33,080	134,019	179,520	41,137	..	415,777
1906 ..	19,290	9,207	27,703	252,746	29,227	..	338,173
1907 ..	42,113	64,648	109,958	143,970	37,716	..	398,405
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

The bulk of the above dried fruit comes from Mildura, where in 1911-12 there were made also 11,211,424 lbs. of raisins, which quantity represented an increase of 2,605,344 lbs. on the produce of 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 only such as were taken cognisance of by the collectors:—

MINOR CROPS, 1910-11 AND 1911-12.

Crop.	1910-11.		1911-12.	
	Area.	Produce.	Area.	Produce.
	Acres.		Acres.	
Calabash ... ..	..	..	5	..
Chicory	467	432 tons (dry)	399	333 tons (dry)
Cucumbers	30	120 tons	..	..
Flowers	53	..	109	..
Garlic	3	70 cwt.	..	..
Gherkins ... ..	..	..	26	3 tons
Herbs	8	..	4	..
Millet—Broom	665	{ 3,663 cwt. fibre 3,881 cwt. seed }	258	{ 958 cwt. fibre 815 cwt. seed }
„ Japanese	15	119 cwt. seed	28	{ 694 cwt. fibre, 332 cwt. seed }
Mustard	6	600 lbs.	..	..
Nursery	877	..	647	..
Opium poppies	2	31 lbs.	1	7 lbs.
Pumpkins	2,477	23,851 tons	2,328	20,343 tons
Seeds—Agricultural and garden	1	..	6	..
Sugar Beet	458	5,969 tons	752	3,974 tons
Sunflowers	96	2,945 bushels	173	7,414 bushels
Total	5,158	..	4,741	..

The fallowing of land in Victoria commenced in 1858-9, when 6,000 acres were so treated. With annual variations in acreage, but a general increase, the area in fallow reached 853,829 acres in 1904-5, 1,049,915 acres in 1905-6, 1,175,750 acres in 1909-10, 1,434,177 acres in 1910-11, and 1,469,608 acres in 1911-12. The system of fallowing is much more extensive in the wheat-growing counties than in the other districts of the State. It is gratifying to find that the enormous advantages obtainable from this mode of treating the land have of late years been properly recognised. Evidence of the benefit obtained is supplied by returns received in March, 1908, from which it appears that on fallowed land manured there was a gain in wheat yield of over 5 bushels per acre, while on fallowed land unmanured the gain was nearly 2 bushels per acre. In order to procure definite information regarding the relative production from fallowed and unfallowed land under wheat, particularly in a dry season like 1907-8, some of the principal growers in the wheat districts of the State were invited in the year 1908 to state the results obtained, and the following table contains a summary of the information received from them:—

WHEAT GROWING ON FALLOWED AND UNFALLOWED LAND, 1907-8.

District.	MANURED LAND.			
	Fallowed.		Unfallowed.	
	Area.	Yield per acre.	Area.	Yield per acre.
Wimmera—				
Counties of Lowan, Borung, and Kara Kara	Aeres.	Bushels.	Aeres.	Bushels.
Mallee—	69,834	11·82	27,520	5·75
Counties of Weeah, Karkaroc, and Tatchera	31,963	5·75	20,908	2·62
Northern—				
Counties of Gunbower, Gladstone, Bendigo, Rodney, and Moira	41,110	9·50	28,946	4·06
Western—				
County of Ripon	4,821	17·93	5,993	13·47
Total	147,728	10·07	83,367	4·93

Taking the districts as a whole, it will be seen that the yield per acre from the fallowed was more than twice as great as that from the unfallowed land; and taking the districts separately, this proportion is maintained in each of the three principal ones. In the Western District the difference is not marked in the same degree, due probably to the fact that wheat-growing except on a very small scale was commenced in that portion of the State only in recent years.

Some information was also obtained in regard to wheat-growing on unmanured land, a summary of which, in the case of the counties of Karkaroc and Tatchera in the Mallee District (the driest in the State in 1907-8) is given below :--

District and County.	WHEAT GROWN ON UNMANURED LAND.			
	Fallowed.		Unfallowed.	
	Area.	Yield per acre.	Area.	Yield per acre.
Mallee—	Acres.	Bushels.	Acres	Bushels.
Karkaroc	3,067	2·21	17,448	·95
Tatchera	2,453	3·06	17,323	·24
Total	5,520	2·59	34,771	·60

A striking difference is shown here between the yields from the fallowed and the unfallowed land, the latter being simply a failure.

Manure used.

In those counties which are included in the first, but not in the second table, the areas returned as unmanured were small, indicating that wheat growing on unmanured land is in them carried on to only a limited extent. The correctness of this assumption receives confirmation from the figures in the following table, which show that the number of farmers using manure, and the quantity of manure used in Victoria, have greatly increased in recent years :—

MANURE USED FOR FERTILIZATION, 1898 TO 1911.

Year.	Farmers using.	Area used on.	Manure used—	
			Natural.	Artificial.
		Acres	Tons.	Tons.
1898	7,318	225,830	143,586	16,052
1901	11,439	556,777	153,611	23,535
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	25,739	82,581

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 1904, 46 per cent.; in 1905, 56 per cent.; in 1909,

66 per cent.; and in 1911, 74 per cent., which was much higher than in any previous year. During 1911 the quantity of manure imported into Victoria from oversea countries was 65,366 tons, and its value £178,210. Seventy-five per cent. of the quantity, representing 73 per cent. of the value, consisted of guano and rock phosphates imported from Ocean Island.

So widespread is the range of application of artificial manures and so general has their use become in Victoria, that it would appear difficult to add anything of interest to the purchaser of these modern aids to agriculture; but if there is one point more than another, with which the purchaser of manures is not entirely conversant, it is probably a knowledge of the safeguards afforded him by the Artificial Manures Act.

Use of artificial manures.

After divesting of their legal phraseology the clauses showing the intentions of the framers of this Act, it will be found that every importer or manufacturer of artificial manures (over the amount of one half hundredweight) within the State is required each year to register the brand of each fertilizer at the office of the Secretary for Agriculture, and under a statutory declaration to state, amongst other things, his full name and address, the material from which the manure is manufactured, the chemical analysis of the manure, and the retail price per ton.* From these particulars the unit value of 1 per cent. of each class of plant food (Nitrogen, Phosphoric Acid, and Potash) in a ton of manure is computed. The unit values so established operate for twelve months only, and what is called the "commercial value" of all manures sold during that period is calculated from them. A list showing the "commercial value" and selling price of all manures will be found in the *Agricultural Journal*. The Act further requires that each bag of manure shall have a label attached showing the net weight and an analysis of the contents. It may not be generally known that each purchaser of manures is required under the Act to produce, when required by the Chemist for Agriculture, the invoice certificate which should be issued by the vendor at the time of sale. Purchasers of manures, therefore, may with advantage to themselves observe the precaution of keeping the labels.

In order to check the quality of manures despatched to the country, inspectors are empowered to take samples at certain places during transit. The compliance of the vendors with the guarantee given by them is best described in the words of the Agricultural Chemist:— "It is quite noteworthy that almost without exception the whole of the samples were well up to the guarantee, and in many cases were in excess of the percentages of fertilizing constituents guaranteed." So far, the Victorian farmer can have no fault to find with the quality of superphosphate sold in the State. Owing, however, to the great demand for bonedust, a mixed fertilizer is now being placed on the market under the name of bone fertilizer, the manurial effect of which is unsatisfactory compared with ordinary bonedust.

It has come to be recognised by progressive farmers that, valuable as are the effects of manures rationally used, their usefulness is controlled by the cultivation given to the land. In other words, it is unreasonable to expect the maximum benefit from manures on imperfectly tilled land, the moisture content of which is below what it should be. Cultivation always has been, and always will be, the most important of all operations on the farm, and it is the recognition of this fact that leads to some persons securing better results than their neighbours.

The three watchwords in agricultural practice may be described as Cultivation, Rotation, and Fertilization, the proper observance of which leads to that higher standard of production towards which the demands of civilization are forcing the agriculturists of all nations to aspire.

Characteristics of Victorian soils.

The soils of Victoria vary widely in their physical and chemical conditions. Colour alone is not always an index to productivity, yet to the average mind a darkish colour in soils is generally accepted as indicating a higher potential fertility than exists in lighter coloured soils. There is some logic in this reasoning on account of darkish coloured soils containing generally more organic matter, and, other things being equal, having thus a better absorptive and retentive power for moisture. Fertility, however, is the harmonious operation of a number of factors, some of which are difficult to control. The absorption, retention, and movement of the soil moisture are entirely dependent on the composition, size, and nature of the soil particles, and in this particular, many farmers do not sufficiently appreciate the far-reaching effects of cultivation as the most economical manner in which the latent wealth of the soil may be made available to the needs of crops. Porosity, or natural drainage, controls the temperature of the soil, especially during the period when growth is most abundant, viz., the Spring, hence it is that many soils whose drainage is imperfect, remain cold at that season and the crops grown upon them are restricted in yield. Capillarity, or the power of the soil to transfer moisture from the subsoil to the upper cultivated portion, wherein the roots of crops develop, is exemplified in the case of the two extreme types of sand and clay. In the former case, the surface dries rapidly during summer, although there may be an abundant supply of moisture a few feet down; in the latter case, owing to the facility with which moisture rises from the subsoil to the surface and is lost by evaporation, the soil becomes hard and dry. It is usually regarded that the true measure of fertility is the amount of the mineral elements of plant food present in the soil; but although without food no plant can thrive, yet without an adequate supply of moisture no seed can even germinate, much less produce a mature plant. Hence it is that the chemical condition of a soil is subordinate in importance to its physical composition.

During the past eighteen years some thousands of chemical analyses of Victorian soils have been made by the Chemical Branch of the Department of Agriculture, and the tabulation of the figures has given a general knowledge of the characteristics of soils in every district of the State.

To divide the State into three broad divisions of coastal plain, northern plain, and hill country, is sufficient classification for the general statement that the soils of each locality are somewhat below the standard for phosphoric acid, hence the universal suitability of manures containing that ingredient. In the extensive areas stretching from the coast to the hills throughout Gippsland and the Western District, field experiments have indicated the necessity for a supplementary application of manures containing nitrogen. The greater rainfall of these southern districts permits a more luxuriant growth of vegetation, and as the function of nitrogen is to build up the framework of the plant, it is logical enough that the soils should require feeding in that direction. As regards potash, there is evidence that the majority of Victorian soils, particularly those of the clay type, are well furnished, and at all events for some time, except it may be for special crops, there would appear to be little necessity for manures supplying this element. It must not be forgotten, however, that plant foods produce their best results when in correct proportions to one another, and on sandy soils, when root crops and legumes are grown, potash fertilization may be found necessary.

The percentage of lime present forms a distinct feature in soils of the northern plain, but in the south, with the exception of certain places where the geological formation is of limestone, this most essential element is lacking. It is not too much to say that many thousands of acres in Southern Victoria stand in more need of drainage and liming than of manures. As a corrector of soil acidity, and as a base, wherewith other plant foods may combine and be held in such a manner as to become gradually available for the needs of plants, lime will be found of great service. For the breaking down of adhesive clay soils, so as to render the passage of implements easier, lime well repays the application of from 5 to 10 cwt. per acre once every two or three years.

Useful as the work of soil analysis has been, its value will be made more manifest when the agriculturist has standards of fertility with which to meet the requirements of different soil types under varying climatic conditions.

A better appreciation on the part of the farmer of the powerful influence that soil treatment exerts on the production of crops, and a clearer conception of the rational principles of fertilization will gradually lead to a higher standard of farming, and an all round increase in the average yields of all crops grown within the State.

Farm
imple-
ments.

In March, 1905, and in each year since, the number of engines, horse-works, machines, and other implements on agricultural, dairy-ing, and pastoral holdings has been ascertained. The particulars for the last two years are as follows:—

MACHINERY AND IMPLEMENTS ON FARMS AND PASTORAL HOLDINGS
IN EACH DISTRICT, 1911 AND 1912.

District.	Number of --													
	Engines.		Horse-works	Harvesters.	Threshing Machines.	Winnowing Machines.	Reapers and Binders.	Strippers.	Ploughs.	Harrow.	Cultivators.	Grain Drills.	Chaff- cutters.	Cream Separators.
	Steam.	Oil.												
1911.														
Central	489	501	1,828	283	86	252	856	46	16,895	11,823	5,964	2,553	5,620	5,325
North-Central	306	1 4	1,025	212	34	299	2,086	48	5,850	3,964	1,377	1,245	2,069	2,849
Western	279	685	1,702	1,057	63	233	3,070	129	10,109	7,001	1,991	2,226	3,328	3,257
Wimmera	105	778	2,697	2,833	58	1,789	3,308	3,043	8,572	5,804	3,784	3,926	3,798	2,660
Mallee	149	216	1,017	1,031	38	1,483	1,389	3,032	4,058	2,508	2,302	1,879	1,298	1,189
Northern	691	274	1,818	4,841	74	2,622	5,340	2,392	13,490	8,683	5,874	4,990	2,837	5,163
North-Eastern	317	104	839	331	30	356	1,576	282	5,221	3,404	1,140	871	1,514	2,049
Gippsland	365	236	630	39	65	148	1,114	16	8,198	5,885	2,405	678	2,657	4,815
Total	2,700	2918	11,556	10,727	453	7,182	21,739	8,988	72,396	49,092	24,837	18,568	22,521	27,307
1912.														
Central	506	639	1,937	326	85	266	3,905	54	17,734	12,349	6,181	2,680	5,847	5,920
North-Central	305	192	972	228	40	284	2,049	45	5,540	3,779	1,834	1,261	2,050	3,008
Western	276	939	1,650	1,218	72	229	3,174	105	10,475	7,181	2,163	2,406	3,242	4,071
Wimmera	122	1084	2,549	3,203	60	1,745	3,328	2,950	8,816	5,986	4,221	4,055	3,877	3,044
Mallee	147	379	1,093	1,320	33	1,416	1,387	3,084	4,805	2,562	2,570	2,254	1,564	1,503
Northern	694	390	1,727	5,223	76	2,395	5,296	2,049	13,957	8,832	6,517	5,243	2,726	5,878
North-Eastern	372	177	822	383	39	380	1,657	322	5,524	3,449	1,227	951	1,675	2,381
Gippsland	451	371	626	126	70	145	1,177	12	8,516	6,070	2,489	1,010	2,231	4,996
Total	2,873	4271	11,376	12,027	475	6,870	21,973	8,621	75,367	50,208	26,752	19,865	23,172	30,891

NOTE.—The returns collected in March, 1912, showed that there were also in use 1,122 milking machine plants, 3,645 shearing machines, 3,633 wool presses, and 1,548 grain graders.

Compared with 1911, the decrease shown by the figures for 1912 in the number of winnowers and strippers is the result of an increased use of harvesters, which have grown in numbers in each district. The only other decrease is in the number of horse-works. Each district has contributed towards a substantial increase in the number of oil-engines, harvesters, cultivators, grain drills, and cream separators, and there has been an increase in the number of ploughs and harrows in each district except the North-Central, of chaff-cutters in each district except the Western and Northern, and of steam engines in each district except the North-Central, Western and Mallee.

The following are particulars respecting dairying in Victoria for each of the last nine years:—

DAIRYING, 1903 TO 1911.

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.	
1903 ..	41,824	515,179	46,685,727	5,681,515	8,986
1904 ..	42,931	632,493	61,002,841	4,747,851	13,408
1905 ..	46,757	649,100	57,606,821	4,297,350	15,710
1906 ..	47,741	701,309	68,088,168	4,877,593	19,446
1907 ..	49,406	709,279	63,746,354	4,397,909	20,599
1908 ..	49,153	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

The general diminution shown in 1908 was the result of an exceptionally dry autumn; but since then the industry has made an excellent recovery, and although the number of cows is still lower than in 1906 and 1907, yet the butter made in 1910 and 1911 has each year successively exceeded that made in any previous year.

It is generally regarded that the milk required to make 1 lb. of butter will make about 2 lbs. of cheese, and on this basis the figures in the table show that, after deducting supplies required for milk and cream consumed in their natural state and for milk concentrated, condensed, or preserved, the average production from each dairy cow was equal to 127 lbs. of butter in 1911, as against an average of 109 lbs. in 1910, 92 lbs. in 1909, 83 lbs. in 1908, 93 lbs. in 1907, 100 lbs. in 1906 and 1904, 92 lbs. in 1905, and 97 lbs. in 1903.

Live stock.

The numbers of horses, cattle, sheep, and pigs, in each of the last six census years, together with the numbers per head of the population at each period, are shown in the following table. The progress of the industries dependent on the breeding of stock is thus indicated:—

LIVE STOCK PER HEAD OF POPULATION: RETURN FOR SIX CENSUS YEARS.

Stock.	1861.		1871.		1881.	
	Population, 540,322.		Population, 731,528.		Population, 862,346	
	Number.	Per Head of Population.	Number.	Per Head of Population.	Number.	Per Head of Population.
Horses (including foals) ..	76,536	·14	209,025	·29	275,516	·32
Cattle—						
Milch Cows	197,332	·37	212,193	·29	329,198	·38
Other	525,000	·97	564,534	·77	957,069	1·11
Sheep	5,780,896	10·70	10,477,976	14·32	10,360,285	12·01
Pigs	61,259	·11	180,109	·25	241,936	·28

Stock.	1891.		1901.		1911.	
	Population, 1,140,405.		Population, 1,201,341.		Population, 1,315,551	
	Number.	Per Head of Population.	Number.	Per Head of Population.	Number.	Per Head of Population.
Horses (including foals) ..	436,469	·38	392,237	·33	472,080	·36
Cattle—						
Milch Cows	395,192	·35	521,612	·43	668,777	·51
Other	1,387,639	1·22	1,080,772	·90	878,792	·67
Sheep	12,692,843	11·13	10,841,790	9·03	12,882,665	9·79
Pigs	282,457	·25	350,370	·29	333,281	·25

The animals are apportioned in this table to the number of inhabitants of Victoria, and in the next table to the number of square miles in the State.

LIVE STOCK PER SQUARE MILE: RETURN FOR SIX CENSUS YEARS.

Year.	Average per Square Mile (Area of Victoria, 87,884 Square Miles).					
	Horses.	Cattle.		Sheep.	Pigs.	
		Milch Cows.	Other.			
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	

The increase in each class was constant up to 1891, except for a slight fall in the number of sheep between 1871 and 1881. Between the censuses of 1891 and 1901, however, there was a reduction in the numbers of horses, cattle generally, and sheep; and between 1901 and 1911 there was a decrease in the number of cattle other than dairy cows, as well as in the number of pigs. The number of milch cows increased considerably in the last decade, indicating the growth of the dairying industry, and explaining in part the largely augmented output of butter.

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, 1910, will be found on page 667, and the sheep, further classified in different sized flocks, in March, 1910, are enumerated on page 718:—

LIVE STOCK IN VICTORIA, 1908 TO 1912.

Live Stock.	1908.	1909.	1910.	1911.	1912.
Horses (including foals) ...	424,648	424,903	442,829	472,080	507,813
Cattle—					
Dairy Cows ...	709,279	609,166	625,063	668,777	699,555
Other (including calves) ...	1,133,528	964,996	924,577	878,792	947,572
Sheep ...	14,146,734	12,545,742	12,937,983	12,882,665	13,857,804
Pigs ...	211,002	179,358	217,921	333,281	348,069

It will be seen that the figures for 1912 relating to all classes of stock are above those for the previous year. Horses, which include 63,291 foals reared, show an increase of 35,733, dairy cows an increase of 30,778, other cattle an increase of 68,780, sheep an increase of 975,139, and pigs an increase of 14,788.

Prices of
stock.

In the following table will be found a statement of the average and the range of prices ruling in Melbourne during the years 1910 and 1911 for live stock. The information has been extracted from the *Melbourne Stock and Station Journal* :—

PRICES IN MELBOURNE OF LIVE STOCK, 1910 AND 1911.

Stock.	Prices in 1910.						Prices in 1911.											
	Average.			Range.			Average.			Range.								
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.						
<i>Horses.</i>																		
Extra heavy draught	51	10	0	48	0	0 to	54	0	0	51	17	6	49	10	0 to	54	0	0
Medium draught ..	40	5	0	38	10	0 to	43	0	0	41	7	6	39	10	0 to	44	0	0
Delivery Cart ..	30	2	6	27	10	0 to	33	0	0	32	7	6	30	10	0 to	34	0	0
Indian Remounts ..	23	2	6	22	10	0 to	25	0	0	23	10	0	22	0	0 to	26	0	0
Saddle and Harness	12	7	6	11	10	0 to	14	0	0	12	12	6	12	0	0 to	14	0	0
Ponies ..	23	12	6	22	0	0 to	24	0	0	23	17	6	23	0	0 to	25	0	0
<i>Fat Cattle.</i>																		
Bullocks—																		
Extra Prime ..	12	2	0	10	11	0 to	14	2	0	11	7	0	10	6	0 to	12	11	0
Prime ..	10	9	0	9	7	0 to	12	8	0	9	17	0	9	0	0 to	10	12	0
Good ..	8	17	0	7	17	0 to	10	15	0	8	11	0	7	15	0 to	9	7	0
Good Light and Handy Weights ..	7	11	0	6	5	0 to	9	10	0	7	10	0	6	15	0 to	8	5	0
Second ..	6	10	0	5	12	0 to	8	0	0	6	9	0	5	7	0 to	7	12	0
Cows—																		
Best ..	7	9	0	6	7	0 to	8	15	6	7	3	0	5	16	0 to	8	17	0
Others ..	5	14	0	4	10	0 to	7	7	0	5	9	0	3	18	0 to	6	17	0
<i>Young Cattle.</i>																		
Prime Steers and Heifers ..	4	10	0	3	10	0 to	5	7	0	4	10	0	3	17	0 to	5	2	0
Calves, prime ..	2	11	0	1	15	0 to	3	0	0	2	13	0	2	5	0 to	3	7	0
„ good ..	1	15	0	1	2	0 to	2	2	0	1	19	0	1	10	0 to	2	10	0
<i>Dairy Cattle.</i>																		
Best Milkers ..	9	8	0	7	12	0 to	11	1	0	9	10	0	8	7	0 to	10	19	0
Good ..	6	19	0	4	10	0 to	9	10	0	7	3	0	6	5	0 to	8	8	0
Inferior ..	4	3	0	3	0	0 to	5	15	0	3	19	0	3	0	0 to	5	0	0
Springers, best ..	7	9	0	5	12	0 to	8	18	0	7	1	0	5	15	0 to	8	5	0
Heifers, best Springers	5	16	0	4	5	0 to	7	5	0	5	2	0	4	0	0 to	6	12	0
Dry Cows ..	3	9	0	2	7	0 to	4	0	0	3	12	0	3	0	0 to	4	5	0
Stores ..	2	14	0	2	5	0 to	3	2	0	2	14	0	2	7	0 to	3	6	0
<i>Fat Sheep.</i>																		
Wethers (cross)—																		
Extra Prime ..	0	19	4	0	12	3 to	1	5	6	0	18	2	0	13	4 to	1	3	9
Prime ..	0	17	1	0	11	4 to	1	2	6	0	16	4	0	12	0 to	1	0	3
Good ..	0	14	10	0	10	0 to	0	19	9	0	14	6	0	10	0 to	0	13	1
Ewes (cross)—																		
Extra Prime ..	0	16	6	0	11	3 to	1	2	9	0	15	7	0	11	3 to	0	19	9
Prime ..	0	14	2	0	9	3 to	0	19	6	0	13	8	0	10	0 to	0	17	7
Good ..	0	11	11	0	7	7 to	0	16	4	0	11	9	0	7	9 to	0	15	10

PRICES IN MELBOURNE OF LIVE STOCK, 1910 AND 1911—continued.

Stock.	Prices in 1910.						Prices in 1911.											
	Average.			Range.			Average.			Range.								
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.			
<i>Fat Sheep</i> —continued.																		
<i>Wethers (merino)</i> —																		
Prime	0	15	5	0	9	9 to	1	0	9	0	14	7	0	10	1 to	0	19	0
Good	0	13	2	0	8	9 to	0	18	9	0	12	7	0	9	4 to	0	16	9
<i>Ewes (merino)</i> ..	0	10	8	0	6	3 to	0	16	9	0	9	10	0	6	7 to	0	15	4
<i>Fat Lambs.</i>																		
Extra Prime ..	0	14	6	0	9	7 to	0	17	10	0	13	8	0	11	6 to	0	16	0
Prime	0	12	5	0	8	4 to	0	15	10	0	11	10	0	9	10 to	0	13	10
Good	0	10	5	0	6	10 to	0	13	9	0	10	4	0	8	6 to	0	12	1
Second	0	8	5	0	6	0 to	0	11	0	0	8	10	0	7	1 to	0	10	7
<i>Pigs.</i>																		
<i>Back Fattens</i> —																		
Extra Heavy																		
Prime	4	4	0	2	15	0 to	5	12	0	3	7	0	2	2	0 to	4	11	0
Extra Prime and																		
Weighty ..	2	17	0	1	18	0 to	3	10	0	2	4	0	1	12	0 to	3	7	0
<i>Baconers</i>																		
Extra Prime ..	2	13	0	2	2	0 to	3	4	0	2	5	0	1	16	0 to	2	16	0
Prime	2	9	0	1	17	0 to	2	19	0	2	0	0	1	10	0 to	2	10	0
<i>Porkers</i>	1	13	0	1	7	0 to	2	0	0	1	7	0	1	0	0 to	1	13	0
<i>Stores</i>	1	3	0	0	19	0 to	1	7	0	0	18	0	0	12	0 to	1	3	0
<i>Slips and Suckers</i> ..	0	11	0	0	8	0 to	0	15	0	0	8	0	0	5	0 to	0	12	0

Compared with 1910, the average prices of horses and the better grades of dairy cattle in 1911 point to improved values; but those of horned cattle (with the above exception), sheep, and pigs generally, show a reduction. The range of prices indicates fluctuations in value during each year as well as unevenness in the quality of all classes of stock.

The returns of stock slaughtered in the last nine years have been partly furnished by the municipal authorities, and partly collected by the police. The numbers include those slaughtered on farms and stations, as well as in municipal abattoirs. Previously to 1903, the returns were furnished solely by the municipal authorities, an estimate being made of the stock slaughtered privately. The following is a statement of the stock slaughtered during each of the last ten years:—

STOCK SLAUGHTERED: 1902 TO 1911.

Year.	Number Slaughtered.		
	Sheep and Lambs.	Cattle.	Pigs.
1902	2,827,938	233,206	224,431
1903	2,652,569	235,284	164,745
1904	2,305,729	243,937	191,311
1905	2,576,316	249,454	248,568
1906	2,826,144	261,034	274,391
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

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

PURPOSES FOR WHICH STOCK WERE SLAUGHTERED: 1902 TO 1911.

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.
1902	2,337,262	229,728	106,390	378,029	2,293	..	13,211	485	117,984	99,436	700	57
1903	2,337,958	231,682	52,681	294,908	1,630	4,200	11,400	1,473	107,754	8,305	499	110
1904	1,843,896	242,276	67,302	459,963	720	3,200	1,095	699	120,758	775	242	61
1905	1,922,402	231,519	92,347	649,107	16,663	1,959	3,229	981	154,190	1,578	291	72
1906	2,170,581	251,004	96,618	651,914	8,009	2,580	2,522	1,476	175,120	1,127	545	78
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	2,25	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

The most noticeable figures in these tables are those relating to sheep—a large proportion of which were lambs—slaughtered for freezing. The numbers in 1910 and 1911 were considerably greater than in any previous year, and indicate the extent of the growth of the frozen meat trade in Victoria. In 1911 the oversea exports included 27,788,570 lbs. of lamb and 27,102,666 lbs. of mutton, valued at £472,249 and £326,259 respectively, all of which, excepting about 2 per cent., was sent to the United Kingdom.

Gain or loss
in live
stock.

The following is a return of the imports and exports of animals under principal heads during 1909. The export of horses was largely to New South Wales and India, and the other trade in live stock was principally with Australian States:—

LIVE STOCK IMPORTED AND EXPORTED, 1909.

	Number of—			
	Horses.	Cattle.	Sheep.	Pigs.
Imported	6,696	90,539	1,650,381	1,860
Exported	7,432	81,935	842,922	95
Net Imports ... ..	...	8,604	807,459	1,765
Net Exports	736	...	...	...

The information in this table, combined with that relating to stock held at the end of 1909 and stock slaughtered during that year, shows that there were no very serious losses by death of live stock during the year. By adding the increase in the number on hand, the stock slaughtered, and the stock exported (net) during 1909, it will be seen that after replacing losses by mortality, those reared give a net production for that year of about 18,600 horses, 254,400 cattle, 3,293,300 sheep, and 247,400 pigs. In consequence of the abolition of records of Inter-State imports and exports reliable estimates of the production since 1909 cannot be given.

In the last seven years the wool production of the State has been arrived at by a method which gives a much more accurate estimate of the season's production than formerly. The information relating to the clip has been obtained direct from the growers, and an allowance has been made for the wool on Victorian skins, both stripped and exported. Previously, the wool production was estimated from the Customs returns for the calendar year, but it is considered that under the present method the production of each particular season can be better distinguished.

VICTORIAN WOOL CLIP AND ESTIMATED TOTAL PRODUCTION FOR THE SEASON, 1911-12.

Districts.	Wool Clip, 1911-12.			
	Sheep.	Lambs.	Total.	
	lbs.	lbs.	lbs.	
Central	5,927,339	533,614	6,460,953	
North-Central	6,475,438	604,584	7,080,022	
Western	27,358,117	2,059,472	29,417,589	
Wimmera	14,560,414	958,213	15,518,627	
Mallee	4,990,617	367,286	5,357,903	
Northern	12,757,796	1,024,668	13,782,464	
North-Eastern	4,708,800	462,041	5,170,841	
Gippsland	5,123,708	495,112	5,618,820	
Total Clip*	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
	1906-7	67,943,784	6,739,416	74,683,200
	1905-6	58,919,314	5,258,557	64,177,871
	1909-10.	1910-11.	1911-12.	
	lbs.	lbs.	lbs.	
Wool clip	76,679,609	80,074,270	88,407,219	
Wool stripped from Victorian skins (estimated)	6,551,844	7,450,158	7,520,490	
Wool on Victorian skins exported (estimated)	12,101,376	14,279,216	14,535,332	
Total production	95,332,829	101,803,644	110,463,041	
Total value	£4,044,755	£4,318,100	£4,142,747	

* The average weight of the fleece in 1911-12 was—sheep, 7·28 lbs.; lambs, 2·33 lbs.; sheep and lambs combined, 6·29 lbs.

The quantity of wool produced last season, as the result of a better average clip and an increased number of sheep, was 8½ per cent. in excess of that for 1910-11. Its value—£4,142,747—was 4 per cent. less than in the previous season.

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 five years were as follows:—

WOOL PRODUCTION: HOME CONSUMPTION AND EXPORTABLE BALANCE.

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

Wool production—
Australian States.

The quantity and value of wool produced in the various Australian States in 1910 were as follows:—

	Quantity.	Value.
	lbs.	£
Victoria	101,803,644	4,318,100
New South Wales	415,333,000	15,708,000
Queensland	139,250,802	5,908,000
South Australia	59,941,000	2,206,000
Western Australia	29,620,000	1,079,000
Tasmania	9,938,540	401,312

In the case of South Australia, the figures given relate to the export oversea of South Australian wool, with the addition of an estimate of the quantity and value of wool on skins exported oversea; in that of Western Australia they represent the wool clip plus an estimate of the wool on skins exported oversea.

Prices of
Wool.

The following information as to the average prices of wool per lb. prevailing during the past three seasons has been extracted from Messrs. Goldsborough, Mort, and Co.'s annual review:—

PRICES OF WOOL, 1909-10 TO 1911-12.

Class of Wool.	Average Value per lb. in—		
	1909-10.	1910-11.	1911-12.
GREASY MERINO.			
Extra Super (Western District)...	18d. to 21d.	15d. to 18½d.	15d. to 18½d.
Super	16d. to 17½d.	13½d. to 14½d.	13½d. to 14½d.
Good	13d. to 14½d.	11½d. to 12½d.	11½d. to 12½d.
Average	12d. to 13d.	11d. to 12d.	11d. to 12d.
Wasty and Inferior	7½d. to 9½d.	6½d. to 8d.	6½d. to 7½d.

PRICES OF WOOL, 1909-10 TO 1911-12—continued.

Class of Wool.	Average Value per lb. in—		
	1909-10.	1910-11.	1911-12.
GREASY MERINO—continued.			
Extra Super Lambs	21d. to 23½d.	24d. to 27d.	17½d. to 20½d.
Super Lambs	15d. to 18d.	16d. to 19d.	14d. to 16d.
Good Lambs	11½d. to 13½d.	11d. to 12d.	11d. to 13d.
Average Lambs	9d. to 10d.	8d. to 9d.	8d. to 9d.
Inferior Lambs	5d. to 6½d.	4d. to 5d.	3d. to 4d.
GREASY CROSSBRED.			
Extra Super Comebacks	17d. to 18½d.	14d. to 15½d.	13½d. to 14½d.
Super Comebacks	15d. to 16½d.	13½d. to 14½d.	12d. to 13d.
Fine Crossbred	13d. to 14½d.	11½d. to 12½d.	10½d. to 11½d.
Medium Crossbred	10d. to 11d.	8d. to 9d.	8d. to 9d.
Coarse Crossbred and Lincoln	8½d. to 9½d.	6½d. to 7½d.	6½d. to 7½d.
Super Fine Crossbred Lambs	13d. to 16d.	12½d. to 14½d.	11½d. to 13d.
Good Crossbred Lambs	11d. to 12d.	10d. to 11½d.	10d. to 11½d.
Coarse and Lincoln Lambs	8d. to 9½d.	7½d. to 8½d.	7½d. to 8½d.
SCOURED.			
Extra Super Fleece	24d. to 25½d.	22d. to 23½d.	22d. to 24½d.
Super Fleece	22d. to 23d.	20d. to 21d.	20d. to 21d.
Good Fleece	20d. to 22d.	19d. to 20d.	18d. to 19d.
Average Fleece	19d. to 20d.	17½d. to 18½d.	16d. to 17½d.
RECORD PRICES FOR THE SEASON.			
Greasy Merino Fleece	21d.	18½d.	18½d.
" Comeback Fleece	18½d.	15½d.	14½d.
" Merino Lambs	25½d.	27d.	20½d.
" Comeback Lambs	16d.	14½d.	13d.
Scoured Fleece	25½d.	23½d.	24½d.

Returns which were collected in March, 1910, gave 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:—

NUMBER OF FLOCKS AND OF SHEEP IN DISTRICTS, 1910.

District.	Number of—		Average Number of Sheep in a Flock.	Percentage of—	
	Flocks.	Sheep.		Flocks.	Sheep.
Central ..	2,592	982,754	379	10·69	7·63
North-Central ..	2,043	972,439	476	8·43	7·55
Western ..	5,445	4,327,632	795	22·45	33·58
Wimmera ..	4,038	2,250,811	557	16·65	17·47
Mallee ..	1,118	631,337	565	4·61	4·90
Northern ..	4,659	2,020,911	434	19·21	15·68
North-Eastern ..	1,985	797,999	402	8·19	6·19
Gippsland ..	2,368	901,483	381	9·77	7·00
Total ..	24,248	12,885,366	531	100·00	100·00

The figures do not include 52,617 sheep which were travelling on roads, or were located in cities and towns. The average number of sheep to a flock in Victoria was 531, and this average was exceeded in three of its divisions—the Western, Wimmera, and Mallee Districts. There were some very large-sized flocks in the Western District, and, as a consequence, it contained 33½ per cent. of the total sheep in the State, though it possessed only 22½ per cent. of the total flocks. In the Central, North-Eastern, and Gippsland districts, which contained 28½ per cent. of the flocks, but only 21 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. From 1906 to 1910 there had been an increase of 8,181 flocks, or of 1,545,244 sheep, each district having contributed to the increase of flocks and, with the exception of the Central and Western Districts, to the increase of sheep. The average number of sheep in a flock had decreased in each district, that of the State as a whole having been reduced during the period from 706 to 531. The decrease in the average size of flocks, combined with the increase in the number of sheep, is evidence of the growing popularity of sheep-farming. Excluding sheep travelling and 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, 1910.

Size of Flocks.	Number of—		Percentage of—	
	Flocks.	Sheep.	Flocks.	Sheep.
Under 500	18,589	2,614,051	76·66	20·29
500 to 1,000	3,205	2,267,722	13·22	17·60
1,001 „ 2,000	1,477	2,100,701	6·09	16·30
2,001 „ 3,000	378	923,881	1·56	7·17
3,001 „ 5,000	258	994,634	1·07	7·72
5,001 „ 7,000	107	629,821	·44	4·89
7,001 „ 10,000	93	797,754	·38	6·19
10,001 „ 15,000	69	850,294	·29	6·60
15,001 „ 20,000	35	624,688	·14	4·85
Over 20,000	37	1,081,820	·15	8·39
Total	24,248	12,885,366	100·00	100·00

Flocks of over 15,000, though not very numerous, being only about one in every 337, accounted for over 13 per cent. of all sheep, whilst those in the most general size—under 500 sheep—comprised 77 per cent. of the total flocks, and only 20 per cent. of the sheep. Of the largest flocks, 25 containing 712,609 sheep belonged to the Western District counties, and 4, containing 128,775, to the Central District counties. Flocks of from 15,001 to 20,000 were also chiefly confined to the Western District, where 28 of them, representing

491,367 sheep were located—so that as regards this size the district possessed four-fifths of the flocks and sheep in the State. The Western District had, altogether, over 33½ per cent. of the total sheep in Victoria, but only 18 per cent. of the number in this district was in flocks up to 1,000. In every other district the keeping of sheep was combined with agriculture to a much greater extent, as of the total in each district the proportion per cent. in flocks up to 1,000 was, in the Northern, 53; Mallee, 50; Wimmera, 48; North-Eastern, 47; Gippsland, 44; North-Central, 44; and Central, 43. Between 1906 and 1910, the flocks up to 1,000 had increased by 7,740, or 55 per cent., and the sheep in them by 1,501,078, or 44 per cent.; while in the same period the flocks over 1,000 had increased by 441, or 22 per cent., and the sheep in them by only 44,166, or less than 1 per cent.

The numbers of sheep of different breeds in Victoria in March, 1912, have been estimated as follows:—

Breed of sheep.

SHEEP ACCORDING TO BREED, MARCH, 1912.

Breed of Sheep.	Number.
Merino	4,988,800
Comeback	3,187,300
Crossbred, coarse	1,801,500
" Shropshire and Southdown	1,662,900
Lincoln	970,000
Shropshire	554,300
Other	693,004
Total	13,857,804

The export trade in frozen lamb began in 1892, and in the years that have since elapsed, it has so enormously developed that it is now recognised as one of the principal industries of the State. In 1892, 11,794 centials of beef and mutton, and in 1894, 111,715 centials of mutton, or some 250,000 carcasses, were exported. In two years from its inception the trade had increased tenfold, and this prosperous beginning was the index of its future expansion. For three or four years after the inception of the trade mutton was the chief export, but in 1896 the export of lambs commenced to be seriously viewed by graziers. The trade in lambs has since grown to such an extent that even the most sanguine prophecies concerning it seem likely to fall short of realization. In 1909, 941,309 carcasses—760,308 of lamb, and 181,001 of mutton—in 1910, 1,573,516 carcasses—1,087,179 of lamb, and 486,337 of mutton—and in 1911, 1,578,132 carcasses—953,192 of lamb, and 624,940 of mutton—were frozen for export.

Lamb Raising.

The soil and climate of Victoria are well suited to the economical production of both lamb and mutton, 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 exceptionally mild conditions prevailing, the industry can be carried on with absolute success.

The growing of wheat and the raising of lambs are two industries which are mutually dependent: farmers should, therefore, more actively combine these pursuits, as in so doing they will effect subtle transmutations in farming operations. Sheep, moreover, keep fields free from weeds, in addition to causing an enrichment of the ground.

In Victoria the legislative trend is towards the breaking up of large estates, and many small holdings have been established. With the extension of the intense culture methods that are being impressed on farmers, lamb-raising is becoming an extensive industry. Oversea markets for mutton and lamb are continually being opened up, so that there is no risk of the trade being overdone. The general meat supplies for the increasing populations of Europe fall far short of requirements, and it is expected that the markets of Germany and Austria, now closed to Australian meats, will soon be thrown open, and will furnish a further impetus to our trade.

The demand in Europe and America for mutton and wool is persistently increasing, while the supplies of these commodities are relatively decreasing in consequence of the continuous growth and spread of population, and the increasing inability of stock owners in old countries to augment their flocks, because of the contraction of their grazing lands. Old lands whose territories are limited, and whose populations are vast and increasing, cannot find room to depasture the great flocks and herds necessary to meet their requirements, and so must look for supplies of meat and wool to newer lands, where sheep will flourish and where extensive grazing areas are available. The possibilities, then, for settlers in Victoria who may embark in the industry of raising lambs for export oversea are unbounded; the hours of toil are neither long nor exacting, and the industry is now one of the most profitable and popular of farming occupations. With the continuous breaking up of large estates and the settlement of increasing numbers of small sheep-farmers on the land, mutton will become the primary and wool the incidental consideration, instead of the present reverse condition existing.

If special fodder crops were generally grown and methods of husbandry practised on the same lines as in New Zealand, it should be quite possible for Victoria to soon possess 25,000,000 sheep, whereas at present the number is only 13,857,804. The carrying capacity of a farm is increased by growing special fodder crops, but at the present time, although unlimited markets exist abroad, graziers do not make sufficient special provision for feeding their stock. They, for the most part, rely entirely on the natural pastures. If systematic efforts were made to extensively grow fodder crops, graziers would not only materially augment their own incomes, but would also increase the resources and prosperity of the State.

Where rainfall is certain and irrigation possible lucerne as a mainstay fodder should be grown, for the cultivation of this crop vastly increases the carrying capacity of the farm. When the irrigation schemes of the Northern areas are completed an enormous impetus will be given to lamb production. Lucerne, rape, kale and turnips, which are the best fattening fodders for sheep, will then, no doubt, be grown in great luxuriance.

There is no limit to the demand for meat in Europe, and the only real rival we have in oversea markets is the Argentine Republic, for there the seasons correspond with our own. Victoria is a State peculiarly free from diseases that decimate flocks, and in this respect is in a much more fortunate position than the Argentine, where State assistance towards promoting prosperity and checking ravages of disease is not rendered to the same extent as in Victoria.

The possibilities, then, for farmers engaging in the trade of raising lambs in this State for export are very great, and no apprehension need be felt that the outlet for lambs is likely to become contracted. The significant feature to be kept in mind is that the number of sheep all the world over is not keeping pace with the increase in population. Europe is now finding that it must largely depend on oversea countries for its meat supplies.

Raising lambs, although not an arduous vocation, is a calling in which one must possess some knowledge of farm practice and of the management of flocks, in addition to having an acquaintance with diseases incidental to sheep, before one can hope to meet with success. Settlers who take up this work will, however, experience but little difficulty in gaining knowledge, inasmuch as the State officers are always prepared to proffer advice on any difficulties that may crop up.

The breeding of pigs for export, either in the form of pork or bacon, if conducted on systematic lines, should prove a remunerative business. As an adjunct to dairying and general farm operations pig-breeding should be considered an indissoluble factor. Pigs are the best agents to profitably use up the waste products of a farm, and separated milk and damaged grain can profitably be converted into pork. Too much stress cannot be put on the necessity of skim-milk being sterilized before being fed to pigs. Recent experiments, which have been confirmed by bacteriological examination, have clearly demonstrated the probability of the prevalence of tuberculosis in pigs in dairying districts being due to the feeding of pigs on slimes and separated, unsterilized milk. Notwithstanding the incessant demand for pig products, farmers regard with some indifference this important branch of agriculture. There are only 348,069 pigs in the State at the present time, and this number could be enormously and advantageously increased, for there is a continuous demand in the old world for products of swine origin. It is estimated that in the principal countries of the world there exist 137,448,000 pigs. During 1911, 7,308 carcasses of pork were exported from Victoria. Pork.

Beef and
Veal.

The raising of beeves for export is not as yet a great undertaking in the State, although the industry is capable of being established in districts where water is plentiful and where special fodder crops can be advantageously grown. The rearing of milk herds is an important business in Victoria, for the production of milk is one of the staple industries of the State. The number of cattle being raised in the world is not keeping pace with the increase of population, and therefore short supplies of beef in thickly populated countries must inevitably occur. It is estimated that there are about 448,460,000 cattle in the civilized countries of the world.

It is possible for Victoria to raise extensive herds, not only of dairy cattle, but also of beeves to furnish meat supplies for oversea markets. During 1911, there were exported 1,609 carcasses of beef, and 4,513 carcasses of veal.

Live stock
in Australia
and New
Zealand.

In the following statement are given the total number and the number per square mile of horses, cattle, sheep, and pigs in the various Australian States, according to the returns for the end of 1911, and in New Zealand for April of that year.

LIVE STOCK IN AUSTRALASIA, 1911.

State, etc.	Horses.	Cattle.		Sheep.	Pigs.
		Milch Cows.	Other.		
Total Number.					
Victoria	507,813	699,555	947,572	13,857,804	348,069
New South Wales	685,515	830,144	2,321,567	45,032,022	368,889
Queensland	618,954	357,095	4,716,106	20,740,981	173,902
South Australia ..	259,719	121,803	271,763	6,171,907	93,130
The Northern Territory	21,407	..	459,780*	50,983	1,500
Western Australia..	140,026	27,680	787,297	5,408,583	55,568
Tasmania	41,853	56,858	160,548	1,823,017	67,392
New Zealand	404,284	633,733	1,386,438	23,996,126	348,754
Number per Square Mile.					
Victoria	5·78	7·96	10·78	157·68	3·96
New South Wales	2·21	2·67	7·48	145·09	1·19
Queensland	·92	·53	7·03	30·93	·26
South Australia ..	·68	·32	·72	16·24	·25
The Northern Territory	·04	..	·88*	·10	·003
Western Australia..	·14	·03	·81	5·54	·06
Tasmania	1·60	2·17	6·12	69·54	2·57
New Zealand	3·86	6·05	13·24	229·08	3·33

* Including milch cows.

In 1911, as compared with the preceding year, the number of horses had increased in each State and in New Zealand, but had decreased in the Northern Territory; cattle had increased in four States and New Zealand, but not in Queensland, Western Australia, and the Northern Territory; sheep had increased in four States and

New Zealand, but not in New South Wales, South Australia, and the Northern Territory; and pigs had increased in four States, the Northern Territory, and New Zealand, but not in South Australia and Western Australia. Live stock, in proportion to area, are evidently most numerous in New Zealand, which possesses horses, cattle, and sheep equal to about 383 sheep to the square mile; Victoria comes next with 328; then follow New South Wales with 228; Tasmania with 135; Queensland with 85; South Australia with 29; and Western Australia with 12; after which comes the Northern Territory with stock equivalent to 6 sheep to the square mile.

The following is a statement of the number of sheep in the world at the latest dates for which information is available, according to the *Year-Book*, United States Department of Agriculture:—

World's supply of sheep.

NUMBER OF SHEEP IN THE WORLD, 1911.

	No. of Sheep.
United Kingdom	30,485,000
Other European countries	148,774,000
Total Europe	179,259,000
Australia and New Zealand	117,081,000
Asia	110,059,000
Africa	51,429,000
North America... ..	59,048,000
South America... ..	99,013,000
Total	615,889,000

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. It is surprising that this should be so, as ensilage-fed animals at all times present an appearance of health and vigour. In Victoria, where almost every season the rapid drying up of the grass under the excessive heat of the summer sun causes large areas of pasture land to be parched and grassless, and where green food usually disappears from December till Autumn, an artificial method of preserving fodder should be of the utmost possible benefit, as the advantage of the luxuriance of trefoil, grasses, and self-sown crops in the spring would not then be lost. The juicy state in which the silo preserves ensilage fulfils an important requirement of ruminant animals, viz.:— that their food should be presented in a succulent condition. Even in districts where fresh green fodder is available throughout the greater part of the year, the advantage of being able to secure the crop when it is in its best condition seems so evident, that the silo should soon become an indispensable adjunct on every farm.

Ensilage.

The returns for Victoria relating to the years 1903 to 1912 show that in the year 1909-10 there was a substantial increase in the number of farmers who made ensilage, and in the material used, as compared with previous years, but that in the succeeding years there was a considerable decline, the number of farmers who made

ensilage in 1911-12 being 147 less, the number of silos 206 less, and the materials used 6,392 tons less than in the year 1909-10.

ENSILAGE RETURNS, 1902-3 TO 1911-12.

Year Ended March.	Number of Farms on which made.	Number of Silos (Pits and Stacks).	Weight of Materials Used.
			Tons.
1903	111	..	4,703
1904	290	..	10,931
1905	300	..	12,779
1906	160	218	7,240
1907	210	278	10,581
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

Bee-keeping.

The returns for 1911-12 show that there were in that year 3,787 bee-keepers, who owned 39,078 frame and 14,633 box hives, producing 1,462,220 lbs. and 173,040 lbs. of honey respectively, and 28,405 lbs. of beeswax. In 1910-11 there were 4,043 bee-keepers who owned 36,651 frame and 16,111 box hives, producing 2,168,107 lbs. and 140,298 lbs. of honey respectively, and 34,695 lbs. of beeswax.

A curious feature of this industry is the regularity with which the good and "off" seasons alternate, the cause being that the particular eucalyptus from which the supplies of honey are chiefly drawn flowers only every other year. In the Wimmera, which is the chief honey-producing district, the production of honey fell from 1,411,634 lbs. in 1910-11 to 467,617 lbs. in 1911-12, although the number of hives had increased from 15,936 to 16,380 in the same interval. The following are the figures for the State for the last ten years:—

BEE-KEEPING, 1902-3 TO 1911-12.

Season ended May.	Number of Bee-keepers.	Bee Hives.	Honey.	Beeswax.
			lbs.	lbs.
1903	4,402	32,126	1,199,331	23,061
1904	5,609	40,759	833,968	18,979
1905	6,494	49,120	1,906,188	28,653
1906	5,300	41,780	1,209,144	21,844
1907	4,974	48,005	2,965,299	46,780
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

The numbers of the various kinds of poultry in the State, in Poultry. 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 1911 was £1,618,500.

The following table shows the number 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

It appears from the above that there was an increase in the number of poultry-owners between 1901 and 1911, and although geese and turkeys showed a slight decrease, there was an increase in fowls and ducks. The United Kingdom in the five years ended December, 1911, imported annually £7,363,255 worth of eggs, of which 41 per cent. was from Russia, 24½ per cent. from Denmark, 8½ per cent. from Austria-Hungary, 6½ per cent. from Italy, 5 per cent. from France, 4½ per cent. from Germany, 10 per cent from other foreign countries, and only ¼ per cent. from British countries. It also imported in these years an annual average of £899,742 worth of poultry, 99 per cent. of which was from foreign countries.

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, 1911, sums amounting to £567,779 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:—

State expenditure on rabbit destruction.

EXPENDITURE ON DESTRUCTION OF RABBITS, ETC.

	£		£
1879-80 to 1888-9	... 142,963	1904-5	... 16,603
1889-90 to 1898-9	... 208,638	1905-6	... 16,477
1899-1900	... 14,801	1906-7	... 16,513
1900-1	... 15,817	1907-8	... 17,585
1901-2	... 17,250	1908-9	... 22,756
1902-3	... 16,489	1909-10	... 23,005
1903-4	... 15,759	1910-11	... 23,123

In addition to the expenditure of £567,779 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, and £43,648 in 1910-11 were advanced from loans for the purchase of wire-netting for supply to municipalities and land-owners. A complete system, administered by an officer called the Chief Inspector under the Vermin Destruction Act, exists for effectually keeping the rabbits under control.

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

RABBITS, HARES, AND WILD-FOWL SOLD AT THE MELBOURNE FISH MARKET, 1902 TO 1911.

Year.	Rabbits.	Hares.	Wild Fowl.
	pairs.	brace.	brace.
1902 ...	471,964	2,401	32,756
1903 ...	316,462	1,024	13,130
1904 ...	402,944	1,466	49,556
1905 ...	364,066	903	47,348
1906 ...	275,166	535	28,610
1907 ...	298,024	260	58,210
1908 ...	231,216	148	20,634
1909 ...	235,548	163	42,240
1910 ...	245,208	130½	34,180
1911 ...	320,292	222	24,420

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

FROZEN RABBITS AND HARES EXPORTED OVERSEA: 1902 TO 1911.

Year.	Quantity.	Value.
	pairs.	£
1902 ...	3,213,376	158,043
1903 ...	3,447,077	165,580
1904 ...	4,045,036	125,038
1905 ...	5,093,952	219,665
1906 ...	4,622,307	221,064
1907 ...	3,251,231	154,789
1908 ...	1,743,466	84,835
1909 ...	1,675,578	82,182
1910 ...	1,372,087	68,469
1911 ...	1,373,501	69,426

In 1911 the exports oversea from Victoria also included 3,435,928 lbs. of rabbit and hare skins, valued at £156,877, and sent principally to the United Kingdom and the United States of America.

The following tables give information regarding the fishing industry. The first shows the various fishing stations round the coast and on the Murray and Goulburn Rivers, the number of men and boats engaged, and the value of the general fishing plant in use. The second shows the approximate quantity and value of Victorian and other fish sold in the Metropolitan market during the years 1910 and 1911; and the third shows the quantity and value

Rabbits,
&c., sold,
Melbourne
Fish
Market

Frozen
rabbits,
&c., ex-
ported.

Fishing
industry.

of Victorian fish sold in the Melbourne, Ballarat, and other markets during 1911:—

FISHING INDUSTRY—MEN AND BOATS EMPLOYED, 1911.

Fishing Stations.	Number of Men.	Boats.		Value of Nets and other Plant.
		Number.	Value.	
			£	£
Anderson's Inlet	8	7	68	195
Barwon Heads and Ocean Grove	9	6	660	200
Brighton	8	5	125	86
Corner Inlet, Welshpool, and Toora	50	54	2,252	611
Dromana	26	16	927	190
Echuca	9	9	26	57
Frankston	8	10	126	90
Geelong	52	22	940	728
Gippsland Lakes	393	247	9,588	3,787
Kerang	8	8	35	172
Lorne	5	2	24	51
Mallacoota	8	4	49	55
Mentone	8	7	72	37
Mordialloc	14	9	360	227
Mornington	19	15	710	391
Nathalia	25	15	38	50
Portarlington and St. Leonards	55	40	1,138	601
Portland	40	24	1,700	643
Port Albert	35	23	1,406	546
Port Fairy	27	19	1,326	309
Port Melbourne	77	36	1,388	581
Queenscliff	92	51	5,600	442
Sandringham	12	14	505	101
Sorrento, Portsea, and Rye	16	12	1,070	182
St. Kilda	5	3	43	90
Swan Hill	1	1	5	40
Warrnambool	3	2	86	73
Western Port (Cowes, Hastings, Flinders, San Remo, and Tooradin)	78	52	1,586	982
Williamstown	21	12	333	108
Total	1,112	725	32,186	11,625

The quantities and values of Victorian and other fish sold in the Melbourne Fish Market during the last two years were as shown hereunder:—

FISH SOLD IN THE MELBOURNE FISH MARKET, 1910 AND 1911.

	1910.		1911.	
	Quantity.	Value.	Quantity.	Value.
		£		£
Fresh Fish (Victorian) lbs.	9,612,598	60,080	9,279,312	57,995
Crayfish (Victorian) doz.	28,793	7,198	30,931	7,733
Imported Fish (fresh or frozen) lbs.	2,166,040	33,844	2,375,944	39,599
Oysters cwt.	21,929	18,796	27,170	26,005
Total .. .. .	..	119,918	..	131,332

In addition to the above, 1,272 cwt. of smoked fish, and 267 baskets of prawns were sold in this market in 1911.

The quantity and value of fish caught in Victorian waters, and sold in the Melbourne and Ballarat markets and elsewhere in 1911 were as follows:—

VICTORIAN FISH SOLD IN 1911.

Markets.	Quantity.		Value.	
	Fish.	Crayfish.	Fish.	Crayfish.
	lbs.	doz.	£	£
Melbourne	9,279,312	30,931	57,995	7,733
Ballarat	482,160	1,939	2,440	368
Other	159,894	1,565	999	391
Total	9,921,366	34,435	61,434	8,492

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 1911 are appended:—

FISH IMPORTED, 1909 AND 1911.

Fish—	1909.—Interstate.		1909.—Oversea.		1911.—Oversea.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
		£		£		£
Fresh or Preserved by cold process lbs.	1,772,999	22,720	758,545	11,076	939,255	16,471
Smoked	127,016	662	99,793	3,322	35,833	1,730
Fresh Oysters cwt.	16,941	8,529	7,935	4,145	6,110	3,149
Potted, &c. ..	..	41	..	4,559	..	5,364
Preserved in tins, &c. .. lbs.	117,177	3,266	4,823,366	116,931	4,566,631	123,359
N.E.I. .. cwt.	214	356	5,815	9,434	4,943	8,360
Total .. ..	..	35,574	..	149,467	..	158,433

The most important item in this table is fish preserved in tins and other air-tight vessels, of which 3,776,476 lbs., or 83 per cent. of the imports from oversea countries, came from the United Kingdom, the United States, and Canada in 1911.

Imports by
United
Kingdom
of articles
that may
be further
developed
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 the consumption of many articles which could be supplied from this State and would give very profitable employment. The magnitude of the importations by the United Kingdom of certain articles that can be profitably produced here is revealed by the particulars given in the table which follows. The figures, which are taken from the United Kingdom Board of Trade returns, represent the average annual imports for each of the five-year periods 1902 to 1906 and 1907 to 1911.

AVERAGE ANNUAL IMPORTS INTO THE UNITED KINGDOM,
1902 TO 1906, AND 1907 TO 1911.

Articles.	Period.	Annual Value of Imports into United Kingdom from—			
		Australia.	Other British Possessions.	Foreign Countries.	All Countries.
		£	£	£	£
Butter	1902-6	1,712,956	2,472,530	17,312,389	21,497,875
	1907-11	3,097,212	1,765,365	18,740,997	23,603,574
Cheese	1902-6	..	4,978,094	1,673,493	6,651,587
	1907-11	12,448	5,595,337	1,266,113	6,773,898
Eggs	1902-6	..	157,774	6,555,769	6,713,543
	1907-11	..	20,600	7,342,655	7,363,255
Meats	1902-6	1,429,209	6,863,373	30,711,627	39,004,209
	1907-11	3,471,839	6,607,903	32,736,164	42,815,906
Poultry and Game	1902-6	3,166	29,041	1,060,502	1,092,709
	1907-11	9,553	11,660	994,356	1,015,569
Fruit—Fresh, Dried, and Preserved ..	1902-6	266,617	1,252,458	11,902,119	13,421,194
	1907-11	384,980	1,434,343	12,611,445	14,430,768
Sugar	1902-6	..	965,979	16,076,546	17,042,525
	1907-11	2,608	1,604,791	20,786,705	22,394,104
Flax and Hemp ..	1902-6	..	1,002,204	6,434,494	7,436,788
	1907-11	..	805,505	6,402,596	7,203,101
Maize	1902-6	..	702,006	10,784,652	11,486,658
	1907-11	..	676,792	10,947,788	11,624,580
Wheat	1902-6	2,373,506	9,055,721	20,419,283	31,848,510
	1907-11	4,343,622	12,772,819	23,680,500	40,796,941
Wheatmeal and Flour	1902-6	230,520	945,335	6,578,130	7,753,985
	1907-11	191,694	1,220,634	4,773,220	6,185,548
Wine	1902-6	117,010	19,185	4,213,525	4,349,720
	1907-11	134,364	24,883	3,774,371	3,933,618
Leather	1902-6	401,190	2,515,675	5,473,448	8,390,313
	1907-11	402,231	2,904,885	6,152,809	9,459,925
Skins, Furs, and Hides	1902-6	935,298	2,877,271	4,998,422	8,810,991
	1907-11	1,766,625	3,685,330	7,746,724	13,198,679
Tallow and Stearine	1902-6	667,477	550,351	1,204,424	2,422,252
	1907-11	1,306,817	717,578	1,544,062	3,568,457
Wool (Sheep and Lambs)	1902-6	10,061,829	8,603,913	3,710,411	22,376,153
	1907-11	14,091,340	12,482,592	5,299,274	31,873,206

The requirements of the United Kingdom as regards the sixteen articles specified were met by foreign countries to the extent of 71 per cent. in the earlier, and of 67 per cent. in the later period. Only 9 per cent. of such requirements during the period 1902-6, and 12 per cent. during the period 1907-11 was supplied by Australia, where bountiful soils and a salubrious climate, especially in Victoria, give an opportunity of doing much more than at present in the supply of butter, meats, fruits, breadstuffs, &c. That it requires only increased population to enormously swell the output of primary products is apparent if a comparison be made with Great Britain, which is of equal size and less favoured generally by climate. The figures for 1911 relating to agriculture and live stock in Victoria and Great

Britain are for comparative purposes placed side by side in the table which follows:—

AGRICULTURE AND LIVE STOCK IN VICTORIA AND GREAT BRITAIN,
1911.

	Victoria.	Great Britain.
Area acres	56,245,760	56,214,419
Wheat produced bushels	20,891,877	62,657,368
Oats produced "	4,585,326	114,352,856
Barley produced "	1,024,584	50,988,600
Peas and Beans produced "	181,113	11,378,280
Potatoes produced tons	119,092	3,825,312
Turnips and swedes produced "	4,953*	16,396,948
Mangolds produced "	9,568	7,480,433
Hay produced "	1,032,288	7,181,904
Horses No.	507,813	1,627,393
Cattle "	1,647,127	7,114,264
Sheep "	13,857,804	26,494,992
Pigs "	348,069	2,822,154

* Includes beet, carrots, and parsnips.

It should be possible in Victoria to have as great a production from agriculture and to maintain as many live stock as in Great Britain.

MINING.

State
expendi-
ture in aid
of Mining
Industry.

The mining industry has received considerable assistance from the State Treasury, details of which are given in the following statements:—

EXPENDITURE ON MINING: 1906-7 TO 1910-11.

	1906-7.	1907-8.	1908-9.	1909-10.	1910-11.
Expenditure from Consolidated Revenue.					
	£	£	£	£	£
Mining Department	26,200	26,531	24,910	25,795	25,738
State Coal Mine ... ..	...	...	...	46,695	152,573
Coal Mines Regulation—Sinking Fund and Depreciation Fund ...	...	...	...	...	15,575
Victorian coal—Allowance to Railway Department on carriage of	11,302	7,541	7,419	11,093	7,098
Diamond drills for prospecting ...	13,124	13,150	11,805	15,978	17,124
Testing plants	2,548	2,093	2,203	3,846	3,793
Geological and underground surveys of mines	5,631	5,701	5,628	6,014	5,941
Mining Development— Advances to companies. &c., boring for gold, coal, &c. ...	...	...	19,465	24,641	15,421
Miscellaneous	916	2,274	8,094	10,013	4,619
	59,721	57,290	79,524	144,075	247,882

EXPENDITURE ON MINING: 1906-7 TO 1910-11—*continued.*

			1906-7.	1907-8.	1908-9.	1909-10.	1910-11.
			Expenditure from Surplus Revenue.				
Mining Development— Advances to companies, &c., boring for gold, coal, &c. ...			£ 13,677	£ 21,757	£ 19,357	£ 5,001	£ 2,095
			Expenditure from Loan Moneys.				
State Coal Mine	...	...	...	...	...	35,906	65,278
Total	...	...	73,398	79,047	98,881	184,982	315,255

Yearly grants are also made to Schools of Mines, particulars of which will be found on page 528 of this work. Since 1st July, 1896, £372,206 has been apportioned from loan receipts and expended on mining development, details of which expenditure appear in the next statement:—

LOAN MONEY EXPENDED ON MINING DEVELOPMENT.

	£
Advances to companies—Development of mining	... 62,740
„ „ Boring for gold and coal, &c....	62,532
Construction of roads and tracks for mining	... 57,579
Plant for testing metalliferous material	... 12,357
Construction of races and dams	... 8,260
Advances to miners for prospecting	... 27,839
Purchase of cyanide process patent rights	... 20,000
Equipping Schools of Mines with mining appliances	... 9,975
State Coal Mine	... 101,184
Miscellaneous	... 9,740
Total	... 372,206

The advances from loan moneys and revenue to mining companies to 30th June, 1911, for the development of mining totalled £146,138, of which sum £17,634 had up to that date been repaid, £19,782 realized, and £22,693 written off, leaving £86,029 outstanding. Interest paid during 1910-11 amounted to £794, and interest outstanding on 30th June, 1911, to £1,486.

The following statement shows the manner of occupation of all persons connected with mining industries throughout the State according to the Census returns of 1911:—

RETURN OF PERSONS ENGAGED IN MINING PURSUITS, 1911.

Persons following Mining Pursuits.	Employers of Labour.		Working on their own Account, but not employing Labour.		Receiving Salary or Wages.		Assisting but not receiving Wages.		Indefinite.		Not at work for more than a week prior to Census.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
Mines department officer .. ..	..	..	..	..	138	3	..	..	1	..	2	..
Mine, gold, proprietor, manager, worker ..	277	1	1,735	..	11,456	..	10	..	1,246	..	733	..
Mine, tin, proprietor, manager, worker ..	5	..	8	..	33	..	..	..	2	..	3	..
Mine, silver, proprietor, manager, worker ..	..	..	..	..	5	..	..	..	1	..	2	..
Mine, coal, proprietor, manager, worker ..	1	..	2	..	1,326	..	..	..	7	..	48	..
Mine, iron, proprietor, manager, worker ..	..	..	1	..	..	..	..	..	..	..	..	..
Mine, copper, proprietor, manager, worker ..	..	..	..	..	46	..	..	..	..	..	5	..
Mine, precious stones, manager, worker ..	..	..	..	..	1	..	..	..	..	..	..	..
Others and undefined, proprietor, manager, worker	72	1	190	..	906	16	3	..	658	..	301	..
Quarry proprietor, manager, worker ..	50	..	21	..	817	..	..	..	41	..	22	..
Others	2	..	7	..	3	..	..	..	1	..	..	..
	407	2	1,964	..	14,731	19	13	..	1,957	..	1,116	..

Total Males 20,188

Total Females 21

GRAND TOTAL 20,209

The average number of men employed in mining is estimated ^{Gold miners.} annually by the Mines Department. The figures for the ten years ended with 1911 are subjoined:—

NUMBER OF MEN EMPLOYED IN GOLD MINING, 1902 TO 1911.

Year.	Alluvial Miners.	Quartz Miners.	Total.
1902	11,963	14,140	26,103
1903	11,058	14,150	25,208
1904	10,405	13,926	24,331
1905	11,403	13,966	25,369
1906	10,951	14,353	25,304
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

The number of men employed in each mining district in 1911 was as follows:—Ararat and Stawell, 860; Ballarat, 2,325; Bendigo, 3,674; Beechworth, 2,786; Castlemaine, 1,836; Gippsland, 900; and Maryborough, 1,634.

The following table shows the quantity and value of the metals ^{Mineral} and minerals produced in Victoria up to the end of 1911:— ^{produce.}

TOTAL MINERAL PRODUCTION TO 31ST DECEMBER, 1911.

Metals and Minerals.	Recorded prior to 1911.		Recorded during 1911.		Total Recorded to end of 1911.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Fine.	£	Fine.	£	Fine.	£
Gold	67,688,737	287,523,134	504,000	2,140,855	68,192,737	289,663,989
Silver	29,405	7,751	653	65	30,058	7,816
Platinum ..	1,324,334	202,089	18,494*	2,070	1,342,828*	204,159
	..	..	184	989	184	989
Coal, black ..	3,424,045	1,878,733	653,864	298,829	4,077,909	2,177,562
" brown ..	50,116	20,109	6,134	2,313	56,250	22,422
Lignite	12,923	3,086	..	..	12,923	3,086
Ore—copper ..	18,658	213,673	36	2,088	18,694	215,761
" tin	15,634	773,530	33	3,417	15,667	776,947
" antimony ..	34,368	215,784	1,098	3,928	35,466	224,712
" silverlead ..	793	5,760	..	..	793	5,760
" iron	5,434	12,540	..	..	5,434	12,540
" manganese ..	23	142	2	10	25	152
Wolfram	37	3,776	18	1,309	55	5,085
Diamonds ..	..	108	..	..	..	108
Sapphires, &c. ..	..	630	..	..	..	630
Gypsum	18,529	10,666	591	448	19,120	11,114
Magnesia ..	6	12	166	498	172	510
Kaolin	4,876	10,584	371	440	5,247	11,024
Diatomaceous earth	3,493	14,352	400	1,600	3,893	15,952
Pigment clays ..	52	74	16	6	68	80
Bluestone, Freestone, Granite, &c.† ..	..	3,844,710	..	153,926	..	3,998,636
Limestone, &c.† ..	..	..	..	..	..	..
Total .. ..	..	294,741,243	..	2,617,791	..	297,359,034

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

The total quantity of gold raised from its first discovery in 1851 to the end of 1911 was 72,531,961 ounces gross, or, as shown above, 68,192,737 ounces fine, the estimated value being £289,663,989. This sum is based on the average value of the gold received at the Melbourne Mint, which in 1911 was £3 19s. per ounce. The yield of gold for 1911—542,074 ounces gross, or 504,000 ounces fine—was 67,924 ounces gross or 66,383 ounces fine less than the yield of the previous year. The falling off occurred mainly in the deep alluvial mines at Chiltern, Rutherglen, Creswick, Clunes, Castlemaine, and Maryborough, and in the quartz mines at Bendigo, Ballarat, and Walhalla.

Mining
district
gold yields.

According to the calculations of the mining registrars, the yields of gold from alluvial workings and from quartz reefs during 1910 and 1911 in each mining district of the State were as follows:—

DISTRICT YIELDS OF GOLD, ALLUVIAL AND QUARTZ,
1910 AND 1911.

Mining District.	1910.			1911.		
	Alluvial.	Quartz.	Total.	Alluvial.	Quartz.	Total.
	OZS.	OZS.	OZS.	OZS.	OZS.	OZS.
Ararat and Stawell ...	15,003	4,728	19,731	15,966	6,009	21,975
Ballarat ...	27,688	74,437	102,125	15,704	64,884	80,588
Beechworth ...	88,661	17,178	105,839	79,175	19,520	98,695
Bendigo ...	1,993	177,157	179,150	2,520	166,140	168,660
Castlemaine ...	19,534	54,889	74,423	13,010	60,892	73,902
Gippsland ..	7,597	31,625	39,222	6,498	25,753	32,251
Maryborough ...	43,222	30,265	73,487	39,457	28,172	67,629
Total ...	203,698	390,279	593,977	172,330	371,370	543,700

In 1910, these calculations fell short of the actual yield by 16,021 ounces, but in 1911 they were 1,626 ounces in excess of the yield.

Deep
mines.

On 31st December, 1911, there were 15 mines on the Bendigo gold-field with shafts over 3,000 feet deep, namely, Victoria Reef Quartz, 4,614 feet; New Chum Railway, 4,318 feet; Lazarus New Chum, 3,682 feet; New Chum and Victoria, 3,579 feet; North Johnson's, 3,498 feet; Carlisle, 3,460 feet; Lansell's 180, 3,365 feet; Clarence, 3,310 feet; Great Extended Hustler's, 3,290 feet; Ironbark, 3,250 feet; Victoria Consols, 3,114 feet; New Chum Consolidated, 3,099 feet; Eureka Extended, 3,060 feet; Princess Dagmar, 3,020 feet; and Johnson's Reef No. 2, 3,020 feet. The total number of shafts over 2,000 feet in depth at Bendigo is fifty-three.

The following are the deepest mines on other gold-fields:—Long Tunnel, Walhalla, 4,051 feet incline and 350 feet vertical, equal to 3,450 feet vertical; Magdala, Stawell, 2,425 feet; Lord Nelson, St. Arnaud, 2,405 feet; South German, Maldon, 2,225 feet; and Jubilee, Scarsdale, 2,014 feet.

The number of gold dredging and hydraulic sluicing leases in force on 31st December, 1911, was 138, with an area of 15,116 acres. Prior to 1900 the yield of gold from dredging operations was 90,528 ounces, and from 1900 to 1911, 808,025 ounces were obtained from 5,893 acres worked, the average yield of gold being 137 ounces per acre, or 2.3 grains per cubic yard of material treated. The quantity of tin won by the same means during the period 1900-11 was 552 tons. The following tables give particulars of the industry for 1911:—

Dredge mining and hydraulic sluicing.

DREDGE MINING AND HYDRAULIC SLUICING, 1911.

District.	Number of Plants.	Gold won during 1911.	Dividends paid during 1911.*
		ozs.	£
Ararat and Stawell	1	928	...
Ballarat	9	6,264	2,241
Beechworth	53	54,148	37,586
Bendigo	4	2,135	350
Castlemaine	18	7,022	5,362
Gippsland	5	5,389	5,400
Maryborough	5	2,649	...
Unspecified	8	3,059	...
Total	103	81,594	

* These figures are merely approximate, as information was not furnished in connexion with some privately-owned plants.

DESCRIPTION OF DREDGING AND HYDRAULIC SLUICING PLANTS.

District.	Bucket Dredges.	Pump Hydraulic Sluices.	Jet Elevators.	Gravitation Hydraulic Sluicing.	Total.
Ararat and Stawell	...	1	...	...	1
Ballarat	...	8	1	...	9
Beechworth	46	5	2	...	53
Bendigo	...	4	...	...	4
Castlemaine	4	11	3	...	18
Gippsland	4	...	1	...	5
Maryborough	...	5	.	...	5
Unspecified	...	...	...	8	8
Total	54	34	7	8	103

The 54 bucket dredges raised 16,345,713 cubic yards of material and won 59,498 ounces of gold; the 34 pump hydraulic sluicing plants dealt with 2,952,721 cubic yards of material for a return of 17,028 ounces of gold; the 7 hydraulic jet elevators put through 444,901 cubic yards of material for a return of 2,009 ounces of gold; and the 8 plants working by gravitation hydraulic sluicing dealt with 401,012 cubic yards of material, which yielded 3,059 ounces of gold. The total quantity of material treated by these plants during 1911 was 20,144,347 cubic yards, representing an area of 706 acres, the amount of gold obtained being 81,594 ounces, and of tin 6 tons, as against a treatment of 20,004,967 cubic yards in 1910 for 88,319 ounces of gold, and 20 tons of tin. The yield of gold per cubic yard of material was 1.94 grains in 1911, as against 2.1 in the previous year. In 1911 the number of men employed in connexion with these 103 plants was 1,467, and their wages amounted to £147,449.

Value of
machinery
on gold-
fields

The following is a return showing the value of machinery used in alluvial and quartz mining for the five years ended 1911:—

VALUE OF MACHINERY ON GOLD-FIELDS, 1907 TO 1911.

Year.	Approximate Value of Machinery Employed in—		
	Alluvial Mining.	Quartz Mining.	Total.
	£	£	£
1907	964,120	1,935,125	2,899,245
1908	933,470	1,797,825	2,731,295
1909	850,311	1,643,072	2,493,383
1910	803,636	1,621,972	2,425,608
1911	604,925	1,475,418	2,080,343

Gold-mining
dividends.

The next return shows the amount paid in dividends in each mining district of the State for the last five years:—

DIVIDENDS PAID BY GOLD MINING COMPANIES IN EACH MINING DISTRICT, 1907 TO 1911.

Mining District.	Amount Distributed.				
	1907.	1908.	1909.	1910.	1911.
	£	£	£	£	£
Ararat and Stawell ... ..	...	...	5,275	22,519	19,781
Ballarat	51,675	43,500	47,863	32,217	22,896
Beechworth	53,189	78,245	54,114	46,551	43,187
Bendigo	120,880	133,114	159,273	99,421	123,158
Castlemaine	39,568	18,669	48,225	55,619	53,462
Gippsland	50,850	44,515	6,960	6,600	2,250
Maryborough	1,250	1,250	17,500	15,000	20,950
Total	317,412	319,293	339,210	277,927	285,684

The yields of gold for the State and the dividends paid by gold-mining companies during the last ten years are given below :—

YIELDS AND DIVIDENDS, 1902 TO 1911.

Year.	Value of Gold Produced	Dividends Paid.
	£	£
1902	3,062,028	472,136
1903	3,259,482	601,152
1904	3,252,045	623,398
1905	3,173,744	454,431
1906	3,280,478	484,693
1907	2,954,617	317,412
1908	2,849,838	319,293
1909	2,778,956	339,210
1910	2,422,745	277,927
1911	2,140,855	285,684

The dividends paid in the years mentioned range from 11 to 19 per cent. of the gold produced, the average for the ten years being 14.3 per cent.

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

Gold raised in Australasia.

GOLD RAISED IN AUSTRALASIA, 1851 TO 1911.

Period.	Victoria.	New South Wales.	Queensland.	South Australia.*	Western Australia.	Tasmania.	New Zealand.
	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.
1901 ..	730,453	216,888	598,382	28,951	1,703,416	69,491	412,876
1902 ..	720,866	254,435	640,463	24,082	1,871,037	70,996	459,406
1903 ..	767,297	254,260	668,546	22,269	2,064,801	59,891	461,648
1904 ..	765,600	269,817	639,151	17,925	1,983,230	65,921	467,897
1905 ..	747,166	274,267	592,620	20,447	1,955,316	73,540	492,955
1906 ..	772,290	253,987	544,636	14,077	1,794,547	60,023	534,617
1907 ..	695,576	247,363	466,476	11,871	1,697,553	65,354	477,312
1908 ..	671,208	224,792	465,085	9,161	1,647,911	57,085	471,988
1909 ..	654,222	204,709	455,576	7,989	1,595,269	44,777	472,465
1910 ..	570,383	188,857	441,400	11,645	1,470,632	37,048	446,434
1911 ..	504,000	181,121	386,164	11,680	1,370,868	31,101	427,385

* Quantity received at Melbourne and Sydney Mints.

The total production of Australasia from 1851 to 1900 inclusive, was 114 $\frac{3}{4}$ million ounces (gross), more than half of which was produced in Victoria. The Australasian production for the eleven years, 1901 to 1911, was slightly over 41 million ounces (fine), to which Western Australia contributed 19 million ounces.

World's production of gold and silver.

The total production of gold and silver for all countries since 1860, and for the leading gold and silver producing countries in 1910, as set out in the following tables, have been extracted principally from the annual reports of the Director of the Mint, Washington, U.S.A. The figures relating to the year 1873 and subsequent years are those of the Bureau of the Mint, and have been compiled from information furnished by foreign Governments, and revised from the latest data:—

WORLD'S PRODUCTION OF GOLD AND SILVER SINCE 1860.

Year.	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	21,430,400	91,031,800	203,236,800	22,338,700
1909	21,982,700	93,377,800	211,215,600	22,569,000
1910	21,996,300	93,435,000	222,879,400	24,731,000
Total	455,772,300	1,936,021,400	5,497,170,700	935,327,400

WORLD'S PRODUCTION OF GOLD AND SILVER—PRINCIPAL
COUNTRIES, 1910.

Country.	Gold.		Silver.	
	Ounces— Fine.	Value. £	Ounces— Fine.	Value— Commercial. £
Africa	8,474,800	35,999,000	1,037,200	115,000
Australasia	3,167,000	13,453,000	21,545,800	2,391,000
Austria-Hungary	105,100	446,000	1,540,800	171,000
British India	518,500	2,203,000	44,800	5,000
Canada	493,700	2,097,000	32,869,300	3,647,000
Germany	3,000	13,000	5,597,000	621,000
Japan	186,000	790,000	4,646,200	515,000
Mexico	1,205,100	5,119,000	71,372,200	7,920,000
Peru	24,900	106,000	9,566,100	1,061,000
Russia	1,721,200	7,311,000	140,600	16,000
United States	4,657,000	19,782,000	57,137,900	6,340,000
Other Countries	1,440,000	6,116,000	17,381,500	1,929,000
Total	21,996,300	93,435,000	222,879,400	24,731,000

The following return shows the quantity of coal raised in each year, or group of years, since its first production:—

COAL RAISED IN VICTORIA TO 31ST DECEMBER, 1911.

Year.	Tons.
Prior to 1876	9,640
From 1876 to 31st December, 1890	64,625
From 1891 to 31st December, 1900	1,719,778
1901	209,479
1902	225,164
1903	69,861
1904	121,742
1905	155,186
1906	160,631
1907	138,634
1908	113,962
1909	128,673
1910	369,709
1911	659,998
Total	4,147,082

These particulars include brown coal and lignite.

The State
coal-field.

The development of the Powlett River coal-field was undertaken by the State in November, 1909, and in June, 1911 the control of the mine was transferred to the Railways Commissioners. The area reserved for mining is about 17 square miles, and boring has proved that at least 22,000,000 tons of coal exist in the central area of 5 square miles. The output of coal for the year 1911 was 506,060 tons, valued at £216,408 at the mine. The number of persons employed was about 1,200, and the earnings of the miners working on contract averaged during the year 13s. 11d. per shift. The average amount distributed in wages was £7,381 per fortnight. In the township of Wonthaggi, 140 business and 166 residential sites are held under lease, and 440 residential blocks are held by State mine employes, who pay an annual rental of 25s. The annual revenue from the leases is £6,008, and from the miners' blocks £550. Waterworks have been completed and the town reticulated, and an electric plant for supplying power to the mine and light to the town is nearing completion.

Coal
produced
in Austral-
asia.

The quantity of coal raised in the various States and in New Zealand from the date of the earliest records is given below. There is no record of any coal mining having been done in South Australia.

COAL PRODUCED IN AUSTRALASIA.

Year.	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	52,806	1,729,536
1907 ..	138,634	8,657,924	683,272	142,372	58,891	1,831,009
1908 ..	113,562	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	..

NOTE.—For details of single years see issue of this publication for 1905;

The total known coal production of the world (exclusive of brown coal and lignite) in 1910 was about 1,035 million tons (of 2,240 lbs.). The following return shows the production and consumption of coal in the principal coal-producing countries of the world:—

Coal production of the world.

COAL PRODUCED IN VARIOUS COUNTRIES, 1910.

Country.	Production.	Value per ton at Collieries.		Excess of Imports (+) or Exports (-)	Number of Men Employed under and over ground.
		Tons.	s. d.		
Australia	9,758,994	7	6½	- 1,393,701	21,742
New Zealand	2,197,362	11	1¼	- 44,786	4,599
Austria	13,553,000	8	7	+ 9,756,000*	74,112
Belgium	23,532,000	11	10½	+ 318,000	143,701
British India	12,047,000	4	1	- 546,000	116,081
Canada	11,425,000	10	8½	+ 7,945,000	25,424
France†	36,519,000	12	5½	+ 17,674,000	187,242
German Empire	150,372,000	9	11¾	- 20,146,000	613,224†
Japan	15,286,000	7	4¾	- 2,590,000	152,515†
Russian Empire	22,650,000	10	4†	+ 4,779,000	164,819†
United Kingdom	264,433,000	8	2½	- 84,494,000	1,027,539
United States	447,837,000	5	10½	- 13,022,000	666,555†

* Austria-Hungary. † Figures for 1909. ‡ Figures for 1907.

There were 99 quarries in which work was carried on during 1911; these gave employment to 1,438 persons, and the sum paid in wages was £140,585. These figures include the persons employed 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. The quantity and value of stone

Quarries.

raised during the last five years are set forth in the following table:—

QUARRIES: 1907 TO 1911.

Year.	Quantity of Stone Operated on—				Approximate Total Value of Stone Raised
	Bluestone.	Free- stone.	Granite.	Limestone.	
	c. yds.	c. yds.	c. yds.	c. yds.	£
1907	405,718	475	475	57,010	70,945
1908	491,446	1,594	713	54,671	84,479
1909	525,555	370	838	55,134	88,610
1910	636,029	5,469	345	58,274	114,955
1911	760,699	3,936	1,310	62,610	151,426

Boring.

During 1911 the Mines Department had the following boring plant at work:—Six diamond drills with calyx cutters, six Victoria drills with calyx cutters, one Victoria percussion drill, one pioneer drill, and one hand-boring machine. Twelve of these machines were engaged in boring for coal, and put down 97 bores, the aggregate depth of which was 42,593 feet. The remaining drills were employed in boring for gold, and sank 31 bores for an aggregate depth of 3,241 feet.

**Government
batteries.**

Government batteries are located in 24 districts, and during 1911 treated 2,723 tons of ore, which yielded 2,013 ounces of gold, the net cost to the Mines Department being £3,036.

**Cyanida-
tion.**

There were 248 plants at work treating tailings by the cyanide process during 1911, this number representing a decrease of 57 in comparison with that for the year 1910. The total quantity of

gold obtained in the year was 59,986 ounces, valued at £215,411, from 1,102,956 tons of tailings, or an average of 1 dwt. 2 grs. per ton, being a decrease of 74,276 in tonnage of tailings treated, and of 8,597 ounces in yield, as compared with the previous year. The records show that since the introduction of methods of this kind a grand total of 12,926,424 tons of tailings has been treated by cyanide and other processes for 1,065,248 ounces of gold, the yield being equal to an average of 1 dwt. 16 grs. per ton.

The number of accidents happening in 1911 in connexion with gold mining was 80, in which 19 persons were killed and 65 seriously injured. In the last twenty years the average annual number of men employed in gold mining was 25,261, and the average yearly number of accidents 108, 30 persons per annum being killed, and 87 injured, or 1.16 and 3.38 respectively per thousand employed. In coal mining during 1911, 23 persons were injured, and during the twenty-three years, 1889-1911, accidents were responsible for 32 persons being killed and 161 being injured. Since 1905, only those non-fatal accidents have been recorded which incapacitated the sufferer from work for a period of at least fourteen days.

MANUFACTORIES.

That which is regarded in the subsequent tables as constituting a factory is any establishment employing on the average four persons or more, also those 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 classification of industries adopted was drawn up in 1902 at a conference of Australian statisticians. Where two or more industries are carried on by one proprietor in the same building, each industry is, where possible, treated as a separate undertaking. The following table shows, for the year 1911, the number of factories in each class of industry, the volume of power used, the number of

FACTORIES—POWER, WORKERS, WAGES, ETC., AND PRODUCTION, 1911.

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.	Employés.	Working Proprietors.	Employés.				
						£	£	£	£	
<i>Class I.—Treating Raw Material the product of Pastoral Pursuits, or Vegetable Products, not otherwise classed.</i>										
Boiling down	20	164	15	127	..	..	12,531	3,462	149,249	202,937
Bone milling	16	478	10	105	..	3	9,974	3,992	66,505	93,726
Tanning	56	1,401	57	1,546	..	13	163,446	10,724	974,552	1,258,431
Fellmongering	32	604	39	467	..	1	35,246	4,176	499,565	584,758
Chaffcutting and grain crushing	205	1,728	203	705	4	12	44,521	7,305	469,565	580,724
Other	8	48	4	231	1	..	22,567	213	42,924	65,089
Total	337	4,423	328	3,181	6	28	288,285	29,872	2,202,360	2,785,665
<i>Class II.—Oils and Fats, Animal and Vegetable.</i>										
Oil, Grease, Glue, Soap, and Candle..	23	465	14	560	..	27	59,119	11,414	425,771	635,718

persons employed, the wages paid, and the other chief items of expenditure, also the value of articles produced or work done:—

*Class III.—Processes relating to Stone,
Clay, Glass, &c.*

Brick, pottery, &c.	120	3,959	110	1,824	..	32	197,282	64,946	34,355	410,134
Cement, including cement pipes	4	571	2	161	..	1	17,410	4,406	13,452	49,516
Glass, including bottles	9	108	16	690	..	2	65,579	22,820	29,196	138,421
" beveling	20	78	21	230	..	3	22,990	905	45,399	90,236
Marble and stone dressing	39	227	51	347	..	2	39,466	767	40,731	106,372
Other	23	89	23	237	..	1	25,043	5,563	15,349	68,577
Total	215	5,032	223	3,489	..	41	367,770	99,407	178,482	863,256

Class IV.—Working in Wood.

Cooperage	13	38	11	100	..	..	13,424	193	13,959	32,723
Sawmilling, moulding, &c.	310	7,049	343	5,531	3	25	573,194	8,804	881,688	1,772,826
Mantelpiece	11	38	17	224	..	1	21,663	154	19,883	48,974
Wood carving, turning	34	318	38	224	..	5	20,411	1,556	25,945	64,895
Other	7	38	11	119	..	2	10,183	240	22,310	40,541
Total	375	7,481	420	6,198	3	33	638,875	10,947	963,785	1,959,959

Class V.—Metal Works, Machinery, &c.

Agricultural implement	59	921	66	2,640	..	11	297,824	19,299	345,665	831,474
Engineering, iron foundry, &c.	304	4,746	356	6,974	1	41	762,824	77,674	913,476	2,194,805
Railway workshop	15	1,099	..	4,123	..	4	527,386	17,910	736,476	1,391,070
Sheet-iron, tin, &c.	66	297	62	1,188	..	86	106,092	3,277	197,338	370,460
Brass, copper smithing	58	321	74	715	2	24	66,137	3,865	68,690	173,142
Wireworking	16	126	17	216	..	8	21,271	644	68,956	115,428
Metallurgical, &c., cyanide	87	598	111	529	..	..	46,864	5,970	88,530	188,354
Oven, range	18	81	23	192	..	1	18,048	835	21,255	51,282
Other	51	889	52	548	2	3	52,831	5,425	155,963	250,626
Total	674	9,078	761	17,125	5	178	1,899,277	134,899	2,596,349	5,566,641

Production.

FACTORIES—POWER, WORKERS, WAGES, ETC., AND PRODUCTION, 1911.—*continued.*

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Victorian Year-Book, 1911-12.

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.	Employés.	Working Proprietors.	Employés.				
						£	£	£	£	
<i>Class VI.—Connected with Food and Drink or the preparation thereof.</i>										
Bacon curing	26	304	29	339	2	10	39,041	4,640	460,002	549,748
Butter, cheese, butterine	202	2,874	56	1,400	5	101	148,574	26,657	3,579,706	3,984,095
Meat freezing, preserving, &c.	18	3,315	12	1,249	..	8	113,504	19,869	811,651	1,019,895
Biscuit	4	139	3	766	..	460	78,330	7,798	281,002	467,114
Flourmilling	61	4,680	48	782	..	2	93,503	24,600	2,123,757	2,456,533
Jam, sauce, &c.	28	396	19	831	1	750	99,825	7,668	481,324	725,311
Oatmeal, starch, &c.	25	1,275	19	303	..	211	42,131	5,929	238,392	340,408
Sugar, confectionery, &c.	33	1,106	44	1,103	3	836	142,954	19,535	1,280,879	1,580,491
Aerated water, cordial, &c.	147	523	133	1,015	7	37	92,860	3,906	168,092	412,002
Malt	21	230	11	190	..	1	23,695	6,343	208,699	288,324
Brewing	33	2,358	22	1,008	..	1	146,388	23,306	381,032	912,829
Distilling.. .. .	7	175	7	82	..	..	11,250	2,553	26,590	48,082
Condiments, coffee, cocoa, &c.	11	545	4	161	..	84	22,895	3,118	219,609	292,490
Tobacco, &c.	15	465	11	941	..	1,060	191,533	2,518	633,436	1,155,047
Other	20	1,064	9	243	..	13	26,898	8,430	12,594	80,740
Total	651	19,449	427	10,413	18	3,574	1,273,381	166,870	10,906,765	14,313,109

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

Woolen mill	10	2,108	8	748	..	919	107,682	12,647	251,365	473,686
Clothing, Tailoring, &c.	427	306	389	2,013	27	8,181	577,987	11,363	994,566	1,904,037
Dressmaking and millinery	530	214	72	171	401	9,251	359,714	6,292	673,322	1,253,740
Underclothing, shirt	152	454	59	207	103	5,647	228,793	7,006	511,435	880,109
Hat, cap	43	415	44	712	8	1,253	141,762	5,514	208,941	420,963
Hosiery	34	145	18	69	15	778	41,203	918	103,621	168,636
Oilskin, waterproof clothing	5	16	6	46	1	161	13,909	366	26,771	51,920
Boot, shoe	154	1,063	200	4,239	7	2,555	542,707	8,936	1,103,653	1,878,308
Umbrella	9	17	10	65	2	181	14,823	312	57,945	88,272
Rope, twine, &c.	10	1,313	13	433	..	281	48,189	3,309	161,124	260,875
Sail, tent, &c.	13	16	11	86	..	54	10,111	128	34,354	54,789
Other	29	62	26	155	10	323	28,576	1,139	90,289	141,437
Total	1,416	6,129	856	8,944	574	29,584	2,115,456	57,930	4,217,386	7,576,772

*Class VIII.—Books, Paper, Printing,
Engraving, &c.*

Printing	346	2,252	418	4,733	10	1,046	645,478	21,686	582,519	1,874,922
Account-book, stationery, paper, &c.	20	237	21	605	3	625	81,635	2,375	116,559	249,132
Fancy box	24	86	21	157	4	548	37,311	1,000	57,437	119,935
Die sinking, engraving, &c.	15	32	16	150	..	3	16,101	599	14,274	44,145
Other	15	878	13	302	..	31	31,671	8,136	56,492	124,245
Total	420	3,485	489	5,947	17	2,253	812,196	33,796	827,281	2,412,379

Class IX.—Musical Instruments ..

5	209	6	179	..	12	20,482	192	12,607	39,371
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Class X.—Arms and Explosives ..

9	136	6	190	..	279	36,210	1,414	76,642	135,068
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FACTORIES—POWER, WORKERS, WAGES, ETC., AND PRODUCTION, 1911.—*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.	Employés.	Working Proprietors.	Employés.				
						£	£	£	£	
<i>Class XI.—Vehicles and Fittings, Saddlery, Harness, &c.</i>										
Coach, motor building, cycle ..	339	675	395	3,326	..	37	284,967	11,633	283,297	720,222
Saddle, harness	58	26	64	578	..	71	51,409	382	73,388	148,321
Other	13	18	15	141	1	2	13,299	249	16,723	36,841
Total	410	719	474	4,045	1	110	349,675	12,264	373,408	905,384
<i>Class XII.—Shipbuilding, Fitting, &c.</i>										
	12	1,123	12	121	..	..	14,248	736	9,723	39,661
<i>Class XIII.—Furniture, Bedding, &c.</i>										
Upholstery, bedding, &c. ..	48	220	43	343	4	154	40,481	1,562	126,291	204,027
Cabinet, including billiard table ..	161	448	192	1,695	..	45	185,068	2,334	250,905	523,993
Picture frame	21	59	20	246	..	57	21,059	728	35,917	70,249
Other	12	117	12	298	..	13	28,071	1,325	57,517	100,495
Total	242	844	267	2,582	4	269	274,679	5,949	470,630	898,764

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

Blacking, blue, &c.	14	92	14	154	1	117	17,674	607	98,576	157,347
Chemical	34	1,795	28	869	3	223	113,986	10,709	476,881	808,201
Other	33	157	33	222	3	5	15,253	485	27,636	61,098
Total	81	2,044	75	1,245	7	345	146,913	11,801	603,093	1,026,646

*Class XV.—Surgical and Scientific
Appliances*

17	19	7	71	..	6	6,957	328	8,703	23,175
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*Class XVI.—Timepieces, Jewellery,
and Platedware*

80	164	96	813	..	66	91,587	2,650	181,361	347,102
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Class XVII.—Heat, Light, and Energy.

Electric Light	20	15,819	..	587	..	3	75,722	41,881	614	270,498
Gas, coke	47	735	2	1,595	1	3	230,626	..	235,987	810,414
Other	16	1,215	16	255	..	346	38,738	3,996	74,363	133,603
Total	83	17,769	18	2,437	1	352	345,086	45,877	310,964	1,214,515

*Class XVIII.—Leatherware (except
Saddlery and Harness)*

32	153	39	373	2	220	39,972	1,355	180,227	266,801
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*Class XIX.—Wares, not elsewhere
included*

Rubber goods	12	762	10	765	..	302	95,936	9,236	414,141	612,830
Brush, broom	15	29	15	200	1	57	23,288	535	61,308	100,519
Basket, wickerware	17	2	19	133	..	..	11,627	25	8,539	24,528
Total	44	793	44	1,098	1	359	130,851	9,796	483,988	737,877
Grand Total	5,126	79,515	4,562	69,011	639	37,736	8,911,019	637,497	25,029,525	41,747,863

Production.

The amount of wages paid during the year (£8,911,019) represents an average payment for all employes of £83 10s., an increase of £5 6s. on the average for 1910, of £9 19s. on that for 1909, of £11 18s. on that for 1908, of £14 4s. on that for 1907, and of £15 16s. on that for 1906, but along with this increase there has been a slight change in the relative proportions of male and female workers during the five years, the proportions being:— 66 per cent. males and 34 per cent. females in 1911; 64 per cent. males and 36 per cent. females in 1910; 63 per cent. males and 37 per cent. females in 1909; 64 per cent. males and 36 per cent. females in 1908; and 65 per cent. males and 35 per cent. females in 1907 and 1906. The above average wage for 1911 is very much below the general rates of wages as shown in the table "Wages in Melbourne" on page 756, the reason being that the rates there mentioned relate to adult workers only, whereas the average payment of £83 10s. relates to all employes, adult and juvenile, male and female, apprentices and improvers, employed in each industry. Further, all hands are not continuously employed, nor are all factories working throughout the whole year.

Outlay and
output of
factories.

The proportion per cent. that each of the items of outlay bore to the value of the output in the last two years is shown in the next statement.

OUTLAY AND OUTPUT OF FACTORIES: 1910 AND 1911.

	1910.		1911.	
	Value.	Proportion per cent.	Value.	Proportion per cent.
	£		£	
Wages	7,600,932	20·7	8,911,019	21·3
Fuel and Light	639,135	1·7	637,497	1·5
Materials	21,941,255	59·9	25,029,525	60·0
	30,181,322	82·3	34,578,041	82·8
Articles produced or work done	36,660,854	100·0	41,747,863	100·0
Margin for profit and miscellaneous expenses	6,479,532	17·7	7,169,822	17·2

The percentage of the total of the various items of outlay to the value of articles produced was .5 more in 1911 than in 1910, chiefly owing to an increase in the proportionate amount paid in wages. The percentage that the difference between output and outlay, available for miscellaneous expenses and profit, bore to the output was consequently .5 less than in 1910.

The following grouping shows the factories arranged according to the number of persons employed:—

Number of hands	No. of factories	Persons employed
Under 4 hands	727	1,779
4 hands	550	2,200
5 to 10 hands	1,868	13,022
11 to 20 hands	901	13,496
21 to 50 hands	673	20,896
51 to 100 hands	221	15,537
101 hands and upwards	186	45,018
Total	5,126	111,948

Classification according to persons employed.

Of the 5,126 establishments, 3,474 used steam, gas, electric or other motive power, and employed 93,534 persons; and 1,652 used manual labour only, and employed 18,414 persons.

In the next return will be found particulars for the years 1910 and 1911 of the factories in the metropolitan and country districts.

Factories, metropolitan and country.

FACTORIES AND PERSONS EMPLOYED, METROPOLIS AND COUNTRY: 1910 AND 1911.

Nature of Industry.	1910.			1911.		
	No. of Manu- factories.	Average Num- ber of Persons Employed.		No. of Manu- factories.	Average Num- ber of Persons Employed.	
		Males.	Females		Males.	Females
<i>Metropolitan Area.</i>						
1. Treating raw material, the product of pastoral pursuits, &c.	85	1,959	8	84	2,124	13
2. Oils and fats, animal and vegetable	11	491	18	12	486	26
3. Processes relating to stone, clay, glass, &c.	92	2,542	21	96	2,768	15
4. Working in wood	151	3,433	19	168	3,947	30
5. Metal works, machinery, &c.	412	11,932	134	440	13,873	166
6. Connected with food and drink, &c.	181	6,537	3,437	197	6,856	3,288
7. Clothing and textile fabrics, &c.	1,051	7,856	24,095	1,128	8,328	26,084
8. Books, paper, printing, engraving, &c.	245	4,915	2,069	255	5,070	2,158
9. Musical instruments	5	139	11	5	185	12
10. Arms and explosives	5	88	207	6	159	223
11. Vehicles, &c., saddlery, harness, &c.	212	2,363	63	219	2,710	75
12. Shipbuilding, fitting, &c.	9	116	..	11	127	..
13. Furniture, bedding, &c.	209	2,316	231	222	2,695	264
14. Drugs, chemicals, and by-products	48	920	331	50	1,003	337
15. Surgical and scientific appliances	14	52	5	16	74	5
16. Timepieces, jewellery, and platedware	63	755	54	74	882	64
17. Heat, light, and energy	27	1,852	285	29	2,131	351
18. Leatherware, except saddlery and harness	30	380	206	32	412	222
19. Wares not elsewhere included	40	847	242	44	1,142	360
Total	2,890	49,493	31,436	3,088	54,972	33,693

FACTORIES AND PERSONS EMPLOYED—*continued.*

Nature of Industry.	1910.			1911.		
	No. of Manu- factories.	Average Number of Persons Employed.		No. of Manu- factories.	Average Number of Persons Employed.	
		Males.	Females		Males.	Females
<i>Country Districts.</i>						
1. Treating raw material, the product of pastoral pursuits, &c.	239	1,311	20	253	1,385	21
2. Oils and fats, animal and vegetable ..	10	86	1	11	88	1
3. Processes relating to stone, clay, glass, &c.	120	882	27	119	944	26
4. Working in wood ..	199	2,473	3	207	2,671	6
5. Metal works, machinery, &c.	238	3,635	20	234	4,013	17
6. Connected with food and drink, &c.	452	3,189	200	454	3,984	304
7. Clothing and textile fabrics, &c.	298	1,511	3,957	288	1,472	4,074
8. Books, paper, printing, engraving, &c.	124	1,198	98	165	1,366	112
10. Arms and explosives ..	3	35	56	3	37	56
11. Vehicles, &c., saddlery, harness, &c.	198	1,786	32	191	1,809	36
12. Shipbuilding, fitting, &c.	1	6	—	1	6	—
13. Furniture, bedding, &c.	19	147	6	20	154	9
14. Drugs, chemicals, and by-products ..	26	242	8	31	317	15
15. Surgical and scientific appliances ..	—	—	—	1	4	1
16. Timepieces, jewellery, and platedware	6	27	2	6	27	2
17. Heat, light, and energy ..	50	288	1	54	324	2
Total	1,983	16,816	4,431	2,038	18,601	4,682
<i>State.</i>						
1. Treating raw material, the product of pastoral pursuits, &c.	324	3,270	28	337	3,509	34
2. Oils and fats, animal and vegetable ..	21	577	19	23	574	27
3. Processes relating to stone, clay, glass, &c.	212	3,424	48	215	3,712	41
4. Working in wood ..	350	5,906	22	375	6,618	36
5. Metal works, machinery, &c.	650	15,567	154	674	17,886	183
6. Connected with food and drink, &c.	633	9,726	3,637	651	10,840	3,592
7. Clothing and textile fabrics, &c.	1,349	9,367	28,052	1,416	9,800	30,158
8. Books, paper, printing, engraving, &c.	369	6,113	2,167	420	6,436	2,270
9. Musical instruments ..	5	139	11	5	185	12
10. Arms and explosives ..	8	123	263	9	196	279
11. Vehicles, &c., saddlery, harness, &c.	410	4,149	95	410	4,519	111
12. Shipbuilding, fitting, &c.	10	122	—	12	133	—
13. Furniture, bedding, &c.	228	2,463	237	242	2,849	273
14. Drugs, chemicals, and by-products ..	74	1,162	339	81	1,320	352
15. Surgical and scientific appliances ..	14	52	5	17	78	6
16. Timepieces, jewellery, and platedware	69	782	56	80	909	66
17. Heat, light, and energy ..	77	2,140	286	83	2,455	353
18. Leatherware, except saddlery and harness	30	380	206	32	412	222
19. Wares not elsewhere included ..	40	847	242	44	1,142	360
Total	4,873	66,309	35,867	5,126	73,573	38,375

The factories in the metropolitan area in 1911 exceeded by 198 the number in 1910 and by 296 that in 1909, whilst those in country districts numbered 55 more than in 1910 and 75 more than in 1909.

The industries in the different classes showing a larger number of factories in 1911 than in 1910, both metropolitan and country, are as follows:—

Class 1—Sausage casing, 1; tanning, 1; chaffcutting, 16. Class 2—Oil, grease, 2. Class 3—Glass, 3; modelling, 2. Class 4—Cooperage, 2; forest saw-milling, 3; moulding, 19; mantel-piece, 1. Class 5—Agricultural implement, 9; engineering, 14; cutlery, 2; sheet-iron, tin, 3; oven, 1; patternmaking, 1; spring, 1; brass, coppersmithing, 4; pyrites, 1. Class 6—Bacon-curing, 1; butterine, 2; meat freezing or preserving, 4; jam, pickle, sauce, 3; oatmeal, maizena, starch, arrowroot, 2; sugar, 1; confectionery, 6; malt, 3; brewing, 2; distilling, 1; tobacco, &c., 1. Class 7—Woollen mill, 1; clothing, tailoring, 30; under-clothing, 7; hat, cap, 1; hosiery, 9; waterproof clothing, 1; boot, shoe, 10; fur, 4; dyeing, 3; feather dressing, 1; rope, twine, &c., 2; sail, tent, tarpaulin, 1. Class 8—Printing, 47; account book, &c., 2; fancy box, &c., 2. Class 10—Ammunition, 1. Class 11—Coach, carriage, &c., 1; cycle, motor, 1. Class 12—Ship, boatbuilding, 2. Class 13—Upholstery, 1; bedstead, 1; cabinet making, 13. Class 14—Blacking, blue, &c., 1; essential oil, 5; paint, varnish, 1. Class 15—Surgical, optical, &c., appliances, 3. Class 16—Gold-smithing, &c., 11. Class 17—Electric light, 4; match, 1; fire kindler, 1. Class 18—Fancy leather, 3. Class 19—Basket, wicker, 1; brush, broom, 1; rubber goods, 2.

The industries in which the number of factories was less in 1911 than in 1910 are:—

Class 1—Bone-milling, 3; fellmongering, 2. Class 3—Brick, pottery, 2. Class 5—Metallurgical, 1; cyanide, 11. Class 6—Butter and cheese, 4; flour milling, 1; aerated waters, 1; ice, 2. Class 7—Dressmaking, &c., 3. Class 11—Saddle, harness, 2. Class 13—Picture frame, 1. Class 18—Leather belting, 1.

Since 1910 workers in metropolitan factories have increased by 7,736, there having been an addition of 5,479 males and 2,257 females. Workers in country factories have during the same period increased by 2,036; the number of males being greater by 1,785 and that of females by 251 than in 1910.

The industries in the State showing the largest increases in the average number of workers employed in 1911, as compared with 1910, are as follows:—Tanning, 129 persons; brickmaking, 119 persons; forest saw-mill, 129 persons; saw-moulding, 567 persons; agricultural implement, 462 persons; engineering, 1,006 persons; railway workshops, 568 persons; sheet, iron, tin, 134 persons; butter and cheese, 275 persons; meat freezing, preserving, 495 persons; biscuit, 149 persons; jam, pickle, sauce, 174 persons; clothing, 1,168 persons; dress, 498 persons; underclothing, 326

persons; hat, cap, 127 persons; hosiery, 167 persons; boot, 169 persons; printing, 373 persons; coach, &c., 133 persons; saddle, harness, 150 persons; cabinet, 206 persons; chemical, 105 persons; jewellery, 137 persons; gas, 180 persons; match, &c., 126 persons; rubber-goods, 329 persons.

There are only two industries which show serious decreases in the number of persons employed as compared with the previous year; they are as follows:—Cyanide, 67 persons; and tobacco, 236 persons.

Factories
and works
for ten
years.

The following summary shows the power used, persons employed, and value of machinery, land, and buildings for each of the last ten years:—

FACTORIES—POWER, EMPLOYÉS, ETC.: 1902 TO 1911.

Year.	Number of Factories.	Factories using Machinery worked by—				Actual Horse-Power of Engines Used.
		Steam.	Gas.	Electricity, Oil, Water, Wind, or Horse.	Manual Labour.	
1902	4,003	1,328	755	330	1,590	43,821
1903	4,151	1,316	724	437	1,674	42,750
1904	4,208	1,304	734	509	1,661	40,859
1905	4,264	1,276	715	615	1,658	43,492
1906	4,360	1,255	709	712	1,684	48,765
1907	4,530	1,270	727	838	1,695	52,703
1908	4,608	1,220	741	962	1,685	58,945
1909	4,755	1,192	779	1,098	1,686	63,761
1910	4,873	1,169	794	1,276	1,634	69,373
1911	5,126	1,147	811	1,516	1,652	79,515

Year.	Average Number of Persons Employed.			Approximate Value of—		
	Males.	Females.	Total.	Machinery and Plant.	Land.	Buildings and Improvements.
				£	£	£
1902	49,658	23,405	73,063	5,082,023	3,045,291	5,125,969
1903	49,434	23,795	73,229	5,010,896	2,855,174	5,112,771
1904	50,554	25,733	76,287	6,027,134	2,721,076	4,919,975
1905	52,925	27,310	80,235	6,187,919	2,767,071	5,004,167
1906	56,339	28,890	85,229	6,450,355	2,857,411	5,204,699
1907	59,691	31,212	90,903	6,771,458	2,932,036	5,444,606
1908	60,873	32,935	93,808	6,957,606	2,972,959	5,616,068
1909	62,822	34,533	97,355	7,140,304	2,903,506	5,738,838
1910	66,309	35,867	102,176	7,601,085	2,973,916	6,088,347
1911	73,573	38,375	111,948	8,336,373	3,112,153	6,809,367

This table shows that there has been considerable progress during the last ten years. The factories have increased to the extent of 1,123, the actual horse-power of engines by 35,694, the persons employed by 38,885, of whom 23,915 are males and 14,970 females, the approximate value of machinery and plant by £3,254,350, and that of buildings, &c., by £1,683,398. A noticeable feature in connexion with the power employed is the increase in the number of factories using electricity; in 1911 these numbered 1,164, an increase of 1,005 since 1902.

In the next table the persons employed in factories during the last five years are grouped according to the nature of their work. The total number last year shows an increase of 9,772 compared with 1910, and of 21,045 compared with 1907:—

		TOTAL PERSONS EMPLOYED.				
		1907.	1908.	1909.	1910.	1911.
Males	...	59,691	60,873	62,822	66,309	73,573
Females	...	31,212	32,935	34,533	35,867	38,375
Total	...	90,903	93,808	97,355	102,176	111,948

Persons employed, male and female.

CLASSIFICATION OF PERSONS EMPLOYED.

		1907.	1908.	1909.	1910.	1911.
Working Proprietors—						
Males	...	3,975	4,056	4,172	4,315	4,562
Females	...	629	629	643	638	639
Managers and Overseers—						
Males	...	2,318	2,222	2,324	2,399	2,566
Females	...	395	388	420	478	492
Accountants and Clerks—						
Males	...	2,314	2,461	2,540	2,592	2,784
Females	...	432	478	531	653	740
Engine-drivers and Firemen—						
Males	...	1,544	1,568	1,560	1,587	1,794
Workers in Factories—						
Males	...	45,319	46,545	48,251	51,569	57,757
Females	...	28,400	30,046	31,298	32,527	34,630
Factory Workers working in their own homes—						
Males	...	115	106	122	69	94
Females	...	1,314	1,351	1,573	1,515	1,812
Carters and Messengers—						
Males	...	3,000	2,945	2,949	2,880	3,021
All Others—						
Males	...	1,106	970	904	898	995
Females	...	42	43	68	56	62

The number of children under 16 years of age employed in factories has decreased considerably during the last three years, as will be seen from the following statement:—

Children employed.

AVERAGE NUMBER OF CHILDREN UNDER 16 YEARS OF AGE, EMPLOYED IN FACTORIES, 1906 TO 1911.

Year.	Males.	Females.	Total.
1906	3,213	2,997	6,210
1907	3,253	3,095	6,348
1908	3,049	3,065	6,114
1909	2,817	2,496	5,313
1910	2,753	2,174	4,927
1911	2,623	1,937	4,560

The following is a statement of the rates of wages ruling in the various industries in Melbourne during 1911, the information having been compiled from determinations of Wages Boards or collected direct from the employers:—

WAGES IN MELBOURNE, 1911.

A.—WAGES FOR ADULT WORKERS IN CLASSIFIED MANUFACTURING INDUSTRIES.

Industries.	Occupations.	Wages.	
		Range.	General Rate.
<i>Class I.—Treating Raw Material the product of pastoral pursuits or vegetable products not otherwise classed.</i>			
<i>Order 1.—Animal products.</i>			
Bovling down ..	Men employed in boiling down and bone mills Carters Sausage skin cleaners Slicker whiteners .. Fishers Jiggers and grainers .. Rollers and strikers .. Machine shavers .. Scudders, unhairers, stoners, and Japaners Fancy leather machinists Labourers in sheds, vats, &c. Foremen scourers, tanners, headers, and trotters Men in charge of limes Hands at burring and fleshing machines Wool sorters .. Wool pressers and others	..	45s. per week
Bone milling ..		45s. to 50s. per week	..
Sausage casing		45s. to 50s. "	47s 6d per wk.
Tanning .. ..		..	57s. "
		..	54s. "
		..	52s. "
		..	50s. "
		..	50s. "
		..	49s. "
		..	47s. "
		..	45s. "
Fellmongering .. ..		..	42s. "
		..	45s. "
	..	36s. "	
<i>Order 2.—Vegetable products.</i>			
Chaff-cutting	Storemen Labourers and carters	45s. to 48s. per week	47s. "
<i>Class II.—Oils and Fats, Animal and Vegetable.</i>			
Oil, grease, and glue ..	Labourers .. ..	..	7s. 6d. per day
Soap and soda	Soapmakers Assistant soapmakers Foremen Men in charge of milling-room Mixers General hands Wrappers, packers, and stampers—male Stampers, female .. Wrappers and packers—female	.. .. .. .. .. .. .. .. ..	62s 6d per wk. 55s. " 55s. " 52s. " 48s. " 45s. " 45s. " 45s. " 25s. "
Candle	Stillmen Acidifiers, glycerine distillers, and press-room gangers Candle room gangers Candle moulders .. Other adult workers .. Carters .. ..	.. .. .. .. .. 45s. to 50s. per week	48s. " 45s. " 47s. 6d. " 44s. 6d. " 42s. " ..

WAGES IN MELBOURNE, 1911—continued.

Industries.	Occupations.	Wages.		
		Range.	General Rate.	
<i>Class III.—Processes relating to Stone, Clay, Glass, &c.</i>				
Brick	Patternmakers .. .. .	.. .. .	1s. 4½d. per hr.
	Bricklayers .. .. .	.. .. .	1s. 3d. "
	Turners and fitters .. .. .	.. .. .	1s. 3d. "
	Engine-drivers	11½d. to 1s. 0½d. per hr.	.. .. .
	Burners on kilns .. .. .	.. .. .	1s. 1½d. per hr.
	Blacksmiths .. .. .	.. .. .	1s. 0½d. "
	Carpenters .. .. .	.. .. .	1s. 3d. "
	Facemen	1s. 1½d. to 1s. 1¾d. pr hr.	.. .. .
	Drawers .. .. .	.. .. .	1s. 3d. per hr.
	Machine drivers, riggers	.. .. .	1s. 1d. "
	Setters .. .. .	.. .. .	1s. 2d. "
	Firemen .. .. .	.. .. .	11½d. "
	Pan and crusher attendants	.. .. .	1s. 0½d. "
	Wet pan attendants	.. .. .	10½d. "
	Clayholemen .. .. .	.. .. .	1s. 0½d. "
	Hand moulders .. .. .	.. .. .	1s. "
	Wheelers .. .. .	.. .. .	11d. "
	Truckers .. .. .	.. .. .	11d. "
	Blacksmiths' strikers	.. .. .	10½d. "
	Loftmen, yardmen .. .. .	.. .. .	10½d. "
	Lime grinders, crushers and mixers	.. .. .	1s. 1½d. "
	Sand elevator feeders and pitmen	.. .. .	1s. "
	Glazed pipes	Burners, head	67s. 6d per wk.
" assistant .. .. .		.. .. .	62s. 6d. "
" other .. .. .		.. .. .	47s. "
Flangers .. .. .		.. .. .	60s. "
Setters .. .. .		.. .. .	52s. 6d. "
Pressers .. .. .		.. .. .	54s. "
Junction stickers, men in charge of plunges, head drawers		.. .. .	48s. "
General pottery		Labourers	48s. to 50s. per week
		Burners, head	67s. 6d per wk.
		" assistant	62s. 6d. "
	" other .. .. .	.. .. .	46s. "
	Pressers	45s. to 50s. per week	.. .. .
	Stoneware throwers .. .. .	.. .. .	54s. per week
	Handlers and jiggerers	45s. to 46s. per week	.. .. .
	Turners .. .. .	.. .. .	50s. per week
	Placers, dippers	44s. to 51s. per week	.. .. .
	Sagger makers .. .. .	.. .. .	45s. per week
	Mould makers .. .. .	.. .. .	60s. "
	" assistants	.. .. .	48s. "
	Packers and labourers	44s. to 48s. per week	.. .. .
Terra-cotta pressers and plungers	48s. to 50s. "	.. .. .	
" clayhole	.. .. .	52s. per week	
" facemen	.. .. .	.. .. .
" breakers	.. .. .	43s. "	
" and fillers	.. .. .	.. .. .
" flower pot throwers	48s. to 50s. per week	.. .. .	
Females employed in making general pottery	.. .. .	23s. per week	
Tiles	Tile placers	48s. to 51s. per week	.. .. .
	Moulders, pressers, and others—male .. .. .	.. .. .	42s. per week
	" female .. .. .	.. .. .	23s. "
Lime, cement, cement pipes..	Labourers	7s. 6d. to 8s. per day	.. .. .
Asbestos	Machinists	36s. to 42s. per week	40s. per week	
Glass bottle works	Furnacemen (two or more producers)	.. .. .	52s. 6d "

WAGES IN MELBOURNE, 1911—continued.

Industries.	Occupations.	Wages.	
		Range.	General Rate.
<i>Class III.—continued.</i>			
Glass bottle works—continued.	Furnacemen (one producer)	..	38s.6d. per wk.
	Foremen, sorters, lathe workers	..	42s. „
	Pipe menders, wind pipe repairers	39s. to 40s. per week	..
	Sorters, lehrmen, labourers	..	36s. per week
	Tensers, firemen's assistants, light labourers	30s. to 33s.9d. per wk.	..
Flint glass works	Castor place makers ..	..	70s. per week
	„ blowers ..	..	57s. 6d. „
	Chimney and general work makers (1st class)	..	60s. „
	Chimney and general work blowers (1st class)	..	48s. „
	Chimney and general work makers (2nd class)	..	51s. „
	Chimney and general work blowers (2nd class)	..	42s. „
	Mould blowers (1st class)	..	57s.6d. „
	Mould blowers (2nd class)	..	50s. „
	Mould blowers (3rd class)	..	42s. „
	Pot makers ..	..	52s. „
	Firemen ..	..	42s. „
	Sand blasters and packers	..	40s. „
Glass bevelling, &c. ..	Embossers ..	48s. to 50s. per week	..
	Stained glass cutters	..	57s. per week
	Lead light glaziers and fixers of lead lights	48s. to 50s. per week	..
	Cementers ..	..	40s. per week
	Plate glass cutters ..	48s. to 52s. per week	..
	„ glaziers ..	48s. to 50s. „	..
	„ glazier's assistants and packers	..	45s. per week
	Sheet glass cutter ..	..	46s. „
	Bevellers and silverers	..	48s. „
	Carvers in marble and stone	..	82s. 6d. „
Marble, stone-dressing ..	Carvers' assistants ..	..	69s. 8d. „
	Letter cutters ..	64s. 2d. to 66s. per week	..
	Monumental carvers ..	..	69s. 8d. per wk.
	Monumental stone, slate, and other cutters	58s. 8d. to 64s. 2d. per week.	..
	Kerbstone cutters ..	..	55s. per week
	Machinists, planing and turning	..	66s. „
	Machinists, polishing and sanding	48s. 9d. to 56s. per week	..
	Labourers ..	..	50s. per week
	Filtermakers ..	..	48s. „
	Modellers ..	12s. to 14s. per day	..
Stone filter	Shop hands ..	10s. to 11s. „	..
	Pressers and casters	48s. to 54s. per week	..
Asphalt	Asphalters and tarpavers	7s. 6d. to 9s. per day	8s. per day

WAGES IN MELBOURNE, 1911—continued.

Industries.	Occupations.	Wages.	
		Range.	General Rate.
<i>Class IV.—Working in Wood.</i>			
Cooperage	Coopers .. ..	.. ..	62s. per week
Corkcutting	Corkcutters	35s. to 55s. per week	40s. "
Bellows	Bellows-makers	36s. to 45s. "	37s. "
Saw-milling, moulding, joinery, sash, door, box, &c.	Box makers and box nailing machine workers	.. ..	52s. 6d. "
	Box printing machine workers	.. ..	49s. 6d. "
	Carpenters and joiners	58s. to 66s. per week	.. ..
	Mantelpiece makers .. ..	.. ..	60s. per week
	Millwrights .. ..	.. ..	64s. "
	Crane workers .. ..	.. ..	55s. "
	Labourers, box stackers	42s. to 48s. per week	.. ..
	Stackers, timber log- pond men and log- turners, joinery packers	48s. to 54s. "	.. ..
	Stackers and sorters on wharf and public yards	.. ..	1s. 3d. per hr.
	Stackers (foremen) .. ..	.. ..	1s. 6d. "
	Wire nail machine workers	.. ..	54s. per week
	Other machine workers	50s. to 66s. per week	.. ..
	Polishers, coaters .. ..	.. ..	55s. per week
	Painters and glaziers .. ..	.. ..	54s. "
	Pullers out	42s. to 48s. per week	.. ..
	Sawyers	48s. to 64s. "	.. ..
	Saw sharpeners .. ..	.. ..	60s. per week
	Blacksmiths .. ..	.. ..	57s. "
	Blacksmiths' strikers .. ..	.. ..	45s. "
	Salesmen, tally and order men	.. ..	54s. "
Wood-carving, turning	Carvers and turners .. ..	.. ..	60s. "
<i>Class V.—Metal Works, Machinery, &c.</i>			
Agricultural implement	Pattern makers .. ..	.. ..	66s. per week
	Blacksmiths, fitters, turners, wheelwrights and carpenters	.. ..	60s. "
	Blacksmiths' strikers .. ..	.. ..	48s. "
	Iron annealers .. ..	.. ..	48s. "
	Drillers .. ..	.. ..	48s. "
	Belt cutters .. ..	.. ..	48s. "
	Machinists, iron .. ..	.. ..	54s. "
	" wood	48s. to 60s. per week	.. ..
	Sheet iron workers .. ..	.. ..	54s. per week
	Assemblers .. ..	.. ..	48s. "
	Painters	51s. to 60s. per week	.. ..
	Engine-drivers	51s. to 60s. "	.. ..
	Labourers, yardmen	45s. to 48s. "	.. ..
Engineering, boiler-making	Pattern-makers .. ..	.. ..	72s. per week
	Blacksmith, hammer and coppersmiths	.. ..	66s. "
	Fitters, turners, and spring makers	.. ..	66s. "
	Borers, slotters, planers, machine shapers (over 14 inch), uni- versal millers	.. ..	60s. "

WAGES IN MELBOURNE, 1911—continued.

Industries.	Occupations.	Wages.		
		Range.	General Rate.	
Class V.—continued. Engineering, &c.—continued.	Rail and plate edge planers, shapers (under 14 inch), plain millers, gear cutters, bolt and nut hands, lappers, grinders, and brass finishers	..	54s. per week	
	Shearing, slotting, and nibbling machinists, heaters and cutters of bolts and nuts, stud, lathe, centering, screwing, and drilling machinists	..	48s. ..	
	Blacksmith's strikers	..	45s. ..	
	Leading and ordinary labourers	42s. to 45s. per week	..	
	Bank pipe moulders ..	54s. to 66s. per week	..	
	Vertical moulders ..	..	51s. per week
	Pipe dressers ..	..	48s. ..
	Furnacemen and assistants	48s. to 51s. per week	..	
	Labourers ..	..	45s. per week
	Coremakers, finishers, and casters	54s. to 66s. per week	..	
Iron and steel moulding ..	Iron moulders and core-makers	54s. to 66s. ..	..
	Iron dressers ..	..	48s. per week
	Steel crucible furnacemen and assistants	51s. to 63s. per week	..	
	Steel converters and assistants	51s. to 57s. ..	..
	Steel annealers and labourers	..	46s. 6d. per week	
	Cutlery	Cutlery and sawmakers	60s. to 80s. per week	..
	Knifsmiths ..	50s. to 55s.
	Saw and tool grinders and sharpeners	48s. to 55s.
	Nail makers ..	55s. to 60s.
	Labourers ..	40s. to 45s.
Nail, barbed wire ..	Barbed wire workers ..	48s. to 52s. 6d. ..	..
	Fireproof safe, &c., makers	55s. to 80s. ..	60s. per week	
Iron safe, door ..	General tinsmiths, sheet iron and spouting workers, repairers	..	54s. ..	
	Stampers ..	..	50s. ..
	Labourers' stackers ..	..	42s. ..
	Canister makers and repairers	..	50s. ..	
	Soldering machinists	48s. to 50s. per week	..	
	Other ..	..	45s. per week
	Japanners and gilders—	..	..
	Ornamental ..	..	52s. ..
	Other ..	43s. to 48s. per week	..	
	Stove, range, oven ..	Stove and oven fitters	54s. to 57s.
Pattern making ..	Electroplaters ..	56s. to 60s. ..	..
	Pattern makers ..	..	72s. per week
Miter ..	Fitters ..	..	54s. ..
	Spring fitters and spiral spring makers	..	60s. ..	
Spring ..	Smiths ..	..	60s. ..
	Elliptic heading and spring eye machinists	54s. to 56s. per week	..	
	Other machinists ..	..	45s. per week
	Strikers, emery wheel finishers, and others	..	45s. ..	

WAGES IN MELBOURNE, 1911—continued.

Industries.	Occupations.	Wages.		
		Range.	General Rate.	
<i>Class V.—continued.</i>				
Brass, copper smithing ..	Brass moulders, finishers ..	..	54s. per week
	Brass polishers ..	..	48s. "
	Dressers ..	..	42s. "
	Furnacemen ..	..	45s. "
	Coremakers, male ..	..	51s. "
	female ..	..	30s. "
	Coppersmiths ..	..	60s. "
Lead, shot, pewter ..	Labourers in lead and shot factories ..	48s. to 50s. per week	..	
Wire working ..	Wire workers ..	..	51s. per week
	Weavers ..	..	52s. "
	Weavers' strikers ..	..	42s. "
Wire mattress ..	Machine operators ..	56s. to 64s. per week	..	
	Weavers, framemakers ..	..	50s. per week
	Weavers (female) ..	..	34s. "
Smelting, chlorination, cyanide, pyrites	Metallurgists and assayers ..	£3 5s. to £5 per week	..	
	Cyaniders ..	40s. to 55s. "	..	
	Chlorinators ..	40s. to 55s. "	..	
	Smelters ..	50s. to 70s. "	..	
	Roasters ..	40s. to 42s. "	..	
	Furnacemen ..	48s. to 60s. "	..	
	Labourers ..	40s. to 48s. "	..	
	Blacksmiths ..	..	48s. per week
	Fitters-up ..	..	51s. "
	Chill fitters ..	56s. to 64s. per week	..	
Bedstead, fender ..	Frame setters ..	..	54s. per week
	Chippers ..	..	43s. "
	Mounters of bedstead pillars ..	43s. to 51s. per week	..	
	Grinders and polishers ..	..	57s. per week
	Japanners ..	43s. to 51s. per week	..	
	Fitters (fender) ..	..	51s. per week
	Electroplaters ..	..	68s. "
	assistants ..	..	56s. "
	Brass lacquer and plate work polishers ..	..	48s. "
	Packers and storemen ..	..	43s. "
	Japanners and polishers—female ..	..	39s. 6d. "
	Wrappers—female ..	..	19s. 6d. "
	<i>Class VI.—Connected with Food and Drink, or the preparation thereof.</i>			
	<i>Order 1.—Animal Food.</i>			
	Bacon-curing ..	Foremen curers	60s. per week
Assistant ..		46s. to 50s. per week	..	
Foremen, cutting ..		..	60s. per week
Assistants ..		..	52s. 6d. "
Foremen, slaughtering ..		..	60s. "
Assistants ..		..	42s. 6d. "
Foremen, small goods ..		..	67s. "
Assistants ..		..	50s. "
Foremen, smoking, rolling, &c. ..		..	55s. "
Assistants, smoking, rolling, &c. ..		45s. to 52s. 6d. per week	..	
Butter, cheese, concentrated milk	General workers ..	45s. to 52s. 6d. "	..	
	Factory managers ..	65s. to 90s. "	70s. per week	
	Butter makers, and churners ..	47s. 6d. to 55s. "	..	
Butterine, margarine ..	Labourers, packers ..	37s. 6d. to 42s. 6d. "	..	
	Labourers ..	40s. to 42s. "	..	

WAGES IN MELBOURNE, 1911—continued.

Industries.	Occupations.	Wages.	
		Range.	General Rate.
<i>Class VI.—Order 1—continued.</i>			
Meat preserving, freezing ..	Slaughtermen ..	..	27s. 6d. per 100 sheep
	Digester hands, tallowmen, and boners	..	45s. per week
	Preservers' assistants	40s. to 48s. per week	..
	Tinsmiths (canister makers)	..	50s. per week
	Labourers, packers ..	40s. to 48s. per week	..
	Chambermen ..	..	60s. per week
<i>Order 2.—Vegetable Food, including products not foods but usually associated with the manufacture of foods.</i>			
Biscuit	Factory foremen ..	55s. to 80s. per week	..
	Forewomen ..	30s. to 40s. "	..
	Cake makers ..	50s. to 62s. 6d. "	..
	Biscuit bakers, mixers	43s. to 54s. "	..
	Machine hands ..	35s. to 42s. "	..
	Packers—male ..	37s. 6d. to 39s. "	..
	female ..	16s. to 20s. "	..
Confectionery	Confectioners ..	..	54s. per week
	Head storemen ..	..	50s. "
	Storemen and labourers	..	42s. "
	Chocolate dippers—female	..	22s. "
	General workers—male	..	36s. "
	female	..	20s. "
Flour mill	Millers and millwrights	..	55s. "
	Packermen ..	42s. to 48s. per week	..
	Other adult mill employes	..	42s. per week
	Engine-drivers ..	..	48s. "
	Head storemen ..	..	48s. "
	Other adult store hands	..	45s. "
Jam, fruit-preserving, pickle, sauce, vinegar	Foremen ..	50s. to 80s. per week	..
	Adult males ..	..	45s. per week
	Females over 18 years	19s. to 21s. per week	..
Oatmeal, cornflour, macaroni	General hands—male	32s. to 60s. "	..
	female	15s. to 30s. "	..
	Foremen ..	..	55s. per week
Starch	Millers, stonedressers	47s. 6d. to 50s. per wk.	..
	Adult hands—males	..	42s. per week
	female	..	22s. 6d. "
	Vacuum hands and others	..	..
Sugar, treacle refining ..	Vacuum hands and others	44s. 6d. to 90s. per week	..
<i>Order 3.—Drinks and Stimulants.</i>			
Aerated waters, cordials ..	Cordial makers ..	55s. to 80s. per week	60s. per week
	Bottlers by hand or rack other than automatic	..	45s. "
	Bottlers by automatic rack	..	42s. 6d. "
	All others ..	..	39s. "
Malt	Persons engaged in turning floors, screening malt and barley, &c.	..	54s. "

WAGES IN MELBOURNE, 1911—continued.

Industries.	Occupations.	Wages.	
		Range.	General Rate.
<i>Class VII.—continued.</i>			
<i>Order 2.—Dress.</i>			
Clothing, tailoring—continued.			
	Ready made—		
	Cutters, stock—male ..	..	55s. per week
	and female ..	..	45s. "
	Machinists, examiners—male ..	..	40s. "
	Folders ..	..	30s. "
	Seam pressers—male and female ..	..	25s. "
	Brushers ..	..	21s. "
	Tailoresses, machinists, buttonhole makers ..	..	..
Corset	Corset makers—female ..	22s. 6d. to 30s. per week	25s. "
Dressmaking, millinery ..	Male cutters ..	..	52s. 6d. "
	Female ..	..	30s. "
	Male and female pressers ..	..	50s. "
	Female pressers under 12lb. irons ..	..	25s. "
	Dressmakers in charge ..	50s. to 120s. per week	..
	Dressmakers' assistants—female ..	..	21s. 6d. per wk.
	Mantlemakers (in charge)—female ..	50s. to 80s. per week	..
	Mantlemakers' assistants—female ..	..	21s. 6d. per wk.
	Milliners in charge ..	50s. to 80s. per week	..
	Milliners' assistants—female ..	..	22s. 6d. per wk.
Shirtmaking, underclothing ..	Shirt, collar, pyjama makers—male cutters ..	60s. to 65s. per week	..
	Female cutters ..	35s. to 50s. "	..
	Male workers ..	42s. to 55s. "	..
	Female ..	..	22s. 6d. per wk.
	Underclothing makers—female ..	..	20s. "
Hat, cap	Body makers, and finishers—silk hats ..	50s. to 60s. per week	55s. "
	Shapers, silk hats ..	60s. to 70s. "	65s. "
	Crown sewers, silk hats—female ..	20s. to 30s. "	25s. "
	Trimmers, silk hats—female ..	22s. 6d. to 26s. "	25s. "
	Bodymakers, felt hats ..	70s. to 90s. "	77s. 6d. "
	Blockers ..	65s. to 70s. "	..
	Finishers ..	70s. to 100s. "	75s. per week
	Shapers ..	..	65s. "
	Binders and trimmers, felt hats—female ..	20s. to 25s. per week	..
	Machinists, straw hats—female ..	22s. 6d. to 30s. "	25s. per week
	Trimmers straw hats—female ..	20s. to 25s. "	22s. 6d. "
	Blockers, pressers—women's hats ..	45s. to 47s. 6d. per week	..
	Machinists, caps—female ..	20s. to 25s. per week	..
Hosiery (piecework) ..	Machinists, knitting—female ..	22s. 6d. to 35s. per week	..
	Machinists, sewing—female ..	20s. to 35s. "	..
	Linkers—female ..	25s. to 30s. "	..
	Pressers—male ..	..	50s. per week
	female ..	25s. to 30s. per week	..
	Winders—female ..	20s. to 30s. "	..
	Menders, &c.—female ..	20s. to 30s. "	..

WAGES IN MELBOURNE, 1911—continued.

Industries.	Occupations.	Wages.	
		Range.	General Rate.
<i>Class VII.—Order 2—continued.</i>			
Oilskin, waterproof clothing	Male cutters ..	..	50s. per week
	Male garment makers ..	..	45s. ..
	Female garment makers and machinists ..	..	22s. 6d. ..
Boot, shoe	Needle hands, female ..	..	17s. 6d. ..
	Makers, finishers, clickers, stuff-cutters, male and female ..	..	54s. ..
	Other females with four years' experience ..	..	22s. 6d. ..
Furrier	Cutters ..	60s. to 70s. per week	..
	Machinists—female ..	20s. to 25s. ..	22s. 6d. per wk
	Sewers—female ..	17s. 6d. to 20s. ..	..
Umbrella, parasol	Frame makers ..	40s. to 50s. ..	..
	Cutters ..	40s. to 55s. ..	..
	Finishers—male ..	25s. to 40s. ..	..
Dye works	Machinists—female ..	22s. 6d. to 30s. ..	..
	Tipplers ..	20s. to 22s. 6d. ..	..
	Dyers ..	60s. to 80s. ..	70s. per week
	Dyers' assistants and cleaners ..	40s. to 50s. ..	45s. ..
Ostrich feather	Pressers—male ..	..	50s. ..
	female ..	..	30s. ..
	Feather dyers ..	60s. to 80s. per week	70s. ..
	“ “ assistants ..	35s. to 40s. ..	37s. 6d. ..
	Feather curlers, dressers, finishers—female ..	15s. to 30s. ..	20s. ..
<i>Order 3.—Fibrous Materials and Textiles not elsewhere included.</i>			
Bag, sack (including calico bag)	Bagmenders ..	20s. to 35s. per week	30s. per week
	Calico bag-makers—female ..	15s. to 20s. ..	17s. 6d. ..
Rope, twine	Undefined—male ..	42s. to 70s. ..	..
	female ..	17s. 6d. to 27s. 6d. ..	..
Tarpaulin, tent, sail ..	Tarpaulin and tent makers ..	40s. to 50s. ..	48s. per week
	Sailmakers ..	..	60s. ..
	Tarpaulin, tent, sail makers—female ..	17s. 6d. to 22s. 6d. per wk	20s. ..
<i>Class VIII.—Books, Paper, Printing, Engraving, &c.</i>			
Printing (including lithographic printing, electrotyping, stereotyping)	Printers—Compositors ..	..	60s. per week
	“ “ machinists ..	56s. to 60s. per week	..
	Proof readers ..	..	64s. per week
	Printers—Linotype and monoline operators ..	70s. to 84s. per week	..
	Printers—monotype ..	70s. to 84s. ..	..
	performing machine operators ..	..	..
	Persons employed on monotype casting machines ..	45s. 6d. to 56s. 10d. ..	..
	Feeders and others—male ..	..	42s. per week
	Feeders and others—female ..	..	22s. ..
	Lithographers ..	60s. to 67s. 6d. per week	..
Stereotypers ..	..	60s. per week	

WAGES IN MELBOURNE, 1911—continued.

Industries.	Occupations.	Wages.	
		Range.	General Rate.
<i>Class VIII.—continued.</i>			
Bookbinding, account book making, stationery, &c.	Bookbinders, paper rulers, guillotine machine cutters	..	58s. per week
	Feeders and others—male	..	36s. "
Ink, printing ink	Pagers, folders, staplers, &c.—female	..	21s. "
	Sewers, &c., female ..	..	23s. "
Paper	Printing ink makers	52s. 6d. to 70s. per week	..
	Writing ink	25s. to 30s. "	..
Paper bag, box, &c.	Paper, &c., makers ..	..	60s. per week
	Beatermen	54s. to 60s. per week	..
Paper bag, box, &c.	Breakermen	45s. to 48s. "	..
	General hands	42s. to 48s. "	..
Paper bag, box, &c.	Machine box cutters—male and female	..	56s. per week
	Other workers—male	..	45s. "
Paper bag, box, &c.	Box-makers—female	22s. to 25s. per week	..
	Cardboard carton cutters	..	52s. per week
Paper bag, box, &c.	All other carton workers—male	..	45s. "
	Carton workers—adult female	..	18s. "
Paper bag, box, &c.	Paper bag machinists	55s. to 56s. per week	..
	" " guillotine cutters	..	50s. per week
Paper bag, box, &c.	" " makers—female	..	20s. "
	Copper plate engravers	..	30s. "
Die sinking, engraving, &c. ..	Die sinkers .. ..	..	65s. "
	Engravers, general ..	55s. to 70s. per week	..
Die sinking, engraving, &c. ..	Process engravers ..	55s. to 90s. "	..
	Photo lithographers ..	..	70s. per week
<i>Class IX.—Musical Instruments.</i>			
Organ, pianoforte	Organ builders .. ..	..	58s. per week
<i>Class X.—Arms and Explosives.</i>			
Ammunition	Cartridge operators—female	17s. 6d. to 30s. per wk.	20s. per week
	Mechanics (fitters, &c.)	55s. to 72s. "	..
Explosive	Labourers	42s. to 50s. "	..
	Nitro-glycerine workers	45s. to 55s. "	..
Explosive	Acid workers	45s. to 48s. "	..
	Labourers and carters	40s. to 45s. "	..
Fireworks, fuse	Fireworks makers—male	40s. to 45s. "	..
	Fireworks makers—female	16s. to 17s. 6d. "	..
<i>Class XI.—Vehicles, Fitting, Saddlery, Harness, &c.</i>			
Coach, waggon, tramcar, spoke and felloe, wheelwright	Bodymakers, smiths, painters, trimmers	..	60s. per week
	Vycemen, s'rikers, labourers	42s. to 45s. per week	..
Coach, waggon, tramcar, spoke and felloe, wheelwright	Wheelwrights, wheelers' machinists, axle makers, blacksmiths	..	60s. per week

WAGES IN MELBOURNE, 1911—continued.

Industries.	Occupations.	Wages.	
		Range.	General Rate.
<i>Class XI.—continued.</i>			
<i>Coach, &c.—continued.</i>	Face plate workers and screw-cutting turners	..	54s. per week
	Centre turners, strikers, steam hammer drivers, and labourers	..	45s. "
Carriage lamp	Trimmers and machinists—female	..	25s. "
	Lamp makers	..	54s. "
Cycle	Foremen	60s. to 62s. 6d. per week	..
	Assemblers	..	45s. per week
	Filers	..	45s. "
	Frame builders	..	50s. "
	General repairers	..	48s. "
	Screw cutters and turning lathe men	..	57s. 6d. "
	Wheel builders	..	45s. "
	Foremen rim makers	..	56s. "
	Braziers	..	50s. "
	Other workers	..	45s. "
	Wickerworkers	..	55s. "
	Upholsterers	50s. to 55s. per week	..
	Fitters up	30s. to 40s. "	..
Saddlery, harness	Saddle collar and harness makers	..	54s. per week
	Machinists—female	..	24s. "
Saddle-tree, saddlers' ironmongery, &c.	Saddle-tree makers	50s. to 60s. per week	55s. "
	Whip (piece work)	..	..
<i>Class XII.—Ship Building, Fitting, &c.</i>	Thong makers	44s. to 54s. "	..
	Dock, slip	Shipwrights	..
Boat building	Foundry and shipsmiths	..	12s. per day
	Painters	..	11s. "
	Labourers	..	55s. per week
	Stevedores' men and lumpers	..	8s. 8d. per day
	Wharf labourers	..	1s. 6d. per hr.
	Boat builders (skilled)	48s. to 60s. per week	1s. 3d. "

<i>Class XIII.—Furniture, Bedding, &c.</i>			
Bedding, flock, upholstery ..	Bedding and mattress makers	..	50s. per week
	All females over four years' experience	..	25s. "
Carpet	Upholsterers	..	60s. "
	Carpet planners	..	65s. "
	Carpet and linoleum layers	..	60s. "
	Makers and repairers—female	..	27s. 6d. "
Curled hair	Curled hair, horsehair workers	40s. to 42s. per week	..
	Furniture, cabinet making, chair, billiard table	Cabinet, chair, and couch makers	..
..	Carvers, turners, polishers	..	60s. "
	Billiard table and cushion makers	..	60s. "
	Machinists	62s. to 66s. per week	..
	Females (four years' experience)	..	27s. 6d. per wk

WAGES IN MELBOURNE, 1911—continued.

Industries.	Occupations.	Wages.	
		Range.	General Rate.
<i>Class XIII.—continued.</i>			
Picture frame	Joiners, gilders .. ..	.. ..	50s. per week
	Machinists	48s. to 66s. per week	.. ..
	Mount cutters .. ..	.. ..	50s. per week
	Collapo workers and stainers	.. ..	45s. ..
	Mounters .. ..	.. ..	48s. ..
	Packers and others .. ..	.. ..	42s. ..
Venetian blind, window blind	Adult females .. ..	.. ..	22s. 6d. ..
	Venetian blind makers	45s. to 50s. per week	.. ..
<i>Class XIV.—Drugs, Chemicals, and By-products.</i>			
Blacking, black lead, blue, polishes, &c.	Grinders and mixers .. ..	.. ..	48s. per week
	Others	40s. to 42s. per week	25s. ..
Chemical, drug, horse and cattle medicine	Adult females .. ..	.. ..	25s. per week
	Makers of pharmaceutical preparations	60s. to 80s. per week	60s. ..
	Others (unskilled) working in drugs, &c.; disinfectant makers	30s. to 50s. ..	40s. ..
	Packers—female	17s. 6d. to 27s. 6d. ..	.. ..
Essential oil	Essence blenders	40s. to 55s. ..	.. ..
	Fertilizer .. ..	.. ..	54s. per week
Paint, varnish, white-lead	Acid tank cleaners, and pit emptiers in superphosphate works	.. ..	51s. ..
	Men attending roasters and acid chambers	.. ..	49s. ..
	Men feeding elevators, weighing and bagging machine attendants	.. ..	.. ..
	Labourers .. ..	.. ..	48s. ..
	Paint and varnish makers	55s. to 70s. per week	55s. ..
	Paint and varnish makers' assistants	.. ..	45s. ..
<i>Class XV.—Surgical and Scientific Appliances.</i>			
Optical, philosophical instrument, &c.	Opticians, &c.	45s. to 65s. per week	.. ..
Surgical appliance, instrument	Surgical instrument makers	40s. to 65s. ..	.. ..
<i>Class XVI.—Timepieces, Jewellery, Platedware.</i>			
Electroplating	Persons mixing and working solutions and electric current	.. ..	60s. per week
	Whetstone grinders .. ..	.. ..	55s. ..
	Liners and hand decorators	.. ..	54s. ..
	Grinders and polishers	.. ..	51s. ..
	Finishing coaters and rim centerers	.. ..	49s. ..
	Machine cleaners and others	.. ..	48s. ..
	Lacquerers and burnishers	.. ..	46s. ..
	Persons dipping, first coaters, and frame cleaners	40s. to 43s. per week	.. ..

WAGES IN MELBOURNE, 1911—continued.

Industries.	Occupations.	Wages.	
		Range.	General Rate.
<i>Class XVI.—continued.</i>			
Goldsmithing, jewellery, gold-beating	Engravers and chasers	..	60s. per week
	Chainmakers, mounters, ringmakers, silversmiths	..	55s. "
	Setters ..	..	60s. "
	Other adult workers ..	..	50s. "
	Female chain makers	..	35s. "
Watchmaking, &c.	Female scratch brushers, polishers, and gilders	..	45s. "
	Watchmakers	..	70s. "
<i>Class XVII.—Heat, Light, and Energy.</i>			
Electric apparatus ..	Engine fitters and turners	..	66s. per week
	Winders ..	50s. to 60s. per week	..
Electric light ..	Cable jointers ..	..	69s. per week
	Fitters ..	..	60s. "
	Wiremen, linesmen, patrolling repairers	..	63s. "
	Installation and circuit repairers and others	..	54s. "
Gas and coke ..	Stokers ..	9s. 9d. to 10s. per day	..
	Purifiers ..	..	8s. 6d. per day
	Sulphate workers ..	..	9s. 6d. "
	Stove repairers and fitters	48s. to 51s. per week	..
	Service and main layers	57s. 9d. to 71s. 6d. "	..
Match ..	Gas inspectors ..	57s. 9d. to 71s. 6d. "	..
	Labourers ..	8s. to 8s. 3d. per day	..
	Match and vesta makers—female (piecework)	20s. to 35s. per week	..
	Box makers—female (piecework)	12s. to 35s. "	..
Ironfounders' dust, charcoal dust	Storemen, packers ..	42s. to 50s. "	..
	Foremen ..	..	52s. 6d. per wk.
Hydraulic power ..	Mill hands and others	42s. to 48s. per week	..
	Firemen ..	..	9s. per day
	Fitters ..	..	11s. "
	Main layers ..	..	10s. "
	Special labourers ..	..	8s. 4d. "
Ordinary labourers ..	..	8s. "	
<i>Class XVIII.—Leatherware (excluding Saddlery and Harness.)</i>			
Leather belting ..	Foremen ..	..	60s. per week
	Belt makers ..	48s. to 52s. 6d. per wk.	..
	Machinists ..	45s. to 50s. "	..
Portmanteau, gladstone bag..	Foremen ..	..	60s. per week
	Male workers ..	..	55s. "
	Female workers ..	20s. to 25s. per week	..

WAGES IN MELBOURNE, 1911—continued.

Industries.	Occupation.	Wages.	
		Range.	General Rate.
<i>Class XIX.—Wares not elsewhere included.</i>			
Basket, wickerware ..	Wicker and bamboo workers	54s. to 55s. per week	..
	Upholsterers ..	..	48s. per week
Broom, brushware ..	Millet broom sorters..	42s. 6d. to 52s. 6d. per week	..
	Storemen and labourers	..	45s. per week
	Brush machinists ..	52s. 6d. to 64s. per week	..
	Paint brush makers ..	..	67s. 6d. per wk
	Brush finishers ..	..	60s. "
	Bottle, flue, wire, and bass brush makers	..	52s. 6d. "
	Draw-bench and treadle knot machine workers	..	21s. "
Rubber goods (including cycle tires)	Calendar hands ..	..	60s. "
	Mill hands ..	..	53s. "
	Compound scale hands and dough mixers	..	50s. "
	Spreaders, hose, belting &c., hands	..	50s. "
	Tire makers, repairers, wrappers	46s. to 50s. per week	..
	Press hands ..	..	48s. per week
	Heaters, textile cutters, lathe, surgical and tube makers	..	48s. "
	Tire and forcing machine hands	..	46s. "
	General workers ..	..	45s. "
	Cleaners ..	..	35s. "
	Female workers ..	..	25s. "

WAGES IN MELBOURNE, 1911—continued.

B.—WAGES FOR SERVANTS AND ADULT WORKERS IN UNCLASSIFIED CALLINGS, TRADES AND INDUSTRIES.

Industry or Service.	Occupations.	Wages.		
		Range.	General Rate.	
Educational*	Governesses ..	£30 to £40 per annum	..	
	Teachers advanced ..	£45 to £90 ..	..
	Teachers in private schools—			
	Males (elementary) ..	£80 to £120 ..	..
	" (advanced) ..	£150 to £300 ..	..
Clerical	Females (elementary) ..	£30 to £50 ..	..
	" (advanced) ..	£50 to £150 ..	..
	Bookkeepers ..	40s. to 70s. per week	..	
	Shorthand clerks and typists—male ..	30s. to 60s. ..	..
	Shorthand clerks and typists—female ..	20s. to 40s. ..	..
Domestic servants*—males ..	Coachmen, footmen, grooms, gardeners ..	20s. to 30s. ..	..
	Butlers ..	25s. to 40s. ..	..
	Cooks ..	17s. to 30s. ..	..
	Laundresses ..	17s. to 25s. ..	..
	Housemaids ..	13s. to 17s. 6d. ..	..
	Nursemaids ..	10s. to 15s. ..	..
	General servants ..	12s. to 20s. ..	..
	Girls ..	8s. to 10s. ..	..
	Hotel servants—males ..	Barmen	50s. per week
		Billiard markers	42s. 6d. ..
Hotel servants—females ..	Night porters ..	37s. 6d. to 42s. 6d. pr.wk.	..	
	Day porters ..	37s. 6d. to 40s. ..	..
	Waiters ..	42s. to 45s. ..	..
	General handymen ..	..	35s. per week
	Cooks ..	42s. 6d. to 75s. per wk.	..	
	Housekeepers ..	..	47s. 6d. per wk.
	Barmaids ..	..	37s. 6d. ..
	Laundresses ..	..	35s. ..
	Housemaids ..	..	30s. ..
	Waitresses ..	26s. to 32s. 6d. pr. wk.	..	
Night watchmen	Cooks ..	28s. to 45s. ..	..
	Wharf, working and outside patrol (other than foot) ..	..	57s. per week
	Outside patrol (foot) ..	..	54s. ..
	Others ..	..	48s. ..
	.. .. .	37s. 6d. to 42s. per week	..
Lift attendants	Building			
	Bricklayers ..	..	66s. per week
	Bricklayers' labourers ..	..	57s. ..
	Tuckpointers ..	..	64s. 2d. ..
	Carpenters (foremen) ..	..	69s. 8d. ..
	" other ..	..	64s. 2d. ..
	" labourers ..	..	52s. 3d. ..
	Painters, paperhangers, signwriters, grainers ..	..	55s. ..
	Plasterers ..	64s. 2d. to 67s. 10s. pr.wk.	..	
	Plumbers (foremen) ..	..	71s. 6d. per wk.
" first-class work ..	..	66s. ..	
" second ..	..	57s. 9d. ..	
Slaters and tilers ..	..	66s. ..	
Baking	Foremen or single hands ..	..	65s. ..
	Vienna and rye bread bakers ..	..	62s. ..
	Adult workers and machine dough makers ..	..	60s. ..

* With board and lodging.

WAGES IN MELBOURNE, 1911—continued.

Industry or Service.	Occupations.	Wages.		
		Range.	General Rate.	
Baking—continued.	Jobbers .. ..	..	1s. 6d. per hr.
	Carters .. ..	..	45s. per week
	Pastrycooks	50s. to 62s. 6d. per week	..	
Butchering	General workers—male .. ..	..	34s. 8d. per wk.
	female .. ..	..	20s. ..
	Slaughtermen .. ..	..	70s. ..
	Slaughter house labourers .. ..	..	42s. ..
	Shopmen .. ..	..	60s. ..
	General butchers .. ..	..	50s. ..
	Lorry drivers .. ..	..	50s. ..
	Delivery cart drivers .. ..	..	42s. 6d. ..
	Drivers of one horse vehicles .. ..	..	45s. per week
	Drivers of two horse vehicles .. ..	..	50s. ..
Carters	Drivers of three horse vehicles .. ..	..	54s. ..
	Drivers of jinkers and boiler trucks	50s. to 60s. per week	..	
	Drivers of motor vehicles .. ..	..	50s. per week
	Coal and wood yards	Yardmen in charge	42s. ..
	Other yardmen .. ..	..	40s. ..
	Coal and coke yards	Carters	40s. to 45s. per week	..
	Yardmen .. ..	..	50s. to 60s. ..
	Carters .. ..	..	45s. to 50s. ..
	Factory engine-drivers	Building cranes	60s. per week
		Steam traction, winch, and hoist	63s. ..
Steam, 1st class engines .. ..		..	60s. ..
" 2nd .. ..		..	51s. ..
" 3rd .. ..		..	45s. ..
Other engines .. ..		..	54s. ..
Firemen (2 boilers) .. ..		..	54s. ..
" single .. ..		..	48s. ..
Trimmers and greasers .. ..		..	45s. ..
Foremen .. ..		..	50s. ..
Marine stores	Bottle washers and general hands	42s. to 45s. per week	..	
	Casuals .. ..	..	1s. per hour
Drapery	Senior assistants—male	42s. 6d. to 48s. per week	58s. per week	
	Junior assistants—male	42s. 6d. to 58s. ..	..
	Pattern cutters, cashiers &c. .. ..	..	..
	Packers and others	25s. to 30s. per week	45s. per week	
Men's clothing (retail shops)	Assistants (females)	60s. to 70s. ..	..
	Managers	42s. 6d. to 60s. ..	..
	Assistants .. ..	..	45s. per week
	Other adult employes .. ..	..	90s. ..
Boot dealers	Department managers (male and female) .. ..	..	63s. ..
	Branch managers .. ..	..	..
	Senior assistants, males	45s. to 50s. per week	37s. 6d. per wk.	
	Cashiers, &c. .. ..	..	..
	Packers, porters, and others	35s. to 50s. per week	..	
	Assistants and cashiers, female	22s. 6d. to 27s. 6d. ..	..
	Foremen .. ..	..	57s. 6d. per wk.
Farriery	Journeyman .. ..	..	50s. ..
	Managers .. ..	..	60s. ..
	Assistants .. ..	..	50s. ..
Grocery	Storemen, packers .. ..	..	45s. ..
	Carters	45s. to 50s. per week	..	
	Foremen in charge .. ..	..	52s. 6d. per wk.
	Head packers, males .. ..	..	45s. ..
Tea packing	Adult workers	36s. to 40s. per week	..	
	Head packers, females .. ..	..	27s. 6d. per wk.
	Adult workers	17s. 6d. to 22s. per week	..	

WAGES IN MELBOURNE, 1911—continued.

Industry or Service.	Occupations.	Wages.	
		Range.	General Rate.
Hardware.. ..	Department managers	80s. to 90s. per week	..
	Branch	..	80s. per week
	Outside salesmen ..	..	70s. "
	Senior assistants ..	45s. to 60s. per week	..
	Junior ..	40s. to 55s. "	..
	Packers, storemen, &c.	32s. 6d. to 47s. 6d. "	..
Hairdressing	Employés—male, full hands	..	55s. per week
	Employés—male, other female ..	45s. to 50s. per week 40s. to 46s. "	..
Laundry	Laundresses ..	21s. to 30s. "	24s. per week
Undertakers	Persons conducting funerals and coffin-making	..	56s. "
	Drivers, grooms, and general workers	..	50s. "
Photography	Operators	60s. to 140s. per week	..
	Printers	40s. to 70s. "	..
	Retouchers—female ..	15s. to 40s. "	..
	Finishers—female ..	10s. to 20s. "	..
	Makers of photographic materials	40s. to 75s. "	..
	Finishers, packers—female	20s. to 25s. "	..
Quarry	Hammermen ..	51s. to 63s. per week	..
	Pitcher and cube dressers	..	63s. per week
	Facemen .. ..	..	57s. "
	Spallers	48s. to 57s. per week	..
	Machine borers ..	..	57s. per week
	Pluggers and machine feeders	..	51s. "
	Loaders, truckers, strippers and labourers	..	48s. "

The average weekly wages paid to males and females employed in all industries working under Wages Boards' determinations, and in those for which Wages Boards have not been appointed, have been compiled by the Chief Inspector of Factories, and are given in the following statement. The results are, however, not comparable with those obtained by the Government Statist, as the figures of the Inspector of Factories refer not to the whole State but only to those parts of it in which the Factories Acts are in operation, also because they include particulars relating to a number of bakery, butchery, carpentry, plumbing, and other similar establishments

Average wages under Wages Boards, &c.

which do not come under the definition of a factory as adopted by the Australian statisticians.

EMPLOYÉS UNDER WAGES BOARDS AND AVERAGE WAGES.

	Males.		Females.	
	No.	Average Weekly Wage.	No.	Average Weekly Wage.
		£ s. d.		£ s. d.
Apprentices and improvers ...	11,754	1 0 6	12,550	0 11 3
General workers (mostly young persons) ...	1,723	1 2 0	903	0 12 10
Persons employed at minimum wage or over ...	33,244	2 15 0	12,491	1 6 5
Piece workers ...	1,869	2 19 10	3,522	1 3 6
Total ...	48,590	2 5 8	29,466	0 19 2

NOTE.—The average weekly wage of females is low on account of its being based on figures which include a large number of apprentices.

EMPLOYÉS OUTSIDE OF WAGES BOARDS, AND AVERAGE WAGES.

	No.	Average Weekly Wage.
		£ s. d.
Males ...	10,236	2 2 8
Females ...	6,404	0 19 5
Total ...	16,640	1 13 9

Tanneries,
&c.

There were in operation at the close of 1911, 88 tanning, fell-mongering and wool washing establishments. The average number of persons employed was 2,123, and the wages paid during the year to the employés (excluding working proprietors) amounted to £198,692. The following table shows the approximate value of

the machinery, plant, land, buildings, and improvements in each of the last ten years:—

VALUE OF TANNERIES, ETC. : 1902 TO 1911.

Year.	Approximate Value of—		
	Machinery and Plant in Use.	Land.	Buildings and Improvements.
	£	£	£
1902	103,329	54,179	104,114
1903	110,796	48,341	112,407
1904	109,095	41,979	104,005
1905	114,863	46,301	112,714
1906	114,951	47,139	110,155
1907	124,064	51,194	123,124
1908	133,376	53,713	129,664
1909	142,429	54,208	125,700
1910	141,702	55,858	136,991
1911	165,964	53,917	181,172

The quantity of bark used in connexion with tanning operations in 1911 was 10,856 tons. The output of tanneries for each of the last ten years was as follows:—

OUTPUT OF TANNERIES, ETC. : 1902 TO 1911.

Year.	Number Tanned of—			Sheep Skins Stripped.	Wool Washed (weight after washing).
	Hides.	Calf Skins.	Sheep and other Skins.		
				No.	lbs.
1902	424,786	189,886	313,166	453,660	5,279,916
1903	397,367	179,425	629,465	925,263	6,197,723
1904	381,473	134,003	674,105	651,672	5,285,409
1905	393,695	139,506	544,145	562,705	4,543,927
1906	485,620	132,210	518,139	612,598	5,676,464
1907	492,572	188,007	548,765	851,516	7,230,675
1908	498,947	127,798	1,027,460	1,253,875	7,803,992
1909	495,964	175,563	1,020,656	1,090,967	8,089,643
1910	496,200	186,993	1,007,343	1,241,693	8,242,456
1911	523,989	199,257	817,866	1,301,298	9,356,529

The figures for 1909, 1910, and 1911 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 1911 was £209,166.

Soap and
candle
works.

There were sixteen soap and candle works in operation in 1911. These factories employed 538 persons, of whom ten were working proprietors. The amount of the wages paid to the employes in that year was £53,474. The value of the machinery, plant, land, buildings, and improvements, and the quantity of soap and candles produced in each of the last ten years were as follows:—

SOAP AND CANDLE WORKS—VALUE AND PRODUCTS: 1902 TO 1911.

Year.	Approximate Value of—			Products.	
	Machinery and Plant in Use.	Land.	Buildings and Improvements.	Soap.*	Candles.
	£	£	£	cwt.	cwt.
1902 ...	91,325	39,967	56,852	150,698	49,406
1903 ...	103,411	42,288	64,354	138,045	45,052
1904 ...	101,486	38,295	62,961	162,126	41,521
1905 ...	105,529	36,605	61,588	150,261	42,049
1906 ...	104,244	36,171	59,829	154,570	43,094
1907 ...	106,326	35,921	60,239	153,478	47,688
1908 ...	109,768	36,517	62,379	162,757	37,705
1909 ...	111,252	36,029	63,565	176,162	45,460
1910 ...	113,418	36,142	63,782	187,433	44,768
1911 ...	113,664	36,141	63,859	189,048	41,557

* Not including soap made in small soap works not classified as factories, viz., 14,490 cwt. in 1902, 13,369 cwt. in 1903, 7,902 cwt. in 1904, 7,185 cwt. in 1905, 11,706 cwt. in 1906, 10,527 cwt. in 1907, 7,125 cwt. in 1908, 5,458 cwt. in 1909, 5,479 cwt. in 1910, and 8,216 cwt. in 1911.

The quantity of tallow used in 1911 in the manufacture of soap and candles was 143,167 cwt. in factories, and 2,602 cwt. in minor works.

The imports from oversea countries in 1911 included 1,128,691 lbs. of soap valued at £41,118, and 122,515 lbs. of candles valued at £3,121.

Brickyards,
potteries,
&c.

The brickyards and potteries at which work was carried on during the year numbered 120. The persons employed numbered 1,966, of whom 110 were working proprietors, and the sum of £197,282 was paid to the employes in wages. The value of land, plant, buildings, &c., was £411,313. The estimated value of the bricks made in these brickyards in 1911 was £277,134.

The number of bricks made, and the value of pottery and of pipes and tiles manufactured during each of the last ten years, were returned as follows:—

BRICKS, POTTERY, PIPES, AND TILES: 1902 TO 1911.

Year.	Number of Bricks Made.*	Value of	
		Pipes and Tiles.	Pottery.
		£	£
1902	90,545,280	71,074	27,289
1903	77,826,631	81,732	34,572
1904	80,026,511	53,454	31,438
1905	90,990,284	56,086	27,205
1906	112,966,270	58,349	27,570
1907	123,281,100	66,390	29,070
1908	124,985,542	72,024	33,029
1909	129,302,810	77,305	32,624
1910	145,809,500	83,397	31,897
1911	153,944,850	97,478	35,522

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

The expansion of building operations, especially in Melbourne and suburbs, during the last six years, is demonstrated by the number of bricks made.

The number of forest saw-mills being worked in 1911 was 142. The employes numbered 1,892, and the working proprietors 168, and the wages paid amounted to £170,579. The approximate value of machinery, plant, land, buildings, and improvements in each of the last ten years, appears in the following statement, together with the quantity and value of timber sawn:—

Forest saw-mills, &c.

FOREST SAW-MILLS: 1902 TO 1911.

Year.	Approximate Value of—			Timber Sawn.	
	Machinery and Plant in use.	Land.*	Buildings and Improvements.	Quantity.	Value
	£	£	£	Super. ft.	£
1902	81,898	6,380	11,854	40,494,660	128,430
1903	80,039	1,495	10,797	38,841,322	116,845
1904	89,760	1,966	12,301	49,250,000	147,750
1905	87,757	2,553	10,861	47,635,358	142,905
1906	90,305	1,168	9,286	51,103,000	153,309
1907	99,723	1,421	11,199	55,873,500	181,590
1908	98,804	2,669	13,095	54,602,200	177,460
1909	115,121	2,609	15,551	56,039,200	189,130
1910	125,528	2,202	16,067	70,947,200	248,320
1911	148,136	2,535	18,459	70,931,500	265,990

* Value of land occupied by saw-mills only since 1902.

The other factories in which operations on wood were carried on numbered 233, and comprised cooperage works (13), which gave employment to 111 persons, including 11 working proprietors, and paid the sum of £13,424 in wages; cork-cutting works (3), in which were engaged 6 working proprietors, and 58 employes who were paid £4,364 in wages; dairy and domestic implements and bellows works (4), employing 68 persons, inclusive of 5 working proprietors, and paying £5,819 in wages; saw-milling, moulding, and joinery works (168), employing 3,842 persons, inclusive of 178 working proprietors, and paying £402,615 in wages; mantelpiece works (11), employing 242 persons, inclusive of 17 working proprietors, and paying £21,663 in wages; and wood carving and turnery works (34), employing 267 persons, inclusive of 38 working proprietors, and paying £20,411 in wages. The amount paid in wages to workers in wood, other than those employed in forest saw-mills, was £468,296; and the approximate value of land, buildings, machinery, &c., in use in the works was £524,354.

Firewood,
&c.

It is estimated that the approximate value of the production of firewood for consumption in a year is £446,700. 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.

Agricultural
Implement
Works.

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

AGRICULTURAL IMPLEMENT WORKS, 1904 TO 1911.

Year.	No. of Factories.	Employés.	Wages Paid.	Approximate Value of—		
				Fuel, &c., Used.	Material Used.	Output.
			£	£	£	£
1904	50	1,440	129,559	6,965	171,691	431,476
1905	53	1,565	145,651	7,964	171,850	443,114
1906	53	1,685	148,610	8,928	194,730	478,509
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

The figures show a considerable improvement in the output during the last three years, as a consequence of which there has been a substantial increase in the number of hands employed and in the wages paid. The wages averaged for each employé £89 19s. 5d. in 1904 and £112 6s. 10d. in 1911. The stripper-harvester, which is a Victorian invention, is one of the principal implements manufactured. This strips the grain, and bags it ready for market in one operation.

It is the leading item in machinery exported from Victoria, being in good demand not only in other Australian States, but also in the Argentine and South Africa.

There were 26 establishments curing bacon and hams in 1911. The persons employed numbered 380, of whom 31 were working proprietors. The wages paid to employes amounted to £39,041. Further details of the industry for the last ten years are as follows:—

Bacon and ham curing.

BACON CURING: 1902 TO 1911.

Year.	Approximate Value of—			Pigs Slaughtered for Curing.	Weight of Bacon and Hams Cured.
	Machinery and Plant.	Land.	Buildings and improvements.		
	£	£	£	No.	lbs.
1902 ...	29,611	9,231	30,625	112,244	11,507,224
1903 ...	26,810	5,721	23,415	88,541	9,633,206
1904 ...	27,822	5,641	25,730	104,604	11,229,768
1905 ...	28,335	5,941	25,650	117,582	11,360,698
1906 ...	28,217	6,031	29,140	135,492	12,910,575
1907 ...	25,530	5,245	26,575	145,513	13,609,144
1908 ...	26,448	5,190	27,653	129,677	11,518,404
1909 ...	26,092	5,190	28,650	123,067	11,245,195
1910 ...	26,799	5,265	29,410	142,429	13,455,397
1911 ...	31,374	4,979	38,946	177,029	15,190,449

This table does not include pigs slaughtered for curing, nor bacon and hams cured in small curing works; the pigs so slaughtered numbered 2,295 in 1902, 2,438 in 1903, 2,124 in 1904, 2,801 in 1905, 2,680 in 1906, 2,771 in 1907, 2,263 in 1908, 2,691 in 1909, 1,637 in 1910, and 695 in 1911; the quantity (in pounds) of bacon and hams cured was 195,098 in 1902, 181,745 in 1903, 194,102 in 1904, 246,374 in 1905, 252,348 in 1906, 244,837 in 1907, 194,328 in 1908, 294,088 in 1909, 142,524 in 1910, and 70,440 in 1911.

In addition, the following quantities of bacon and hams were returned as having been cured on farms:—2,736,048 lbs. in 1902, 2,689,900 lbs. in 1903, 3,428,074 lbs. in 1904, 4,826,593 lbs. in 1905, 4,888,243 lbs. in 1906, 3,691,739 lbs. in 1907, 2,698,669 lbs. in 1908, 2,375,290 lbs. in 1909, 2,983,440 lbs. in 1910, and 4,356,323 lbs. in 1911. The total quantity of bacon and hams cured in 1911 was thus 19,617,212 lbs.—an increase of 3,035,851 lbs. as compared with 1910.

The number of butter and cheese factories, exclusive of creameries, was 199 in 1911. Of these factories, 158 made butter, 8 made butter and cheese, 1 made butter and cheese and condensed milk, 2 made butter and concentrated and condensed milk, 29 made cheese only, and 1 made powdered milk only. There were 91 creameries attached to the factories. The number of persons employed was 1,547, of whom 58 were working proprietors, representing

Butter and cheese factories.

an increase of 286 on the number for the previous year. The approximate value of machinery, plant, land, buildings, and improvements was £626,331. The quantity of milk received at the factories and creameries was 137,866,515 gallons in 1907, 104,980,863 gallons in 1908, 116,034,058 gallons in 1909, 149,490,103 gallons in 1910, and 191,128,362 gallons in 1911. The output from butter and cheese factories during each of the last ten years was as follows:—

BUTTER AND CHEESE FACTORIES: 1902 TO 1911.

Year.	Butter Made.	Cream Sold.	Cheese Made.	Concentrated, Condensed, &c., Milk Made.
	lbs.	gallons.	lbs.	lbs.
1902 ...	32,927,546	23,739	2,128,835	2,926,848
1903 ...	40,707,377	17,882	3,602,988	2,838,972
1904 ...	55,058,391	7,242	2,599,443	2,721,720
1905 ...	52,274,639	16,513	2,447,938	2,787,720
1906 ...	63,231,222	20,332	2,852,687	3,709,656
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

Butter and cheese made on farms.

In addition to the quantity of butter and cheese made in the factories, the following quantities were returned as having been made on farms:—Butter, 6,300,208 lbs. in 1902, 5,978,350 lbs. in 1903, 5,944,450 lbs. in 1904, 5,332,182 lbs. in 1905, 4,856,946 lbs. in 1906, 4,696,123 lbs. in 1907, 4,078,230 lbs. in 1908, 5,611,927 lbs. in 1909, 5,540,271 lbs. in 1910, and 5,233,355 lbs. in 1911; cheese, 1,720,726 lbs. in 1902, 2,078,527 lbs. in 1903, 2,148,408 lbs. in 1904, 1,849,412 lbs. in 1905, 2,024,906 lbs. in 1906, 1,705,952 lbs. in 1907, 1,854,962 lbs. in 1908, 1,857,879 lbs. in 1909, 1,823,263 lbs. in 1910, and 1,502,582 lbs. in 1911.

Total butter and cheese made.

Taking the returns of butter from all sources, the largest quantity, 86,500,474 lbs., was made in 1911, the returns for 1907, 1908, 1909, and 1910 being 63,746,354 lbs., 48,461,398 lbs., 55,166,553 lbs., and 70,603,787 lbs. respectively.

The largest quantity of cheese returned as having been made in factories and on farms was 5,681,515 lbs. in 1903. The quantities made in 1908, 1909, 1910, and 1911 were 4,328,644 lbs., 5,025,834 lbs., 4,530,893 lbs., and 4,549,843 lbs. respectively.

Exports of butter and cheese.

In 1911 there were exported to countries outside Australia 51,304,010 lbs. of butter valued at £2,361,587, all of which was Australian produce. Of this export a quantity representing 92

per cent. of the value was sent to the United Kingdom. The quantity of cheese exported to oversea countries was 303,570 lbs., and the value thereof £7,796.

The works for freezing and preserving meat numbered 17 in 1911, and employed 1,252 persons in addition to 12 working proprietors, the wages of the employes amounting to £112,815. The approximate value of machinery, plant, land, buildings, and improvements in 1911 was £507,264. The output in each of the last ten years was as follows:—

Meat freezing and preserving works.

MEAT FREEZING AND PRESERVING, 1902 TO 1911.

Year.	Frozen.			
	Cattle.	Sheep.	Rabbits.	Poultry.
	Qrs.	No.	No.	No.
1902	1,338	375,178	6,218,422	34,228
1903	1,424	294,906	7,003,022	41,460
1904	3,394	459,963	8,086,776	46,820
1905	5,656	649,107	10,259,904	51,705
1906	4,248	651,914	9,538,535	72,410
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

Year.	Preserved.			
	Beef.	Mutton.	Rabbits.	Other Meats, &c.
	Cwt.	Cwt.	Cwt.	Cwt.
1902	7,705	14,913	16,537	6,102
1903	8,796	2,653	17,380	4,725
1904	4,248	491	14,977	1,301
1905	4,866	1,435	6,665	776
1906	6,011	1,700	496	1,512
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

Nors.—In addition to the above, 15,249 calves, 1,959 pigs, and 25,952 hares were treated at freezing works in 1905; 6,947 calves, 2,580 pigs, and 38,397 hares in 1906; 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; and 7,308 calves, 1,609 pigs, and 53,008 hares in 1911.

Imports and exports of meats.

The following statement shows the imports and exports (excluding Inter-State transfers) of frozen and preserved meats, other than bacon and ham, during 1911:—

MEATS IMPORTED AND EXPORTED OVERSEA, 1911.

	Imports.		Exports.	
	Quantity.	Value.	Quantity.	Value.
		£		£
Meats, Frozen—				
Mutton	833 lbs.	15	27,102,666 lbs.	326,259
Lamb				27,788,570 "	472,249
Beef			4,205,992 "	45,153
Pork			815,667 "	17,648
Rabbits and Hares				69,426
Poultry	3,168 "	126		4,570
Game	1,572 "	71		
Other			332,141 "	6,101
Meats—Fresh and smoked ...	30,318 "	545		
„ Potted and concentrated ...		6,789		931
„ Preserved in tins ...	70,810 "	3,264	2,067,467 "	41,818
„ Not elsewhere included ...	295 cwt.	548	2,511 cwt.	2,645
Total value ...		11,358		986,800

Flour mills.

The number of flour mills in 1911 was 61, and the number of persons employed in them 832, of whom 48 were working proprietors. The wages paid to employes amounted to £93,503. Further particulars for ten years are given in the following table:—

FLOUR MILLS: 1902 TO 1911.

Year.	Approximate Value of—			Wheat Ground into Flour.	Flour Made.
	Machinery and Plant.	Land.	Buildings and Improvements.		
	£	£	£	bushels.	tons.
1902	256,980	76,121	171,125	8,491,224	170,696
1903	261,530	68,917	166,869	5,762,849	115,368
1904	235,508	52,220	147,559	10,012,476	202,314
1905	238,139	56,910	157,785	10,282,491	209,058
1906	243,149	59,540	163,322	10,892,056	219,166
1907	264,566	63,157	174,150	11,731,183	235,185
1908	254,671	57,167	167,573	9,564,068	192,687
1909	226,571	50,801	155,728	10,644,123	215,547
1910	242,851	52,697	165,165	11,218,870	225,282
1911	253,513	51,276	167,177	12,266,013	247,434

In addition to the flour made, the wheat ground produced 7,207,124 bushels of bran and 4,182,197 bushels of pollard. Other grain operated on amounted to 126,765 bushels in 1902, 139,702 bushels in 1903, 157,403 bushels in 1904, 75,595 bushels in 1905, 111,719 bushels in 1906, 123,885 bushels in 1907, 123,879 bushels in 1908, 45,487 bushels in 1909, 35,507 bushels in 1910, and 84,707 bushels in 1911.

During the year 1911, 2,123,555 lbs. of biscuits valued at £31,216, and 79,684 tons of flour valued at £629,427 were exported from Victoria to countries beyond Australia. Exports of bread-stuffs.

There were, in 1911, 28 establishments in which the manufacture of jams, pickles, and sauces was carried on; the number of persons employed therein was 1,601, of whom 20 were working proprietors. The wages paid to the employes amounted to £99,825, and the value of machinery, plant, land, and buildings was £155,389. The materials used and the output for each of the last eight years were as follows:— Jam, pickle, and sauce works.

JAM, PICKLE, AND SAUCE WORKS: 1904 TO 1911.

Year.	Fruit Used.	Sugar Used.	Jams and Jellies Made.	Fruit Preserved.	Fruit Pulped.	Sauce Made.	Pickles Made.
	cwt.	cwt.	cwt.	cwt.	cwt.	pints.	pints.
1904 ...	199,306	97,057	190,151	22,408	115,295	2,143,555	920,163
1905 ...	175,119	107,382	192,579	35,395	44,450	2,029,644	859,160
1906 ...	195,902	107,194	203,038	43,138	56,619	2,943,380	889,938
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

These works also candied fruit peel amounting to 3,283 cwt. in 1908, to 4,802 cwt. in 1909, to 3,902 cwt. in 1910, and to 3,549 cwt. in 1911.

There are two sugar works in the State, one of which treats cane sugar imported in a raw state chiefly from Queensland. The other is the Government Beet Sugar Factory. The quantity of raw material treated in those two factories in 1911 and the production therefrom were as follows:— Sugar works.

Raw cane sugar treated	...	...	1,326,540 cwt.
Sugar beet treated	...	...	119,380 "
Refined sugar produced	...	...	1,296,260 "
Refined treacle produced	...	...	27,600 "

Beet sugar
industry.

The effort being made to revive the beet sugar industry in Victoria directs attention to a possible new source of wealth to the farmer. In 1896 Parliament passed an Act making available £100,000, of which £62,000 was expended in promoting the establishment of the 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. Starting with every essential for success, and with a guarantee that 1,500 acres of beet would be sown by local land-holders, 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 seeking for the causes of past failures, the more extended knowledge now possessed of the problems surrounding the industry indicates that they were mainly attributable to want of experience on the part of beet-growers, combined with unprecedentedly dry seasons and an unsuitable class of field labour; for, while no particular skill is required in beet growing, yet the crop demands prompt attention at the period of thinning or spacing, and, moreover, calls for the exercise of particular care in keeping it clean during growth.

After the closing of the factory in 1899 efforts were made from time to time by successive Governments to revive interest in beet-growing, but it was not until 1910 that any definite campaign was undertaken.

In that year 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, and a system of field labour was organized.

The object of the campaign conducted in 1910-11 was to demonstrate that beet could be profitably grown, and that a fine white sugar could be manufactured. Both these ends were attained, as many farmers who grew beet made a successful business of it, and the sugar produced compared favorably with any manufactured in the Commonwealth. The following particulars relate to the season 1910-11:—Quantity of sugar beet harvested, 5,969 tons; area from which obtained, 458 acres; quantity of marketable sugar manufactured, 482 tons; number of persons employed in the factory, 115; number of persons employed in the field, 100.

With the object of putting the industry on a sound footing, the Government has purchased large areas at Boisdale and Kilmany Park. These estates are in railway communication with Maffra, and are being cut up into small holdings under the Closer Settlement Board, which are allotted to settlers subject to the proviso that each must grow a certain area of beet.

Owing to the exceptionally dry season experienced, the beet harvest for 1912 did not come up to expectations. The area planted with beet, which was harvested, amounted to 752 acres, from which 4,000 tons of roots came into the factory. Very little beet was derived from places outside a radius of 10 miles of Maffra, although about 200 acres were planted. Some of this failed, owing to the extremely dry weather, while in other cases, food for cattle being short, the beet crops were used for stock feeding.

Upon river banks and what is known as the back-water country around Maffra, some very fair crops were produced, running up to as much as 20 tons per acre, but upon the drier lands away from the river the output was considerably reduced by want of rain during the growing period. As some compensation for the low tonnage of beet, however, the percentage of sugar in the roots was exceptionally high right through the period of manufacture, and averaged 19.2 per cent. In consequence of this a higher yield of sugar than in the previous year was obtained from the factory, and the Government paid growers an extra sum of 5s. 4d. per ton for the high quality of the material. This brought the price for the season up to 25s. 4d., including the Commonwealth bounty, so that growers of beet generally did not suffer. The amount of sugar manufactured in 1912 was 431 tons, and the product of white sugar was again all that could be desired.

For the ensuing season of 1913 a considerably increased acreage is anticipated. The Maffra farmers have now learned of what inestimable value the pulp and molasses are to them at times when feed is scarce, and as the beet pulp is only supplied to *bonâ fide* growers of beet, many new farmers have, for the coming season, undertaken to grow beet, being largely influenced by their desire to obtain the pulp for their dairy cows. In addition to deriving benefit from this product many farmers were successful last season in raising good crops of beet, and making as large a profit as £10 and upwards per acre. These farmers are largely increasing their areas, so that the outlook for the coming year is extremely favorable.

Beet growing under compulsory conditions is being carried out upon the Boisdale and Kilmany Park estates, and the blocks upon these estates have been rapidly applied for. Very few blocks upon either estate are now unoccupied, and the full complement should soon be reached. The manner in which these blocks have been applied for is very gratifying.

In 1911 work was carried on in 33 breweries, and 1,031 persons were employed, including 22 working proprietors. The wages paid to employés during the year amounted to £146,388. The approximate value of the machinery, plant, land, buildings, and improve- Breweries.

ments, the materials used, and the quantity of beer made during each of the last ten years were as follows:—

BREWERIES: 1902 TO 1911.

Year.	Approximate Value of—			Materials Used—			Beer Made. gallons.
	Machinery and Plant.	Land.	Buildings and Improvements.	Sugar.	Malt.	Hops.	
	£	£	£	cwt.	bushels.	lbs.	
1902 ...	211,036	228,990	273,325	115,258	625,441	677,262	17,162,680
1903 ...	209,492	229,965	277,383	102,651	552,042	569,981	15,423,149
1904 ...	231,687	229,965	291,180	100,430	530,771	544,524	14,927,873
1905 ...	232,354	198,760	291,738	99,230	529,067	582,012	15,176,439
1906 ...	235,980	197,985	289,982	101,692	533,531	623,249	16,409,465
1907 ...	249,579	212,785	316,262	106,004	542,806	665,236	16,900,336
1908 ...	268,009	155,922	273,273	109,347	556,040	684,879	17,582,833
1909 ...	245,606	65,775	231,546	103,146	503,761	632,339	16,552,594
1910 ...	281,702	68,069	249,848	112,240	540,390	663,394	18,605,737
1911 ...	318,072	67,206	290,746	111,314	548,341	649,892	19,077,420

Distilleries.

The number of distilleries working in 1911 was 7, and the persons employed numbered 89, of whom 7 were working proprietors. The estimated value of the machinery, plant, land, buildings, and improvements was £155,165. Although there has been some improvement in the last nine years, the industry is still behind what it was in 1901. The materials used in manufacture, and the quantity of spirits distilled in each of the last ten years, were as follows:—

DISTILLERIES: 1902 TO 1911.

Year.	Materials Used.							Spirits Distilled.
	Wine.	Malt.	Wheat.	Maize.	Other Grain.	Sugar and Molasses.	Beer.	
	Gal.	Bush.	Bush.	Bush.	Bush.	lbs.	Gal.	Proof gal.
1902	128,272	16,744	87	11,880	2,507	1,780,016	...	190,644
1903	207,621	...	...	...	...	...	1,187	41,083
1904	293,836	...	...	...	...	...	...	58,745
1905	348,791	...	...	...	...	199,560	...	85,690
1906	324,005	13,038	...	...	...	101,024	...	94,674
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	548	...	204	1,293,152	...	298,237

Spirits made by vine-growers for fortifying wine are not included in this table. The following quantities were distilled for that purpose during the last ten years in vineyards:—49,867 gallons in 1902, 56,851 gallons in 1903, 73,210 gallons in 1904, 78,163 gallons in 1905, 60,521 gallons in 1906, 53,517 gallons in 1907, 50,954 gallons in 1908, 30,976 gallons in 1909, 13,427 gallons in 1910, and 29,745 gallons in 1911.

Fifteen tobacco manufactories were in operation in 1911, and in that year the employes numbered 2,001 and their wages amounted to £191,533. In addition to the employes there were 11 working proprietors. The value of machinery, plant, land, buildings, and improvements was £272,313. The output of these factories has materially increased, as will be seen from the particulars for the last ten years given in the following table:—

Tobacco, &c., manufactories.

TOBACCO FACTORIES: 1902 TO 1911.

Year.	Unmanufactured Leaf Operated on.		Quantity Manufactured of—			
	Australian	Imported.	Tobacco.	Snuff.	Cigars.	Cigarettes.
	lbs.	lbs.	lbs.	lbs.	No.	No.
1902 ..	205,434	1,379,905	1,630,510	550	11,936,455	100,817,104
1903 ...	304,049	2,052,100	2,390,976	813	9,336,975	58,928,535
1904 ...	266,053	2,768,873	3,166,767	1,122	12,419,426	73,304,100
1905 ...	265,219	3,597,887	3,931,357	1,051	14,324,536	103,673,300
1906 ...	431,941	4,172,065	4,650,113	516	18,762,205	131,161,460
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

Note.—The quantity manufactured in small factories (£5 licences) is included in the above table.

There were 10 woollen mills working in 1911, and the number of persons employed therein was 1,675, of whom 8 were working proprietors. The wages paid to employes amounted to £107,682, and the approximate value of the machinery, plant, land, buildings, and improvements to £412,856. The value of the raw materials used in mills during the year was £251,365, and that of the goods manufactured in the same period, £473,686. The quantities of wool and cotton used and of goods manufactured in each of the last ten years were as follows:—

Woollen mills.

WOOLLEN MILLS: 1902 TO 1911.

Year.	Quantity of Scoured Wool Used.	Quantity of Cotton Used.	Goods Manufactured—			
			Tweed and Cloth.	Flannel.	Blankets.	Shawls and Rugs
			lbs.	lbs.	yards.	yards.	No. of Pairs.	No.
1902 ...	2,149,897	273,335	708,749	2,612,343	67,609	5,718
1903 ...	2,130,100	368,749	662,381	3,201,275	77,601	6,565
1904 ...	2,368,871	211,256	697,726	3,301,004	86,253	8,431
1905 ...	2,663,587	499,630	738,924	3,355,013	145,106	8,516
1906 ...	2,825,218	658,882	840,649	3,637,846	146,628	8,383
1907 ...	3,311,097	914,003	867,789	4,038,383	199,743	12,089
1908 ...	3,210,925	965,042	922,176	4,396,862	228,621	15,222
1909 ...	3,093,383	880,934	949,674	4,713,571	225,148	15,189
1910 ...	3,136,442	955,894	890,281	4,640,401	191,651	18,185
1911 ...	3,409,105	897,804	901,348	4,691,255	240,961	13,718

Boot
factories.

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

BOOT FACTORIES: 1902 TO 1911.

Year.	Number of Factories.	Number of Operatives, &c.	Value of Land, Buildings and Machinery.		Wages Paid.
			£	*	£
1902 ...	132	5,101	223,290	*	299,176
1903 ...	136	5,267	229,396		332,749
1904 ...	131	5,655	241,342		330,023
1905 ...	136	5,810	243,549		332,538
1906 ...	134	5,755	253,436		368,503
1907 ...	139	6,303	292,474		371,081
1908 ...	139	6,348	284,982		415,011
1909 ...	136	6,894	294,167		455,997
1910 ...	144	6,832	324,529		542,707
1911 ...	154	7,001	363,540		

* No record.

OUTPUT OF BOOT FACTORIES: 1902 TO 1911.

Year.	Goods Manufactured—	
	Boots and Shoes.	Slippers *
	No. of pairs.	No. of pairs.
1902 ...	3,613,487	216,483
1903 ...	3,574,761	150,012
1904 ...	4,065,881	189,108
1905 ...	3,951,033	165,892
1906 ...	4,001,580	175,575
1907 ...	4,290,122	182,039
1908 ...	4,164,410	193,949
1909 ...	4,649,130	231,791
1910 ...	4,847,368	191,204
1911 ...	5,198,030	164,313

* Includes canvas shoes and house-boots.

Materials used in Victorian boot factories were valued at £884,329 in 1909, at £963,110 in 1910, and at £1,103,653 in 1911; the value of the output for the same years being £1,487,789, £1,620,179, and £1,878,308 respectively.

Electric
light
and power
works.

Great strides have been made during the last few years in the use of electricity for lighting and motive power purposes, as will be seen from the succeeding statement. The electricity supplied in 1911 represents an increase of 257 per cent. on that supplied in 1902.

ELECTRIC LIGHT AND POWER WORKS: 1902 TO 1911.

Year.	Number of Stations.	Horse-power of Machinery.	Persons Employed.*	Wages Paid.	Electricity Supplied.
				£	British Units.
1902 ...	7	7,178	147	†	6,450,560
1903 ...	7	4,955	149	18,785	5,626,568
1904 ...	7	5,226	222	22,422	6,644,343
1905 ...	7	6,753	251	23,356	7,698,394
1906 ...	9	9,130	363	38,398	9,760,046
1907 ...	11	9,948	398	44,489	12,542,614
1908 ...	12	11,702	441	50,442	14,310,482
1909 ...	13	13,293	442	54,621	16,471,363
1910 ...	16	13,962	523	62,266	18,832,467
1911 ...	20	15,819	590	75,722	23,011,340

* Prior to 1904 persons engaged in the distribution of electricity are excluded. † No record.

In 1902 machinery and plant, land, buildings, and improvements connected with electric light and power works were valued at £281,683; in 1911 the value was £920,657.

The approximate value of machinery and plant, land, buildings, ^{Gasworks.} and improvements connected with gasworks in Victoria was £1,164,720 in 1901, and £1,739,507 in 1911. The gas made in the latter year was 71 per cent. in excess of that made in 1902.

GASWORKS: 1902 TO 1911.

Year.	Coal Used.	Gas Made.	Coke Produced.	Number of Works.	Persons Employed.*	Wages Paid.
	tons.	cubic feet.	tons.			£
1902	169,356	1,642,652,799	92,308	47	758	†
1903	166,018	1,628,889,400	94,947	47	679	81,928
1904	166,307	1,649,396,000	97,357	48	872	104,383
1905	168,007	1,707,184,000	98,559	48	989	128,372
1906	178,251	1,810,405,800	105,909	48	1,125	138,701
1907	189,190	1,975,892,500	112,050	48	1,272	157,525
1908	206,408	2,144,834,000	126,530	47	1,298	168,077
1909	217,473	2,292,988,400	131,695	47	1,390	181,965
1910	235,532	2,476,528,100	139,423	47	1,421	199,308
1911	261,848	2,813,159,700	155,488	47	1,601	230,626

* Prior to 1904 persons engaged in the distribution of gas are excluded. † No record.

Oil was used as well as coal in the manufacture of gas, the number of gallons consumed each year being 108,531 in 1902, 105,651 in 1903, 117,114 in 1904, 137,247 in 1905, 154,486 in 1906, 163,215 in 1907, 187,237 in 1908, 196,176 in 1909, 228,034 in 1910, and 274,353 in 1911.

Total
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: 1908 TO 1911.

Produce.	Value in—			
	1908.	1909.	1910.	1911.
	£	£	£	£
<i>Cultivation.</i>				
Wheat	4,405,303	5,501,605	5,512,060	3,547,266
Oats	989,844	777,547	909,295	663,916
Barley, Malting	192,964	121,365	172,717	202,620
Barley, Other	60,345	43,816	54,665	58,823
Maize	116,402	119,725	96,166	147,357
Other Cereals	47,401	36,844	50,834	37,026
Grass and Clover Seed	4,540	3,200	4,066	2,376
Potatoes	411,840	517,775	534,515	614,540
Onions	138,408	98,325	63,723	177,744
Other Root Crops	42,811	29,245	35,160	20,398
Hay	3,256,308	2,432,840	2,455,560	3,200,109
Straw	246,682	239,385	158,834	116,911
Green Forage*	157,665	141,465	179,565	187,943
Tobacco	4,748	3,691	3,783	4,094
Grapes, not made into wine, raisins, &c.	33,103	31,181	26,704	45,500
Raisins, ordinary	41,489	35,919	35,854	52,628
" sultanas	60,994	94,639	96,408	142,932
Currants	21,472	49,334	48,829	88,899
Wine	89,819	61,996	90,828	81,952
Hops	5,105	4,322	5,247	4,714
Other Crops	37,468	39,117	48,943	44,064
Fruit grown for Sale in Or- chards and Gardens	400,055	449,497	551,280	585,172
Fruit in Private Orchards and Gardens	8,542	9,060	8,100	8,432
Market Gardens	231,975	255,350	269,450	258,275
Total	11,005,286	11,097,333	11,412,586	10,293,691
<i>Dairying and Pastoral.</i>				
Milk Consumed in natural state	760,658	805,480	950,940	1,036,000
Butter made	2,388,743	2,493,990	3,109,510	3,860,100
Cheese made	126,252	130,670	105,340	106,160
Cream made (not for butter)	21,320	19,850	22,480	21,160
Condensed and Concentrated Milk	63,026	66,425	46,940	260,324
Horses	15,274	261,268	388,556	520,580
Cattle	298,606	1,602,858	1,860,888	2,344,680
Pigs	380,650	470,081	541,785	454,815
Sheep (without wool)	597,880	1,317,320	1,298,740	1,558,170
Wool	3,556,168	4,044,755	4,318,100	4,142,747
Total	8,208,577	11,212,697	12,643,279	14,304,736

* Exclusive of area under sown grasses.

VALUE OF VICTORIAN PRODUCTION: 1908 TO 1911—*continued*.

Produce.	Value in—			
	1908.	1909.	1910.	1911.
	£	£	£	£
<i>Mining.</i>				
Gold	2,849,838	2,778,956	2,422,745	2,140,855
Coal	64,778	76,945	189,254	301,142
Stone from Quarries (including limestone)	84,479	88,610	114,955	151,426
Other Metals and Minerals ...	31,950	26,257	24,202	24,368
Total	3,031,045	2,970,768	2,751,156	2,617,791
<i>Forest Produce.</i>				
Timber (Forest Saw-mills only)	177,460	189,130	248,315	265,990
Firewood (estimated) ...	396,750	402,600	428,670	446,700
Bark for Tanning ...	56,694	66,520	70,570	77,350
Total	630,904	658,250	747,555	790,040
<i>Miscellaneous.</i>				
Honey and Beeswax ...	28,488	19,768	25,926	21,861
Poultry production (estimated)	1,547,000	1,570,000	1,592,000	1,618,500
Rabbits and Hares ...	85,506	58,734	47,650	39,110
Fish	71,910	75,101	72,187	69,675
Total	1,732,904	1,723,603	1,737,763	1,749,146
Total Value of Primary Products	24,608,716	27,662,651	29,292,339	29,755,404
Manufacturing—Added Value*	11,673,693	12,748,654	14,189,438	16,043,576
Grand Total	36,282,409	40,411,305	43,481,777	45,798,980

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

Dairying and pastoral production show a considerable advance in 1911 as compared with 1910, the favorableness of the seasons experienced in 1911 being specially reflected in the increased production of milk, butter, and live stock. In 1908 the rearing of stock was attended with heavy losses, on account of adverse weather. An illustration of the progress made in the manufacturing industries is contained in the figures relating to the value of the output therefrom.

The value of production per head of the total population in each of the last four years was as follows:—

VALUE OF PRODUCTION PER HEAD OF POPULATION: 1908 TO 1911.

Produce.	Value of Produce per head in—			
	1908.	1909.	1910.	1911.
	£ s d	£ s. d.	£ s. d.	£ s. d.
Cultivation	8 13 11	8 12 10	8 15 8	7 15 10
Dairying and Pastoral... ..	6 9 9	8 14 8	9 14 7	10 16 6
Mining	2 7 11	2 6 3	2 2 4	1 19 8
Forest	0 10 0	0 10 3	0 11 6	0 11 11
Miscellaneous	1 7 5	1 6 10	1 6 9	1 6 6
Total Primary Produce	19 9 0	21 10 10	22 10 10	22 10 5
Manufactures	9 4 6	9 18 7	10 18 5	12 2 10
Grand Total	28 13 6	31 9 5	33 9 3	34 13 3