

PART V.—PRODUCTION.

Alienation
of Crown
lands.

852. The mode of disposing of Crown lands in Victoria has undergone numerous changes.* At first it was necessary that all lands should be offered at auction before passing into the hands of private individuals, an upset price, according to its value, being placed upon it by the Government. Until 1840 the minimum upset price was 12s. per acre, it was then raised to 20s. Land which had passed the auctioneer's hammer without being bid for was open to be bought by any one at the upset price. Large blocks of land, called special surveys, and a block of a square mile in extent upon each squatting run, were, under certain Orders in Council, exempted from auction, and were permitted to be purchased at £1 per acre.

Special
surveys.

Land Act
1860 (24
Vict. No.
117).

853. In 1860 the system was changed, and a law was passed permitting surveyed country lands to be selected at a uniform upset price of £1 per acre, the only exception being where two or more selectors applied simultaneously for one block, in which case a limited auction, confined only to such applicants, was to take place. The successful selector had the option of either paying for the whole of his block in cash or only for half; in the latter case, renting the other half at 1s. per acre per annum, with the right to purchase at the same rate per acre as he paid for the first moiety.

Land Act
1862 (25
Vict. No.
145).

854. Another change was made in 1862. Large agricultural areas were proclaimed open for selection, within which land could be selected, at a uniform price of £1 per acre, lot being substituted for limited auction in the event of there being more than one applicant for an allotment. For one-half of the allotment it was necessary to pay at once; but for the remainder the purchase-money was allowed to be paid by instalments of 2s. 6d. each, extending over eight years. No more than 640 acres could be selected by one person in twelve months. Three conditions, to be complied with within twelve months of the date of selection, were imposed upon selectors under this Act:—The first being that the selections be enclosed with a substantial fence; the second, that a habitable dwelling be erected on the land; and the third, that 1 acre out of every 10 acres selected be cultivated.

* Mr. Arthur Morrah, Secretary for Lands, has been kind enough to verify the facts in this and the next five paragraphs.

855. The next change was made in 1865, when an Act was passed providing that agricultural land could be acquired by payment of 2s. per acre per annum during three years, and by effecting improvements to the extent of 20s. per acre within two years of the commencement of the lease. These conditions having been complied with, the lessee might, at the expiration of three years, if he resided upon the land, purchase his holding at £1 per acre; or, if not, he could require his leasehold to be offered at auction at the uniform price of 20s. per acre, with the value of improvements added in his favour. There was also a clause* whereby land adjacent to gold-fields could be occupied in blocks of 20 acres each without having been previously surveyed. This clause was originally framed to meet the demand for the occupation of land adjacent to gold-fields, but its operation was gradually extended by regulation to a circuit of thirty miles around gold-fields, and the same individual was allowed to hold several 20-acre licences for the occupation of adjacent land to the total extent of 160 acres. The licensee, in all cases, was bound either to reside on his holding or to fence and cultivate a certain portion.

Amending
Land Act
1865 (28
Vict. No.
237).

856. The operation of the last-mentioned clause was so successful in leading to the occupation of the land that free selection before survey was the main principle of the next Land Act, which was passed in 1869, and came into operation on the 1st February, 1870. Under it, the area allowed to be selected by one person was limited to 320 acres; and it was further provided that the selection should be held under licence during the first three years, within which period the licensee was obliged to reside on his selection at least two and a half years, to enclose it, to cultivate 1 acre out of every 10, and generally to effect substantial improvements to the value of 20s. per acre. The rent payable during this period was 2s. per acre per annum, which was credited to the selector as part payment of the principal. At the expiration of the three years' licence, the selector, if he obtained a certificate from the Board of Land and Works that he had complied with these conditions, could either purchase his holding at once, by paying up the balance of 14s. per acre, or might convert his licence into a lease extending over seven years, at an annual rental of 2s. per acre, which was also credited to the selector as part payment of the fee-simple. On the expiry of such lease, and due payment of the rent, the land became the freehold

Land Act
1869 (33
Vict. No.
360).

* The 42nd clause.

of the selector. The Statute also contains provision for the sale of Crown lands by auction at an upset price of £1 per acre, or such higher sum as the Governor may direct, the whole extent to be sold in any one year not to exceed 200,000 acres.

Present de-
ferred pay-
ment sys-
tem.

857. The Land Act of 1869, just described, as amended by the Land Act 1878 (42 Vict. No. 634), which came into operation at the beginning of 1879, is the one at present in force. The principal alterations made by the amending Act, as regards selection for agricultural purposes, was to increase the period during which the land is held under licence from three years to six years, and the time of compulsory residence from two and a half years to five years, and to reduce the annual rental per acre for a licence or lease from 2s. to 1s., thereby allowing the payments to extend over a period of twenty years instead of ten years as formerly. It also contains provision for selection by persons who need not reside on their selections. In such cases, however, the rent is 2s. per acre, and the total price to be paid for the land £2 per acre. Improvements to the value of £2 per acre, moreover, have to be made during the six years' licence, of which at least half must be made before the expiration of the third year. Such licences are not to be issued in any one year for an aggregate area of more than 200,000 acres. Both these Acts will, unless further continued, expire by effluxion of time on the 31st December, 1884.

Land Bill
1884.

858. A measure to replace the last-named Acts—intended to come into operation on the 29th December, 1884—is now under the consideration of Parliament.* Its main features are to continue, under certain limitations, the provision for selecting Crown lands up to 320 acres, to limit the extent which may be sold by auction, and greatly to restrict the further alienation of the public estate, the bulk of the unalienated portion of which is to be leased instead. The Bill classifies the whole of the unalienated Crown lands—exclusive of the “Mallee country,” dealt with under the Mallee Pastoral Leases Act 1883 (47 Vict. No. 766), as follows:—Pastoral lands, agricultural and grazing lands, auriferous lands, lands which may be sold by auction, swamp lands, State forest reserves, timber reserves, and water reserves. The whole area dealt with under the Bill is 20,447,433 acres. Attached to the Bill are carefully compiled maps, showing, by means of colours, the different classes of unalienated lands in each county. The extent of land included under each class is given in a subsequent paragraph.†

* At the time this and the following paragraphs were written, the Bill had just passed the Legislative Assembly.

† See paragraph 870 *post*.

859. The pastoral lands are to be leased in “pastoral allotments,” Pastoral lands. capable of carrying from 1,000 to 4,000 sheep, or from 150 to 500 head of cattle, for any term not exceeding 14 years,* at the end of which the land, together with all improvements thereon—taken at a valuation as below mentioned—reverts to the Crown, the right to the lease to be granted to the first person who applies for the land after it has been first publicly notified as available. The annual rent payable for pastoral allotments is to be computed according to the grazing capability of the land, at the rate of 1s. per head of sheep and 5s. per head of cattle, upon a basis of not more than 10 acres to a sheep, and the equivalent number of acres for cattle. The principal conditions of the lease are that all “vermin” (rabbits, native dogs, &c.) upon the land shall be destroyed within the first three years, and that all buildings and improvements shall be kept in good condition and repair. Upon the expiration of the lease, the lessee shall be paid by any in-coming tenant the value of all improvements effected and calculated to increase the carrying capability of the land, at a price not exceeding the sum expended thereon, but in no case to exceed 2s. 6d. per acre.

860. The agricultural and grazing lands are also to be leased in Agricultural and grazing lands. “grazing areas,” varying in size, but not exceeding 1,000 acres, for any term not exceeding 14 years,* at the end of which term the land, together with all improvements—to be allowed for at a valuation limited to 10s. per acre—reverts to the Crown, the right to the lease to be granted to the first applicant. The annual rent of a grazing area is to be appraised by valuers, but is in no case to be less than 2d. or more than 4d. per acre, any improvements that may happen to be on the land at the commencement of the lease to be charged for in addition at the rate of 5 per cent. per annum on the capital value thereof. The only important conditions to be imposed on the lessee of a grazing area are that he shall, within the first three years, fence the land and destroy all “vermin” thereon. Any person over the age of 18 years will be entitled to take up a grazing area; selectors under former Acts, however, being limited to an area, which, together with the land previously selected, is not to exceed 1,000 acres.

861. Any lessee of a grazing area will be at liberty, within the first Selection of agricultural allotments. twelve months from the issue of his lease, to select out of the area leased

* No lease is to be granted for a longer term than 14 years from the commencement of the Act.

a block or "agricultural allotment" not exceeding 320 acres in extent; but should he have selected under a previous Act or Acts an area of less than 320 acres in extent, he will only be entitled to increase his selection to such an extent as not to exceed 320 acres in all. A licence may then be issued to occupy the agricultural allotment (which will no longer be considered portion of the grazing area), under the same terms and conditions as are allowed to selectors under the Land Acts of 1869 and 1878, as detailed in a previous paragraph.* Moreover, persons desirous of selecting an agricultural allotment, without first taking up a grazing area, may be permitted to do so upon the same terms and conditions as lessees of grazing areas. Provision is also made for selection by non-residents under similar conditions as under the Land Act 1878.* The area for which licences may be issued during any year for non-resident selections is limited to 50,000 acres. Other important features of the Bill are that every selector—subject to certain conditions and restrictions—will be entitled to a Crown grant of portion of his allotment not exceeding 20 acres, if planted as a vineyard or an orchard, upon payment of the balance of the purchase-money due in respect of such portion; that married women are permitted to select land; that the licensee of an agricultural allotment may, after the expiration of two years, obtain an advance of money secured up to one-half of the improvements effected; and facilities are given to allow of a non-resident selector becoming a resident selector, and *vice versa*.†

Non-resi-
dence selec-
tions.

Swamp
lands.

862. Swamp lands are to be first drained, and may then be leased in areas not exceeding 160 acres for a term of 21 years.

Systems of
land selec-
tion in Aus-
tralasian co-
lonies.

863. The laws and regulations under which land for agricultural purposes passes from the Crown into the hands of private individuals differ in the various Australasian colonies.‡ In almost all, however, provision is made for any person, not a minor under 18 or a married woman,§ desirous of settling on the land to select a certain limited area, and to pay the purchase-money by instalments, the compliance with certain conditions of residence and improvement being also required before the selector becomes entitled to a Crown grant. The principal features of this portion of each system, corrected to date, is detailed under nine heads in the following table:—

* See paragraph 857 *ante*.

† This privilege, although not previously enacted, has usually been allowed to selectors under the existing Act.

‡ A complete account of the land system of each colony was published in the *Victorian Year-Book*, 1879-80, page 394 *et seq.* A few changes have taken place since then, and legislation, with the view to further changes, is in progress in several of the colonies.

§ In Tasmania, married women may select land, and the Land Bill now under consideration of the Parliament of Victoria also embodies such a provision.

CONDITIONS OF LAND SELECTION IN AUSTRALASIAN COLONIES,
1884.

Conditions of Selection.	Victoria.	New South Wales.*	Queensland.†		South Australia.‡	Western Australia.§	Tasmania.||	New Zealand.¶	
			Home-steads.	Other Selections.					
1. Maximum area allowed Acres	320	640	120 to 1,280	640 to 5,120	640 to 1,000	No limit	320	320	
2. Price per acre ...	£1	£1	2s. 6d.	£2 to 7s. 6d.	£1	10s.	£1	£1 to £3	
3. Time over which purchase may extend ...	Years	20	28	5	10	20	10	14	10
4. Minimum time in which fee-simple may be acquired ...	Years	6	5	5	3	6	any time	any time	3
5. Annual payment per acre...	1s.	1s.	6d.	4s. to 9d.	1s.	1s.	2s.	2s. to 6s.	
6. Value of necessary improvements per acre ...	20s.	10s.	7s. 6d. to 10s.	7s. 6d. to 10s.	10s.	...	...	20s.	
7. Time allowed for making improvements ...	Years	6	5	5	10	4	10	...	6
8. Acres in every 100 to be cultivated ...	...	10	...	...	...	20	25	...	20
9. Period of residence necessary ** ...	Years	5	5	5	10	20	2½	14	6

864. The total extent of Crown land sold in Victoria up to the end of 1883 was 13,519,903 acres, and the extent granted without purchase was 9,133 acres. The whole area alienated in fee-simple was thus 13,529,036 acres, of which 7,047,974 acres, or more than half, was acquired by selection under the system of deferred payments.

Crown lands alienated to end of 1883.

* In New South Wales, the selector is permitted to occupy, in addition, three times the area selected as a "grazing right," at an annual rental of £2 per 640 acres. The price per acre does not include interest, for which 5 per cent. per annum is added. For the first term of three years, 5s. per acre is payable in advance. Important changes will shortly be made in the system.

† In Queensland, within the limits named, the maximum area allowed to be selected may be varied in any district by the Government. Changes in the system are now under the consideration of the Legislature.

‡ In South Australia, the maximum allowed to be selected is, of reclaimed land 640 acres, and of country or improved land 1,000 acres. The price per acre does not include interest, for which about 3½ per cent. per annum is added. For personal residents no interest is charged, but they cannot complete purchase until end of tenth year.

§ In Western Australia, the necessary improvements are not assessed according to value. The condition is that the selected land shall be fenced and one-fourth cultivated. The time allowed for making improvements may be extended, if the selector continues to pay the annual licence fee.

|| In Tasmania, 33½ per cent. is added to the price, as interest, for the period of fourteen years.

¶ In New Zealand, the price per acre varies with the quality of the land. There is besides a system of "perpetual leasing" in that colony, under which as much as 640 acres may be leased at an annual rental equal to 5 per cent. of the value of the land. The first lease is for 30 years, with the option of renewal for succeeding periods of 21 years, the rent being assessed afresh at each renewal. Between the sixth and eleventh years the lessee may acquire the freehold if the land is not within a proclaimed gold-field. The conditions as regards residence and improvement are the same as under the deferred payment system. The "Homestead system" is also in force in the land districts of Auckland and Westland. Under this system no payment is made for the land. After five years' residence and the cultivation of one-third of the selection if open land, and one-fifth if bush land, the selector can claim his Crown grant. No family or household can hold more than 200 acres of first-class land or 300 acres of second-class land under this system.

** In all the colonies, as soon as the purchase-money is paid in full, the residence clause is no longer enforced. In Queensland (except in the case of homestead selections), South Australia, Western Australia, and New Zealand in the case of bush land, personal residence is not necessary.

Crown lands
selected.

865. The selected lands of which the purchase had not been completed up to the end of the year amounted to 10,967,890 acres. Of this extent it is estimated that 3,384,175 acres had been forfeited or abandoned, and had reverted to the Crown. The remainder, representing approximately the whole area in process of alienation under deferred payments, amounted to 7,583,715 acres.

Crown lands
unalien-
ated.

866. According to the latest computation, the total area of the colony is 56,245,760 acres; and if from this be deducted the sum of the lands granted, sold, and selected, amounting, less the extent forfeited, to 21,112,751 acres, it will follow that the residue, representing the Crown lands neither alienated nor in process of alienation, amounted at the end of 1883 to 35,133,009 acres.

Public
estate,
1883.

867. The whole of this residue, however, is not available for selection, for it embraces lands occupied by roads, the unsold portions of the sites of towns, the State forests, auriferous, pastoral, and timber reserves, and land which is at present useless for agricultural purposes, owing to its being covered with Mallee scrub. Deducting these lands, amounting in the aggregate to 15,959,182 acres, from the extent unalienated and unselected, already stated to have been 35,133,009 acres, it will be found that the area open for selection, including mountain forest lands, is narrowed to 19,173,827 acres. This will be at once seen by the following table, which shows the position of the public estate at the end of 1883 :—

PUBLIC ESTATE OF VICTORIA ON 31ST DECEMBER, 1883.

Condition of Land.	Approximate Number of Acres.
Land alienated in fee-simple	13,529,036
Land in process of alienation under deferred payments	7,583,715
Roads in connexion with the above	1,224,846
Unsold land included in cities, towns, &c.	305,000
Unselected auriferous land * (about)	953,969
Timber reserves	216,867
Other reserves	748,000
State forests	975,000
Mallee country†	11,535,500
Area available for selection at end of 1883	19,173,827‡
Total area of Victoria	56,245,760

Crown lands
available
for selec-
tion.

868. The area of the colony, exclusive of the Mallee country, which will be referred to shortly,§ is 44,710,260 acres, of which, at the end

* This land may be selected for residence or cultivation under section 49 of the Land Act 1869, in lots not exceeding 20 acres. The total extent already selected under this section is included in the first two items, and amounts to 213,266 acres.

† Available for occupation for pastoral purposes under the Mallee Pastoral Leases Act 1883 for any term not exceeding 20 years.

‡ Including mountain forest lands, estimated at about 11,800,000 acres. In former years these were not included in returns of land available for selection.

§ See paragraphs 883 to 885 *post*.

of 1883, 21,112,751 acres, or 47 per cent., were already alienated or in process of alienation ; 4,423,682 acres, or 10 per cent., were occupied by reserves, &c. ; and 19,173,827 acres, or 43 per cent., were available for selection.

869. The maximum area which the present law allows one person to select is 320 acres. It will be seen at once that, supposing every selector should take up his full amount, there would be room for 59,918 selectors in the portion of the colony still remaining available for selection.

Number of selectors there is space for.

870. The land to be dealt with under the Land Bill 1884,* already alluded to, embraces all that referred to in the last table except such as is described in the first three lines and the last line but one. The classification in the Land Bill is different from that in the table, and the date being several months later, the total figures are somewhat less. The classification in the Land Bill is as follows :—

Classification of land under Land Bill 1884.

CLASSIFICATION OF LAND TO BE DEALT WITH BY THE LAND BILL 1884.

	Acres.
Pastoral lands	8,300,160
Agricultural and grazing lands	8,712,000
Auriferous lands	961,760
Swamps	82,880
State forests	754,560
Timber reserves	499,033
Water reserves	121,680
Other reserves	183,040
May be sold by auction	832,320
Total	20,447,433

871. The land alienated from the Crown in fee-simple during 1883 amounted to 472,537 acres, of which 472,378 acres were sold, and 159 acres were granted without purchase. The total extent was greater by 30,438 acres than that in 1882, and was in excess of the extent alienated in any other year since 1876.

Crown lands alienated, 1883.

872. Of the area sold, 20,084 acres, or about 4 per cent., were disposed of by auction. Nearly the whole of the remainder was in the first instance selected under the system of deferred payments. The extent sold by auction in 1883 was less than in 1882 by about 11,300 acres ; it was also less than that in any other year since 1869 except 1873.

Crown lands sold by auction.

873. The amount realized for Crown lands sold in 1883 was £564,504, or at the rate of £1 3s. 11d. per acre. Of this sum, only £155,800 was received during the year, the remainder having been paid in former years as rents and licence fees. The proportion sold by auction realized £103,335, or an average of £5 2s. 11d. per acre ; and the proportion sold

Amount realized on Crown land sales, 1883.

* The principal provisions of the Land Bill are given in paragraphs 858 to 862 *ante*.

otherwise than at auction realized £461,169, or an average of £1 0s. 5d. per acre.

874. From the period of the first settlement of the colony to the end of 1883 the amount realized by the sale of Crown lands was £21,345,362, or at the rate of £1 11s. 7d. per acre.

875. The total area selected, with right of purchase, in 1883, amounted to 825,477 acres, or 11,728 acres less than in 1882. Of this extent, 814,863 acres were taken up under the residence clauses of the Land Acts of 1869 and 1878, and 10,614 acres under the non-residence clause of the latter. The average area to each resident selector, whether resident or non-resident, was 183 acres. The area selected exceeded that in 1881 or 1880, but was less than in any other previous year since 1872, as will be observed by the following figures, which show the number of approved applications (approximating closely to the number of selectors) and the number of acres selected in each of the 14 years ended with 1883 :—

SELECTORS AND LAND SELECTED,* 1870 TO 1883.

Year.	Number of Approved Applications (Selectors).	Number of Acres Selected.
1870	3,017	320,719
1871	4,575	477,685
1872	7,771	780,819
1873	6,689	1,041,779
1874	9,578	1,809,668
1875	6,320	1,171,849
1876	5,785	1,029,141
1877	6,240	1,113,266
1878	7,524	1,389,955
1879	5,801	1,018,454
1880	4,103	736,210
1881	3,152	570,428
1882	4,434	837,205
1883	4,511	825,477

876. Of land which had been selected with right of purchase in former years, as much as 126,513 acres was abandoned or forfeited to the Crown for non-fulfilment of conditions during the year 1883, resulting in a gain to the Treasury of £6,938.

877. According to the present law, the unalienated and unselected Crown lands † are occupied for pastoral purposes either as “runs” under licence or lease, or as “grazing rights.”

* Not including selectors of residence sites under section 49 of Land Act 1869 and section 10 of Land Act 1878, the number of whom in 1883 was 1,092 and the area selected 18,494 acres.

† Since the 1st December, 1883, the Crown lands situated in the Mallee country have been dealt with under a special Act.—See paragraph 883 *post*.

Amount realized, 1836 to 1883.

Selectors and area selected, 1870 to 1883.

Selected land forfeited, 1883.

Pastoral occupation.

878. Runs are of two kinds : those in existence at the time of the Runs. passing of the Land Act 1869 (viz., on 29th December, 1869), and not since forfeited—described in the Act as “Existing runs”; and those created since that date—described in the Act as “New runs.” The former kind, which are by far the more numerous and extensive, are held under pastoral licence renewable annually, and are unlimited as to size. The latter, which are but few in number, are held under lease for any term no exceeding 14 years—the right to the lease having, in the first instance, been purchased at auction—and must not be of larger extent than is sufficient to carry 4,000 sheep or 1,000 head of cattle. An important privilege enjoyed by lessees of “new runs” is that they are entitled to the pre-emption of 320 acres on which their improvements are situated at the rate of £1 per acre.* The annual rent payable for both descriptions of runs is assessed in accordance with the grazing capability of the land licensed or leased, on the basis of 1s. for every sheep and 5s. for every head of cattle the run is capable of carrying.

879. As the right of pre-emption to 320 acres at £1 per acre, with- Grazing rights. out conditions as to residence, cultivation, &c., was considered too great a sacrifice of the public estate, the occupation of new runs was discouraged by the Government ; but, in order to allow of the waste lands of the Crown being used for pastoral purposes, advantage was taken of a provision embodied in sub-section 7 of the 47th section of the Act, whereby the Governor in Council is empowered to grant a licence—now known as a “grazing right”—to depasture live stock upon any park lands, reserves, or other Crown lands not forming part of any run or common. Under this provision the unoccupied pastoral lands have been divided up into blocks and offered for tender under annual licence.

880. The following table shows the number of runs and grazing Runs and grazing rights, 1883. rights, also the extent of land included therein and amount of rent paid, during 1883 :—

SQUATTING RUNS AND GRAZING RIGHTS, 1883.

Description of Tenure.	Number of Licences.	Extent of Crown Lands.	Amount of Rent received
		Acres.	£
Squatting runs	473	9,199,667	43,983
Grazing rights	852	12,264,288	16,818
Total	1,325	21,463,955 †	60,801

* Under an Order of Her Majesty's Council, the lessees of the old or “existing” runs had been allowed a “pre-emptive right” to 640 acres.

† Of this area, 7,727,360 acres is situated in the Mallee country, and is now occupied under the Mallee Pastoral Leases Act.—See paragraph 883 *post*.

Average area
of runs and
grazing
rights.

881. By these figures it may be ascertained that the average extent of land embraced in a squatting run was 19,449 acres, and in a grazing right 14,395 acres. These areas are exclusive of those of any purchased land attached thereto.

Rent of runs
and grazing
rights.

882. According to the amounts received, the average rent per acre of runs was 1·147d., and of grazing rights—the land subject to which is generally of an inferior character to that embraced in runs—0·329d.

Mallee
Pastoral
Leases Act
1883.

883. An Act dealing with the unalienated lands situated in the north-western portion of the colony, comprising in all some 11½ million acres wholly or partially covered with the various species of stunted trees of which the “Mallee scrub” is composed, was passed in 1883. This Act, entitled the Mallee Pastoral Leases Act 1883 (47 Vict. No. 766), came into force on the 1st December, 1883. It divides the country just described into two main divisions—the larger division containing about ten million acres, being known as the “Mallee country”; and the other containing about one and a half million acres, and situated along the southern and eastern borders of the Mallee country, being called the “Mallee border.”

Mallee
blocks.

884. The Act directs that the “Mallee country” be divided into blocks of various sizes, each block to be subdivided into two divisions. For either of these, at the option of the applicant, a lease may be granted under certain conditions, the lessee being also bound to occupy the other division. The principal conditions are that the lessee destroy all vermin (native dogs, rabbits, &c.) upon the whole block within the first three years, surrender to the Crown the unleased portion at the end of five years, and keep in good condition and repair all improvements made upon the land. A lease for a Mallee block may be granted for any term of years not longer than 20 from the commencement of the Act, at the end of which term (viz., on the 1st December, 1903) the land, with all improvements, reverts to the Crown. Every person who had occupied under pastoral or grazing licence any portion of the Mallee country for two years prior to the 1st December, 1883, was entitled to take up one Mallee block comprising the whole or any portion of the area occupied by him; but, in the event of his not applying for this privilege within one month of the passing of the Act, the right of lease was to be sold by auction to the highest bidder. The annual rent to be charged for the leased portion of the block is 2d. for each sheep or 1s. for every head of cattle depastured during the first five years, 4d. for each sheep or 2s. for each head of cattle during the second five years, and 6d. for each sheep and 3s. for each head of cattle during the remainder of the term; and for the unleased portion of the

block 2d. for each sheep or 1s. for each head of cattle ; but in no case is the annual rent for the whole block to be less than 2s. 6d. per square mile. No lands in the Mallee country can be alienated in fee-simple. It may be mentioned that nearly the whole of it has now been taken up under the provisions of the Mallee Pastoral Leases Act.

885. The "Mallee border" is to be subdivided into "Mallee allotments," varying in size, but not in any case exceeding 20,000 acres. These are to be leased on the same terms and conditions as in the case of the leased portions of a Mallee block ; but the annual rent is to be fixed by regulations issued by the Governor in Council. No person is permitted to take a lease of more than one Mallee allotment.

886. The revenue from the sale and occupation of Crown lands may be divided into—(1) receipts from the alienation of land in fee-simple, including the price realized from land sales and from rents which count towards the purchase-money ; (2) receipts on account of temporary occupation, which include payments for squatting and grazing licences, rents for business, factory, and hotel sites, &c., and rents of land which do not count towards the purchase-money ; (3) penalties, interest, and fees for grants, leases, licences, &c. In 1883, as compared with 1882, there was a decrease under all these heads ; the total amounting to £137,980, as will be seen by the following figures :—

LAND REVENUE, 1882 AND 1883.

Heads of Land Revenue.	Amounts Received.		Decrease.
	1882.	1883.	
	£	£	£
Alienation in fee-simple and progressive ...	677,045	558,227	118,818
Temporary occupation	87,610	75,784	11,826
Penalties, fees, interest, &c.	37,651	30,315	7,336
Total	802,306	664,326	137,980

887. The decrease in the amounts received under the first head is in part due to the operation of section 3 of the Land Act 1880, which provides that licensees under the 19th section of the Land Act 1880 may be allowed to have their licences endorsed for an extended term not exceeding six years in all, the fees being reduced from two shillings to one shilling per acre per annum.

Agricultural
statistics.

888. The agricultural statistics of Victoria are collected by the municipal bodies, which are required each year to furnish to the Government Statist such agricultural and other statistics relating to their districts on such forms and in such manner as the Governor in Council may direct. All persons are required to give correct information to the best of their knowledge and belief; and, should they fail to do so, they render themselves liable to a penalty not exceeding £10. Collectors divulging or making extracts from the information they receive, except under the special direction or authority of the Government Statist, also render themselves liable to a penalty of £10.

Bonuses
for col-
lecting
statistics.

889. The Act under which the collection of statistics is imposed upon the local bodies is the Local Government Act Amendment Act 1883 (47 Vict. No. 786), which continues a similar provision to that embodied in the principal Act (38 Vict. No. 506), with the difference, that the amending Act prescribes that the returns are to be sent in by the 1st March instead of the 31st March, which is the date named in the principal Act. In assigning this duty to the local bodies, the law did not provide that they should receive any payment therefor; and thus, although under that provision of the Act whereby the Governor in Council had power to prescribe the manner as well as the form of the statistics, elaborate instructions for the guidance of the persons employed had each year been supplied them, the Government had practically but little control over the work, and hence many of the returns were not sent in until long after the appointed time, and some were generally furnished in anything but a satisfactory condition. This being the case, it was decided by the Government, for the first time on the present occasion, to offer bonuses, ranging, according to the nature of the country, from £6 to £3 per 100 schedules collected, to such municipalities as should furnish authentic and complete returns punctually at the appointed time—the amount to be reduced one-half if the returns were delayed for a week, three-quarters if they were delayed for a fortnight, and forfeited altogether if a fortnight should be exceeded. To provide for these bonuses, the sum of £2,000 was placed on the estimates by the Government, of which £1,600 was eventually expended, with excellent effect, as the measures taken resulted in the statistics being sent in at such a date that it became possible to publish nearly complete returns on the 12th March, or fully two months earlier than such a result had been achieved in previous years.

Attempts to
defraud.

890. One of the conditions under which the bonuses were promised was, that each holding should be visited personally by a collector, and that the signature of the proprietor or person in charge should be

obtained to an agricultural schedule, as a guarantee that the entries thereon truly represented the acreage and produce of his crops. An attempt to evade these conditions was made in a few instances, the collector not only not visiting the holding, but, after entering certain details of crops supplied from his own imagination, forging the proprietor's signature. In two instances an attempt was made to bring this offence home to collectors, and prosecutions were instituted, which resulted in one man being committed for trial; and although both cases eventually broke down on technical grounds, the accused persons were put to considerable expense; the knowledge of which, and of the danger they undoubtedly ran of fine or imprisonment, will probably act as a warning, and have the effect of preventing like malpractices from being perpetrated in future.

891. The agricultural statistics to which reference will now be made are those for the year ended 1st March, 1884.* Tables embodying the general results of these statistics will be found in the *Government Gazette* of the 4th April last, and these, with additional tables, form portion of the *Statistical Register of Victoria*. Agricultural statistics, 1883-4.

892. The total number of farm holdings visited was 37,146, of which 35,804 were in shires, 1,034 in cities, towns, or boroughs, and 308 in places outside of local jurisdiction. In the previous year the number of farms visited was 33,952, the increase being thus 3,194. Number of cultivators.

893. The extent of land returned as under cultivation amounted to 2,215,923 acres, as against 2,040,916 acres in 1882-3. The increase shown by the figures was, therefore, 175,007 acres. Land under tillage.

894. The average area in cultivation to each person in the colony was $2\frac{2}{5}$ acres in the year under review as against less than 2 acres five years previously, and $1\frac{1}{4}$ acre 10 years previously. The exact amounts at the three periods were as follow:— Area cultivated per head of population.

AVERAGE AREA CULTIVATED TO EACH PERSON IN THE COLONY.

						Acres.
1873-4	...	...	...	...	...	1.25
1878-9	...	...	...	...	...	1.94
1883-4	...	...	...	...	...	2.38

895. The following table shows the area per head cultivated in each Australasian colony during the nine seasons ended with that of 1882-3, also the mean of those seasons, the colonies being placed in order according to the average extent of land per head that each cultivates:— Area cultivated per head in Australasian colonies.

* A summary of the agricultural statistics of each year since the first settlement of the colony will be found at the commencement of this work (second folding sheet).

CULTIVATION PER HEAD IN AUSTRALASIAN COLONIES, 1875 TO 1883.*

Colony.	Acres under Tillage per Head of Population.									
	1874-5	1875-6	1876-7	1877-8	1878-9	1879-80.	1880-81.	1881-2	1882-3	Mean.
1. S. Australia ...	6·50	6·86	6·71	7·72	8·09	8·75	9·62	8·91	8·08	7·92
2. Tasmania ...	3·13	3·21	3·15	3·26	3·23	3·26	3·25	3·15	3·08	3·19
3. New Zealand	1·61	1·62	1·97	2·30	2·62	2·67	2·12	2·63	2·68	2·25
4. W. Australia	1·73	1·78	1·68	1·82	1·81	2·28	2·20	1·78	1·84	1·88
5. Victoria ...	1·29	1·42	1·54	1·74	1·95	2·01	2·32	2·06	2·25	1·84
6. N. S. Wales ...	·80	·74	·82	·83	·88	·90	·96	·83	·90	·85
7. Queensland ...	·39	·43	·46	·52	·56	·49	·53	·56	·64	·51

Results in different colonies compared.

896. It will be observed that South Australia cultivates much more, and New South Wales and Queensland cultivate much less, per head than any of the other colonies; also that in only two of the colonies, viz., New Zealand and Queensland, were the figures for the last year named in the table higher than those for any previous one.

Land under principal crops.

897. The principal crops grown in Victoria are wheat, oats, barley, potatoes, hay, and green forage. In 1883-4, as compared with 1882-3, a larger area was placed under all these crops except the two last. The extent under wheat and oats was larger than in any previous year, the area under the former being greater by about a seventh than that in 1882-3. The extent under potatoes was exceeded in four previous years, viz., 1869-70, 1876-7, 1879-80, and 1880-81. The extent under hay, although slightly less than in 1882-3, was much larger than in any other year. The extent under barley was exceeded in 1880-81 and 1881-2, but in no other year; and the extent under green forage was exceeded in the five years, 1875-6 to 1879-80, as well as in 1882-3. During the past eight years wheat was much more extensively cultivated than formerly. Prior to 1877, the extent under that crop never reached 400,000 acres, whereas in 1883-4 the area so cultivated, for the first time, exceeded one million acres. The following table shows the extent of land under each of these crops in the last two seasons :—

LAND UNDER PRINCIPAL CROPS, 1883 AND 1884.

Year ended March.	Wheat.	Oats.	Barley.	Potatoes.	Hay.	Green Forage.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1883 ...	969,362	169,892	43,721	34,267	309,382	290,438
1884 ...	1,104,392	188,161	46,832	40,195	302,957	286,866
Increase ...	135,030	18,269	3,111	5,928	...	...
Decrease...	...	...	...	...	6,425	3,572

* For the population and number of acres under tillage in each Australasian colony during the eleven years ended with 1883, see Summary of Australasian Statistics (third folding sheet) *ante*; also Appendix A *post*.

898. The gross yield of wheat exceeded that in 1882-3 by nearly 7 million bushels, and was by far the largest quantity ever produced in Victoria in one year, being half as much again as was raised in 1880-81, which was the year of the next highest yield. The yield of oats exceeded that in 1882-3 by over 270,000 bushels, and that of barley exceeded the yield in that year by over 300,000 bushels, both being the largest crops of their kind ever raised in Victoria. The yield of potatoes was exceeded in only one previous year, viz., 1879-80. The hay crop was much the largest ever raised, and exceeded that in 1882-3 by nearly 106,000 tons, or nearly a third. The following is a statement of the gross produce of each of the principal crops in 1882-3 and 1883-4 :—

GROSS PRODUCE OF PRINCIPAL CROPS, 1883 AND 1884.

Year ended March.	Wheat.	Oats.	Barley.	Potatoes.	Hay.
	Bushels.	Bushels.	Bushels.	Tons.	Tons.
1883 ...	8,751,454	4,446,027	758,477	129,605	327,385
1884 ...	15,570,245	4,717,624	1,069,803	161,088	433,143
Increase ...	6,818,791	271,597	311,326	31,483	105,758

899. The following table shows, for each of the last six years, the produce of wheat in twelve counties which, for the most part, lie between the 36th and 37th parallels of latitude, and which are above all others the wheat-producing counties of Victoria :—

WHEAT RAISED IN TWELVE COUNTIES, 1879 TO 1884.

Counties.	Number of Bushels Produced.					
	1878-9.	1879-80.	1880-81.	1881-2.	1882-3.	1883-4.
Bendigo ...	727,195	871,278	1,007,979	517,342	622,451	1,217,037
Bogong ...	136,574	305,951	268,210	294,470	434,907	392,357
Borong ...	1,291,947	1,509,759	1,542,000	1,503,604	1,291,678	3,334,101
Dalhousie...	106,305	204,299	134,554	206,000	197,968	160,381
Delatite ...	115,639	265,478	176,934	236,936	277,824	224,562
Gladstone...	578,157	700,925	723,419	385,181	556,931	1,074,658
Gunbower ..	218,348	321,230	697,569	230,952	215,129	852,930
Kara Kara	651,142	681,868	950,096	678,846	576,667	1,599,720
Lowan ...	220,334	284,407	406,090	540,539	613,278	1,189,488
Moira ...	317,465	1,671,507	1,655,322	1,865,846	1,805,153	2,797,046
Rodney ...	451,435	1,088,854	1,068,673	1,007,787	852,358	1,170,861
Talbot ...	414,473	397,621	302,987	377,893	368,480	333,154
Total	5,229,014	8,303,177	8,933,833	7,845,396	7,812,824	14,346,295

900. In 1883-4, about twelve-thirteenths of the wheat raised in Victoria was grown in these twelve counties, and a proportion of about eight-ninths in the previous five years. In all the counties except Bogong, Dalhousie, Delatite, and Talbot, in which the quantity grown is much smaller than in the other wheat-producing counties, the gross yield was considerably larger in 1883-4 than in the previous year ; in

three counties, indeed, viz., Bendigo, Gladstone, and Lowan, it was twice as large, in Borung and Kara Kara it was three times as large, and in Gunbower it was as much as four times as large, as in the previous season. It also appears that, in the last season, Borung and Moira each produced about 3 million bushels, and five other counties over 1 million bushels.

Yield of
wheat in
each
county.

901. The average produce of wheat per acre in the various counties and in the whole colony in 1883-4 is compared in the following table with that in each of the five previous years. The counties are arranged according to the average yield in the past season, and the twelve counties just referred to are marked with asterisks :—

AVERAGE PRODUCE OF WHEAT IN EACH COUNTY, 1879 TO 1884.

County.	Bushels of Wheat per Acre.†					
	1878-9.	1879-80.	1880-81.	1881-2.	1882-3.	1883-4.
Tambo ...	19·12	30·39	12·52	24·51	21·39	29·60
Villiers ...	12·65	26·20	11·73	26·15	27·30	22·45
Polwarth ...	9·30	25·07	3·27	18·02	23·30	21·53
Buln Buln ...	10·43	20·87	9·23	22·34	25·33	20·78
Grant ...	13·64	24·57	12·78	22·56	24·55	20·29
Benambra ...	11·44	21·27	12·73	20·92	22·11	20·21
Mornington ...	5·87	27·79	8·16	21·30	23·61	19·48
Heytesbury ...	13·60	24·14	13·16	21·97	24·80	19·35
Bourke ...	11·21	23·74	12·05	20·65	20·86	18·35
Evelyn ...	4·86	21·86	8·26	20·16	19·96	17·27
*Dalhousie ...	8·42	20·89	9·75	21·58	23·22	17·01
Hampden ...	11·42	18·54	9·31	21·02	21·37	16·99
Dundas ...	14·23	19·61	10·11	20·01	19·20	16·88
*Talbot ...	11·99	15·95	10·07	16·53	18·35	16·81
Croajingolong ...	12·48	10·57	10·41	21·51	15·15	16·79
Follett ...	11·80	18·44	8·43	12·61	16·86	16·36
Grenville ...	13·74	18·52	8·40	16·71	19·61	16·36
Dargo ...	13·49	22·27	10·27	18·59	20·35	16·16
Ripon ...	14·36	17·35	12·14	15·67	17·53	15·80
*Moira ...	3·89	16·98	12·71	12·91	12·17	15·57
Karkarooc ...	...	...	...	...	...	15·44
*Bendigo ...	8·79	11·58	10·87	6·48	7·81	14·94
Normanby ...	12·18	19·37	8·14	16·81	18·09	14·90
*Gladstone ...	10·08	12·55	9·68	5·56	8·29	14·47
*Kara Kara ...	10·73	9·97	9·45	7·39	6·24	14·31
Tanjil ...	12·01	22·11	7·71	20·50	22·41	13·89
*Borong ...	10·95	10·98	7·92	7·00	5·66	13·75
*Bogong ...	6·00	13·63	9·92	13·49	16·47	13·72
*Rodney ...	5·54	15·09	12·34	12·68	10·51	13·09
*Gunbower ...	6·47	7·67	9·29	4·16	3·24	12·74
Anglesey ...	7·21	19·97	9·49	17·99	19·42	12·55
Tatchera ...	10·55	10·76	5·85	2·37	3·08	12·28
Wonnangatta ...	5·99	16·85	4·69	18·80	19·99	11·98
*Lowan ...	13·46	13·75	10·01	10·65	9·00	11·76
*Delatite ...	5·38	14·53	8·29	13·90	16·10	11·74
Total ...	8·76	13·29	9·95	9·40	9·03	14·10

† In 1878-9, the crops were much affected by rust and drought, and in the three years, 1880-81 to 1882-3, by the latter.

902. It will be noticed that, taking the colony as a whole, the acreable yield of wheat rose from 9 bushels in 1882-3 to 14 bushels in 1883-4, and was much higher in the latter than in any of the previous five years ; also, that in all the principal wheat-producing counties (marked with asterisks), except Dalhousie, Talbot, Bogong, and Delatite,* the average yield was higher in 1883-4 than in the previous season ; but the reverse was the case in all the other counties, except Tambo, Croajingolong, and Tatchera.

Acreable yield of wheat, 1883 and 1884.

903. It will also be noticed that all but two of the "wheat-producing counties" were in 1883-4 in the lower half of the list in point of average yield, and were the counties in which—whilst, in consequence of the large area placed under wheat, the gross yield was largest—the yield per acre was not so high as in many counties which stood much above them on the list. Dalhousie and Talbot, which stood much higher than the other "wheat-producing counties" in point of average yield, are situated to the south of the others, and are thus more favorably situated for rain and moisture, the scantiness of which seriously affects the crops all over the northern portion of the colony.

Average yields in twelve counties.

904. It should be mentioned that in several of the counties in which the average yield of wheat is high a very small quantity is grown, which is probably raised on a patch of choice land, and does not afford an indication of the general productiveness of the county. Thus, in 1883-4, less than 5,000 bushels of wheat were grown in Tambo, which was at the head of the list with 30 bushels to the acre ; only about 4,000 bushels in Polwarth, which stood third ; only 6,000 bushels in Mornington ; and only 1,500 bushels in Evelyn. All these counties occupied prominent positions on the list.

Small gross yield of wheat in some counties.

905. The average produce per acre of oats, barley, potatoes, and hay in each county during the last two seasons is given in the following table :—

Yield of other principal crops in each county.

AVERAGE PRODUCE OF OATS, BARLEY, POTATOES, AND HAY IN EACH COUNTY, 1882-3 AND 1883-4.

Counties.	Average Produce to the Acre of—							
	Oats. (Bushels.)		Barley. (Bushels.)		Potatoes. (Tons.)		Hay. (Tons.)	
	1882-3.	1883-4.	1882-3.	1883-4.	1882-3.	1883-4.	1882-3.	1883-4.
Anglesey ...	29·89	22·80	20·33	12·34	2·91	3·11	1·64	1·54
Benambra ...	34·69	28·71	25·21	31·30	4·20	3·80	1·75	1·58
Bendigo ...	14·47	23·09	10·97	17·08	2·92	2·21	·83	1·25
Bogong ...	28·15	25·67	23·79	19·47	2·88	2·77	1·47	1·28

* See also paragraph 900 ante

AVERAGE PRODUCE OF OATS, BARLEY, POTATOES, AND HAY IN EACH COUNTY, 1882-3 AND 1883-4—*continued.*

Counties.	Average Produce to the Acre of—							
	Oats. (Bushels.)		Barley. (Bushels.)		Potatoes. (Tons.)		Hay. (Tons.)	
	1882-3.	1883-4.	1882-3.	1883-4.	1882-3.	1883-4.	1882-3.	1883-4.
Borong ...	19·32	17·00	7·76	17·34	2·06	2·32	·52	1·14
Bourke ...	36·22	30·01	25·74	29·77	3·57	4·33	1·66	1·70
Buln Buln ...	30·20	29·16	29·02	26·89	4·49	4·47	2·09	2·03
Croajingolong	28·14	23·37	18·33	41·25	3·84	3·82	1·90	1·43
Dalhousie ...	34·42	26·30	35·49	25·49	2·69	2·78	1·88	1·59
Dargo ...	34·44	23·72	33·33	24·43	6·58	4·75	2·31	2·20
Delatite ...	26·49	20·19	22·80	17·94	2·46	2·21	1·37	1·31
Dundas ...	23·77	23·57	24·24	27·36	2·32	2·14	1·64	1·51
Evelyn ...	30·35	25·80	26·63	19·61	3·79	3·33	1·90	1·83
Follett ...	22·67	21·99	23·44	16·93	2·02	2·47	1·39	1·40
Gladstone ...	15·44	21·14	10·48	16·90	·81	1·86	·66	1·15
Grant ...	35·67	31·28	30·69	32·47	4·38	4·47	1·57	1·55
Grenville ...	25·37	24·43	22·80	20·19	3·15	3·23	1·65	1·65
Gunbower ...	9·97	22·92	6·55	15·80	...	...	·35	1·07
Hampden ...	32·88	31·40	30·47	31·96	3·92	4·59	1·76	1·89
Heytesbury ...	27·17	26·33	28·12	30·72	3·81	3·64	1·86	1·97
Kara Kara ...	17·96	21·54	12·06	20·55	1·87	2·29	·52	1·17
Karkaroc ...	...	20·00	...	32·00	...	...	...	1·24
Lowan ...	17·42	16·86	10·84	14·40	1·22	2·27	·69	1·02
Moira ...	18·81	22·94	12·40	20·38	1·50	1·06	·92	1·27
Mornington ...	27·89	28·27	28·32	25·20	3·91	3·75	1·69	1·62
Normanby ...	18·95	22·32	22·45	19·63	2·89	3·08	1·53	1·63
Polwarth ...	30·32	27·62	26·73	29·06	4·09	3·95	1·94	2·06
Ripon ...	26·84	25·42	31·52	26·41	2·52	2·43	1·71	2·07
Rodney ...	15·26	19·72	11·69	17·45	1·25	4·67	·63	1·03
Talbot ...	32·62	29·62	28·94	29·78	2·77	3·39	1·52	1·70
Tambo ...	27·29	27·16	50·00	30·00	5·62	4·54	1·90	2·12
Tanjil ...	32·17	28·25	32·21	27·16	4·77	3·63	1·95	1·89
Tatchera ...	1·66	18·06	5·87	14·02	...	...	·29	1·04
Villiers ...	28·09	26·91	39·16	41·92	4·41	4·71	2·28	2·20
Wonnangatta	31·41	20·22	25·00	30·00	4·10	3·74	1·63	1·38
Total ...	26·17	25·07	17·35	22·84	3·78	4·01	1·06	1·43

Yield of oats,
barley,
potatoes,
and hay,
1883-4.

906. It will be noticed that in the year ended 1st March, 1884, the highest acreable yield of oats was in Hampden, Grant, and Bourke, in the order named; that the average yield of barley was highest in Villiers, then in Croajingolong (where, however, only 8 acres were grown), and then in Grant; that potatoes yielded the largest crop per acre in Dargo, in which county it was $4\frac{3}{4}$ tons, and that nearly $4\frac{3}{4}$ tons per acre was reached in Villiers, the principal potato-growing county, and in Rodney (where, however, only 76 acres were grown), also that 4 tons per acre was exceeded in Hampden, Tambo, Grant, Buln Buln, and Bourke; that the highest yields of hay were in Dargo and Villiers, then in Tambo,

Ripon, Polwarth, and Buln Buln—those being the only counties in which this crop averaged over 2 tons to the acre.

907. Comparing the averages of 1883-4 with those of the previous season, a falling-off is observed in the yield per acre of all the crops in Bogong, Buln Buln, Dargo, Delatite, Evelyn, and Tanjil; of oats, barley, and potatoes in Ripon and Tambo; of oats, barley, and hay in Anglesey and Dalhousie; of oats, potatoes, and hay in Benambra, Croajingolong, Dundas, and Wonnangatta; of barley, potatoes, and hay in Mornington; of oats and barley in Follett and Grenville; of oats and potatoes in Heytesbury and Polwarth; of oats and hay in Grant and Villiers; of oats in all the counties except nine; of barley in Normanby; and of potatoes in Bendigo and Moira. In all other cases, the average yields were equal to or greater than those in 1882-3, especially in the counties of Gladstone, Gunbower, Kara Kara, Rodney, and Tatchera, where all the crops show an increased yield.

Yield of principal crops in past two seasons.

908. In the past season, over the colony as a whole, the acreable yield of all the principal crops was much above the average; thus the yield per acre of wheat was higher than in any of the twelve previous years except 1872-3, 1874-5, and 1875-6; that of oats was higher than in any except 1882-3; and that of barley, potatoes, and hay higher than in any except 1879-80. This will be seen by the following table, which shows the yield per acre of those five crops during each of the last thirteen years, also the average during the whole period:—

Yield of principal crops, 1872 to 1884.

AVERAGE PRODUCE OF PRINCIPAL CROPS, 1872 TO 1884.

Year ended March.	Average Produce per Acre of—				
	Wheat.	Oats.	Barley.	Potatoes.	Hay.
	Bushels.	Bushels.	Bushels.	Tons.	Tons.
1872	13·45	18·76	20·00	3·22	1·40
1873	16·51	19·55	20·86	3·45	1·32
1874	13·58	15·69	19·84	2·86	1·27
1875	14·57	18·46	21·01	3·53	1·32
1876	15·49	21·92	22·20	3·37	1·33
1877	13·15	19·91	21·18	3·31	1·22
1878	12·41	19·39	19·81	3·11	1·17
1879	8·76	17·60	18·24	2·71	1·21
1880	13·29	24·00	24·67	4·04	1·45
1881	9·95	17·62	15·57	2·81	1·20
1882	9·40	24·57	19·07	3·43	1·13
1883	9·03	26·17	17·35	3·78	1·06
1884	14·10	25·07	22·84	4·01	1·43
Mean	12·59	20·67	20·20	3·36	1·27

Average
produce in
Austral-
asian
colonies.

909. In the following table the average yield of wheat, oats, barley, potatoes, and hay in Victoria is placed side by side with the average of the same crops in the other Australasian colonies* during each of the eleven years ended with 1883 :—

AVERAGE PRODUCE PER ACRE OF THE PRINCIPAL CROPS IN
AUSTRALASIAN COLONIES, 1873 TO 1883.

Year ended March.	Victoria.	New South Wales.	Queens- land.	South Australia.	Western Australia.	Tasmania.	New Zealand.
WHEAT.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1873 ...	16·51	16·32	...	11·50	6·02	18·62	24·19
1874 ...	13·58	13·43	...	7·87	13·44	16·17	25·61
1875 ...	14·57	12·87	...	11·75	12·00	18·51	28·15
1876 ...	15·49	14·66	...	11·95	11·00	16·38	31·54
1877 ...	13·15	16·43	...	5·40	12·00	19·30	28·63
1878 ...	12·41	13·84	10·63	7·76	11·00	18·12	26·03
1879 ...	8·76	14·74	13·56	7·15	9·97	16·10	22·94
1880 ...	13·29	15·48	8·11	9·78	14·94	23·22	28·16
1881 ...	9·95	14·69	20·40	4·96	14·94	14·99	25·07
1882 ...	9·40	15·35	8·41	4·57	7·00	18·88	22·69
1883 ...	9·03	16·35	13·89	4·21	11·00	20·27	26·28
Mean ...	12·38	14·92	12·50	7·90	11·21	18·23	26·30
OATS.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1873 ...	19·55	19·94	...	16·39	13·24	25·85	27·00
1874 ...	15·69	18·71	...	10·61	19·22	20·98	29·81
1875 ...	18·46	16·31	...	14·61	16·00	26·82	35·22
1876 ...	21·92	18·72	...	16·69	15·00	25·40	37·79
1877 ...	19·91	21·16	...	10·65	15·00	24·21	31·24
1878 ...	19·39	19·31	10·11	11·96	14·00	22·32	31·68
1879 ...	17·60	20·24	9·65	12·01	18·02	24·82	30·11
1880 ...	24·00	21·64	24·74	15·02	19·00	28·61	36·53
1881 ...	17·62	19·87	17·94	11·50	19·00	22·13	32·05
1882 ...	24·57	21·81	12·74	10·66	10·00	28·44	28·45
1883 ...	26·17	24·88	16·58	11·13	15·00	27·34	32·89
Mean ...	20·44	20·24	15·29	12·84	15·77	25·17	32·07
BARLEY.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1873 ...	20·86	18·96	...	14·31	14·00	22·44	21·25
1874 ...	19·84	18·61	...	10·69	17·22	19·33	27·41
1875 ...	21·01	17·33	...	15·18	16·00	24·46	29·39
1876 ...	22·20	20·46	...	14·12	14·00	27·84	35·91
1877 ...	21·18	23·69	...	10·64	15·00	23·58	28·95
1878 ...	19·81	19·68	16·86	11·97	13·00	20·28	25·40
1879 ...	18·24	21·47	15·87	11·82	12·23	24·22	24·77
1880 ...	24·67	21·46	24·68	13·38	18·00	27·91	30·47
1881 ...	15·57	20·35	20·97	11·62	18·00	20·39	26·05
1882 ...	19·07	21·04	12·53	11·47	10·00	22·29	22·28
1883 ...	17·35	20·55	17·82	11·03	14·00	27·79	26·19
Mean ...	19·98	20·33	18·12	12·38	14·68	23·68	27·10

* The produce of crops in Queensland was not given prior to 1878.

AVERAGE PRODUCE PER ACRE OF THE PRINCIPAL CROPS IN
AUSTRALASIAN COLONIES, 1873 TO 1883—*continued.*

Year ended March.	Victoria.	New South Wales.	Queens- land.	South Australia.	Western Australia.	Tasmania.	New Zealand.
POTATOES.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1873 ...	3·45	2·98	...	3·28	2·34	3·92	4·92
1874 ...	2·86	2·98	...	3·41	2·67	3·16	4·46
1875 ...	3·53	2·83	...	3·72	3·00	3·75	5·24
1876 ...	3·37	2·98	...	4·52	3·00	3·54	4·89
1877 ...	3·31	3·03	...	2·84	3·00	3·43	5·36
1878 ...	3·11	2·52	1·91	2·51	2·00	3·25	5·38
1879 ...	2·71	3·20	2·33	2·67	2·49	3·37	4·98
1880 ...	4·04	3·23	3·03	3·80	3·50	3·18	5·62
1881 ...	2·81	2·73	2·65	2·89	3·50	3·12	4·94
1882 ...	3·43	2·78	2·36	2·96	2·00	3·47	5·41
1883 ...	3·78	3·00	2·90	3·05	2·50	3·88	5·10
Mean ...	3·31	2·93	2·53	3·24	2·73	3·46	5·12
HAY.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1873 ...	1·32	1·61	...	1·21	1·51	1·39	1·25
1874 ...	1·27	1·54	...	1·02	2·00	1·08	1·43
1875 ...	1·32	1·37	...	1·26	1·50	1·35	·84
1876 ...	1·33	1·15	...	1·21	1·00	1·42	1·46
1877 ...	1·22	1·43	...	1·95	1·00	1·21	1·31
1878 ...	1·17	1·22	1·30	1·13	1·00	1·13	1·30
1879 ...	1·21	1·66	1·33	·97	1·00	1·19	1·22
1880 ...	1·45	1·45	1·96	1·12	1·25	1·52	1·51
1881 ...	1·20	1·33	1·95	·96	1·25	1·13	1·27
1882 ...	1·13	1·35	1·16	·72	·75	1·29	1·30
1883 ...	1·06	1·35	1·67	·75	1·00	1·30	1·24
Mean ...	1·24	1·41	1·56	1·12	1·21	1·27	1·28

NOTE.—All the calculations in this table were made in the office of the Government Statist, Melbourne. For the land under and total produce of each crop in the respective colonies during the eleven years ended with 1883-4, see Summary of Australasian Statistics (third folding sheet) *ante*.

910. It will be observed that, according to the mean of the whole period, the average produce of wheat, oats, barley, and potatoes is much the highest in New Zealand, and that of hay is highest in Queensland. The lowest yield of wheat, oats, barley, and hay is in South Australia; and the yield of potatoes is lowest in Queensland. Victoria stands third in regard to the average per acre of oats and potatoes, fourth in regard to barley, and fifth in regard to wheat. Colonies with highest and lowest average yields.

911. It will further be noticed that in the latest year respecting which the table affords information the average produce of oats and potatoes in Victoria; of all the crops except hay in New South Wales; of all except barley in Queensland; and of all the crops in Tasmania, was above the mean of the eleven years to which reference is made; but that in South Australia and Western Australia the average produce of all the crops, and in New Zealand of all except oats, was below the mean of that period. Average produce 1882-3 and previous years compared.

Land under
crop in
British and
Foreign
countries.

912. The next table shows the acreage under wheat, oats, barley, and potatoes in the United Kingdom, the Cape of Good Hope, in the principal countries on the continent of Europe, and in the United States of America. All the information has been taken from official documents :—

LAND UNDER CERTAIN CROPS IN THE UNITED KINGDOM, THE CAPE COLONY, AND FOREIGN COUNTRIES (000'S OMITTED).

Country.	Year.	Number of Acres under—				
		Wheat.	Oats.	Barley.	Rye.	Potatoes.
The United Kingdom...	1883	2,713,	4,370,	2,486,	58,	1,360,
Cape of Good Hope ...	1875	188,	114,	29,	...	9,
Austria	1882	2,511,	4,360,	2,516,	4,735,	2,433,
Belgium	1866	700,	567,	108,	714,	423,
Denmark	1876	140,	864,	699,	575,	96,
France	1882	17,062,*	8,687,	2,457,	4,621,	3,321,
Germany	1881	4,489,	9,249,	4,034,	14,606,	6,836,
Holland	„	218,	293,	116,	485,	348,
Hungary	1882	6,160,	2,466,	2,397,	2,688,	952,
Italy	1876-80	11,700,	939,	1,180,	...	169,
Norway	1875	11,	224,	138,	37,	86,
Russia in Europe ...	1872	28,743,	32,819,	15,512,	66,399,	3,169,
Sweden	1881	...	2,456,†	...	1,091,‡	383,
United States	1882	37,067,	18,494,	2,272,	2,228,	2,172,

Gross yield
of crops in
Foreign
countries.

913. The agricultural statistics collected by the Imperial Board of Trade do not give the amount of produce raised in the United Kingdom. The official returns of the Cape Colony and many Foreign countries, however, contain statements of produce, and these, so far as they are available, are given in the following table. The produce of potatoes is not returned in tons, as in the Australasian colonies, but in bushels :—

GROSS PRODUCE OF CERTAIN CROPS IN THE CAPE COLONY AND FOREIGN COUNTRIES (000'S OMITTED).

Country.	Year.	Number of Bushels § raised of—				
		Wheat.	Oats.	Barley.	Rye.	Potatoes.
Cape of Good Hope ...	1875	1,688,	918,	448,	...	371,
Austria	1882	43,169,	88,749,	47,386,	79,686,	236,179,
Belgium	1866	14,203,	23,364,	3,666,	17,562,	67,737,
Denmark	1881	2,986,	28,047,	20,471,	15,788,	11,436,
France	1882	335,922,*	246,669,	53,329,	81,089,	307,990,
Germany	1881	75,639,	138,109,	91,517,	200,138,	1,003,253,
Holland	„	4,558,	11,521,	4,238,	8,166,	62,746,
Hungary	1882	127,684,	65,413,	55,785,	48,911,	117,462,
Italy	1876-81	139,971,	18,455,	17,709,	...	27,722,
Norway	1875	276,	8,896,	4,285,	1,016,	19,591,
Russia in Europe ...	1872	157,938,	543,623,	124,754,	546,832,	370,876,
Sweden	1881	3,266,	52,785,	14,891,	17,605,	33,420,
United States	1882	488,780,	473,333,	47,458,	29,044,	165,748,

* Including spelt (*Triticum spelta*).

† Including barley and mixed corn.

‡ Including wheat.

§ The produce was originally given in Imperial bushels, except in the case of the United States, in which it was quoted in Winchester bushels. These have been converted into Imperial bushels upon the assumption that a Winchester bushel is equivalent to '969,447 of an Imperial bushel. For the standard weight of cereals per Imperial bushel see paragraph 953 *post*. An Imperial bushel of potatoes weighs about 56 lbs.

914. Although, as has been already said, no official return is made of the produce of crops in the United Kingdom, estimates more or less reliable have frequently been made by private persons, especially of the wheat yield. The London *Statist's* Annual Supplement of the 26th January, 1884, gives a statement originally taken from *The Times*, and evidently prepared with great care, of the assumed yield per acre of this crop in the eighteen years ended with 1883, with the following result:—

AVERAGE PRODUCE PER ACRE OF WHEAT IN THE UNITED KINGDOM, 1866 TO 1883.

Bushels per acre.			Bushels per acre.		
1866	...	27	1875	...	23
1867	...	25	1876	...	27
1868	...	34	1877	...	22
1869	...	27	1878	...	30
1870	...	32	1879	...	18
1871	...	27	1880	...	26
1872	...	23	1881	...	27
1873	...	25	1882	...	28
1874	...	31	1883	...	26

Average yield of wheat in United Kingdom.

915. The average produce in the 18 years was $26\frac{1}{2}$ bushels per acre, which is much above the yield in any of the Australasian colonies except New Zealand. The yield in 1883 (26 bushels to the acre) was, it will be observed, lower than in the two previous seasons, and slightly below the average.

Wheat yield in United Kingdom and colonies compared.

916. An estimate for the year 1882 of the produce of oats and barley in the United Kingdom was quoted by Major P. G. Craigie, F.S.S., in a paper read before the Statistical Society of London,* on the 16th January, 1883, with the following result:—

Yield of oats and barley in United Kingdom, 1882.

ESTIMATED PRODUCE OF OATS AND BARLEY IN THE UNITED KINGDOM, 1882.

	Total Number of Bushels.		Bushels per acre.
Oats	...	176,240,000	41·5
Barley	...	81,272,000	33·2

917. Assuming the year 1882 to be an average one so far as the yield of oats and barley is concerned, it will be found by comparing these figures with those in a previous table † that the acreable produce of these crops is much higher in the mother country than in any one of the Australasian colonies.

Yield of crops in United Kingdom and colonies.

* See Journal of the Statistical Society, Vol. XLVI., page 17: Stanford, 55 Charing Cross, London, S.W.

† See table following paragraph 909 ante.

Average
yield of
crops in
Foreign
countries.

918. The average produce per acre in most of the countries named in a previous table has been calculated in the office of the Government Statist, Melbourne, and is given in the following table :—

AVERAGE PRODUCE PER ACRE OF CERTAIN CROPS IN THE CAPE
COLONY AND FOREIGN COUNTRIES.

Country.	Year.	Bushels* per Acre of—				
		Wheat.	Oats.	Barley.	Rye.	Potatoes.
Cape of Good Hope ...	1875	9·0	8·1	15·4	...	41·2
Austria ...	1882	17·2	20·2	18·8	16·8	97·0
Belgium ...	1866	20·3	41·2	33·9	24·6	160·1
” ...	1882	25·4	42·4	37·3	25·2	115·0
Denmark ...	1876	27·8	28·1	25·7	24·0	108·0
France ...	1882	19·6	28·4	21·7	17·5	92·7
Germany ...	1881	16·9	14·9	22·7	13·7	146·8
Holland ...	1881	20·9	39·3	36·5	16·8	180·3
Hungary ...	1882	20·7	26·5	23·3	18·2	123·4
Italy ...	1876-81	11·9	18·6	15·0	...	164·0
Norway ...	1875	25·1	39·7	31·0	27·5	227·8
Russia in Europe ...	1872	5·5	16·5	8·0	8·2	117·0
United States ...	1882	13·2	25·6	20·9	13·0	76·3

Yield of
wheat in
Foreign
countries
and Vic-
toria.

919. It will be observed that the acreable yield of wheat in the year named was nearly 28 bushels in Denmark, 25 bushels in Norway and Belgium (1882), about 20 bushels in Holland, Hungary, and France, 17 bushels in Austria and Germany, and 13 bushels in the United States, all of which were above the average of Victoria; but the wheat yields of Italy, the Cape of Good Hope, and European Russia were below the average of this colony.†

Yield of oats,
barley, and
potatoes in
Foreign
countries
and Vic-
toria.

920. According to the figures, the average yield of oats is higher in Victoria† than in the Cape of Good Hope, Austria, Germany, Italy, or European Russia, but lower than in any other of the countries named; the yield of barley is about the same as in the United States, higher than in the Cape of Good Hope, Austria, Italy, or European Russia, but below that in the other countries. Assuming a bushel of potatoes to weigh 56 lbs., the yield in Victoria would appear to be above that in any of the countries named except Germany, Holland, Italy, and Norway.

Crops of the
world.

921. The following information respecting the crops of the world has been taken from *Mulhall's Dictionary of Statistics*.‡ The year to which the figures relate is not stated :—

* See footnote (§) to table following paragraph 913 *ante*.

† See table following paragraph 908 *ante*.

‡ See page 223 of that work: London, Routledge and Sons, 1884.

CROPS OF THE WORLD.

Nature of Crop.	000,000's omitted.			Produce per Acre.
	Land under Crop.	Produce Raised.		
		Quantity.	Value.	
	acres.	bushels.	£	bushels.
Wheat	154,	2,076,	540,	13
Oats	86,	1,794,	205,	21
Barley	47,	819,	133,	17
Rye	115,	1,408,	232,	12
Maize, &c.	103,	2,300,	236,	22
Total	505,	8,397,	1,346,	17

922. 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, as well as for the instruction of students in agriculture, a block of 4,806 acres, subsequently increased by 40 acres, was reserved in 1874 at Dookie, situated in Moira, a county in the North-eastern district of Victoria, on which to found a Government Experimental Farm ; but it was not until April, 1877, that the fencing-in of the land was commenced, after which, in May, 1878, a tender for grubbing, burning-off, and ploughing was accepted. The existence of the farm, however, really dates from November, 1878, when a manager was appointed, and live stock was placed on the land, and in the following April the first crop of wheat was sown on about 40 acres, which was harvested in due course in the December and January following—producing an average of 40 bushels per acre. Besides this, 20 acres were laid out with experimental crops, and a further area was placed under green stuff. By April, 1881, 430 acres had been grubbed and cleared, of which 250 acres had been broken up under the plough, and about 30 acres had been planted with vines, olives, oranges, citrons, limes, figs, and other fruit trees ; whilst the experimental grounds already alluded to had been divided into plots of one-tenth of an acre each, on which a series of experiments in rotation cropping, various systems of manuring, &c., had been commenced. The following account of the present state of the farm has been furnished for this work by Mr. D. Martin, Secretary for Agriculture :—

Government
Experi-
mental
Farm.

“The farm has had some difficulties to contend with, but these have been surmounted, and the farm is now self-supporting. During the financial year 1883-4 the receipts from the sale of produce were £1,779 15s. 10d., and the expenditure,

exclusive of manager's salary (£250), was £888 5s. 3d., thus leaving a credit balance of £891 10s. 7d. The live stock now on the farm consists of 24 horses, 32 short-horned cattle, 12 Hereford cattle, 131 store and milch cows, 2,788 sheep and lambs, and 20 pigs, the whole being valued at £3,013. Additional permanent improvements have been made during the year; additions have also been made to the stock of farming implements, furniture, &c. The additions made during the year are valued at £545 19s. 2d. Two hundred and ninety four acres were under cultivation during 1883, exclusive of the olive plantation, vineyard, &c. The principal crops in 1883-4 were wheat, barley, and oats. From 153 acres of wheat, 3,060 bushels, or 20 bushels per acre, were obtained. From 20 acres of barley, 560 bushels, or 28 bushels per acre. From 21 acres of oats, 388 bushels, or 18½ bushels per acre. In wheat the best returns were obtained from Port McDonnell seed. Seed wheat was sold at 5s. per bushel, and milling samples at 4s. 3½d.; barley at 4s. 4½d. From 14 lbs. of Champlain hybrid wheat sown last year the produce was 10 bushels and 46 lbs., or at the rate of 46 bushels per acre.

“During the past year 250 gallons of wine have been made, and a portion sold. An oil press has also been erected, and 27 gallons of olive oil manufactured. Experiments have been tried in the cultivation of various foreign grasses, with unsatisfactory results. Six varieties of sorghum were sown, but failed to mature. During the present year 28 varieties of wheat, the greater number of which are new to this colony, have been sown, also some new varieties of grasses, Durra (a species of sorghum, said to be drought-proof), arrowroot, millet, flax, sugar beet, and salt bush. The farm is a benefit to farmers in supplying them with good seed wheat at reasonable rates; and also bull calves, with which to improve the breed of their cattle.

“Originally, students were received at the farm, but these left after a trial of two years, and it was then decided to educate to farming pursuits boys to be selected from the inmates of the Industrial Schools, who, it was judged, would, in consequence of this training, be enabled to obtain situations in the country the more readily. The suggestion having been adopted, 16 boys were chosen, and are now regularly employed on the farm. The farm manager has reported very favorably on their conduct, and the change is exceedingly beneficial to the boys, both as regards their health and fitting them to become useful members of society.

“Fourteen of these boys have been engaged by farmers, and, without an exception, they are giving the greatest satisfaction to their employers. As the boys leave, their places are filled by others. So great is the demand from farmers for boys educated at the farm, that ten times the number now there would not satisfy it.”

Breadstuffs
available
for con-
sumption.

923. Only in the last seven years and three previous ones, viz., 1870, 1873, and 1874, has the colony raised enough breadstuffs for the consumption of its own inhabitants. In each of these ten years there was a surplus of Victorian-grown wheat remaining for export, which, however, in 1883 was about a third less than in the three previous years. The following table shows, for each of the years from 1840 to 1883, the mean population of Victoria, the quantity of breadstuffs available for consumption, distinguishing the Victorian-grown from the imported; also the probable manner of consumption, distinguishing the estimated quantity of wheat used for seed, or for the feeding of live stock, poultry, &c., from the wheat, flour, bread, and biscuit used for food, the total quantity of the latter being shown as well as the quantity per head:—

BREADSTUFFS AVAILABLE FOR CONSUMPTION, 1840-1883.

Year.	Mean Population.	Wheat, Flour, Bread, and Biscuit.*					
		Available for Consumption.			Probable Manner of Consumption.		
		Grown in Victoria.	Imported after deducting Exports.	Total.	For Seed, &c.	Total.	Per Head.
	bushels.	bushels.	bushels.	bushels.	bushels.	bushels.	
1840	8,056	12,600	57,771	70,371	3,880	66,491	8.25
1841	15,353	50,420	116,350	166,770	3,404	163,366	10.64
1842	22,107	47,840	119,004	166,844	4,864	161,980	7.33
1843	23,951	55,360	58,616	113,976	9,348	104,628	4.37
1844	25,418	104,040	98,581	202,621	13,839	188,782	7.43
1845	29,007	138,436	74,699	213,135	22,933	190,202	6.56
1846	34,807	234,734	43,928	278,662	31,604	247,058	7.10
1847	40,635	345,946	36,871	382,817	35,359	347,458	8.55
1848	47,163	349,730	64,726	414,456	38,775	375,681	7.97
1849	58,805	410,220	76,092	486,312	48,494	437,818	7.45
1850	71,191	525,190	55,564	580,754	57,020	523,734	7.36
1851	86,825	556,167	216,811	772,978	59,247	713,731	8.22
1852	132,905	733,321	1,208,006	1,941,327	33,646	1,907,681	14.35
1853	195,378	498,704	1,499,994	1,998,698	15,107	1,983,591	10.15
1854	267,371	154,202	1,385,465	1,539,667	25,654	1,514,013	5.66
1855	338,315	250,091	1,985,496	2,235,587	85,372	2,150,215	6.36
1856	380,942	1,148,011	2,236,406	3,384,417	160,310	3,224,107	8.46
1857	430,347	1,858,756	1,958,905	3,817,661	174,460	3,643,201	8.47
1858	483,827	1,808,439	1,504,760	3,313,199	156,468	3,156,731	6.52
1859	517,390	1,563,113	1,957,610	3,520,723	214,185	3,306,538	6.39
1860	534,055	2,296,157	1,565,423	3,861,580	322,503	3,539,077	6.62
1861	539,824	3,459,914	1,522,517	4,982,431	393,844	4,588,587	8.50
1862	548,080	3,607,727	183,106	3,790,833	324,018	3,466,815	6.33
1863	562,960	3,008,487	191,107	3,199,594	298,784	2,900,810	5.15
1864	586,450	1,338,762	1,868,990	3,207,752	250,080	2,957,672	5.04
1865	611,218	1,899,378	1,800,932	3,700,310	357,256	3,343,054	5.47
1866	629,038	3,514,227	1,754,699	5,268,926	417,176	4,851,750	7.71
1867	644,276	4,641,205	15,190	4,656,395	433,978	4,222,417	6.55
1868	663,092	3,411,663	162,038	3,573,701	519,608	3,054,093	4.61
1869	687,202	4,229,228	719,589	4,948,817	577,028	4,371,789	6.36
1870	713,195	5,697,056	-95,654	5,601,402	568,334	5,033,068	7.06
1871	737,005	2,870,409	1,179,583	4,049,992	669,218	3,380,774	4.59
1872	753,198	4,500,795	389,963	4,890,758	653,128	4,237,630	5.63
1873	765,511	5,391,104	-138,088	5,253,016	699,952	4,553,064	5.95
1874	777,656	4,752,289	-40,714	4,711,575	665,872	4,045,703	5.20
1875	787,337	4,850,165	200,369	5,050,534	642,802	4,407,732	5.60
1876	796,558	4,978,914	258,931	5,237,845	802,834	4,435,011	5.57
1877	808,605	5,279,730	-384,118	4,895,612	1,129,128	3,766,484	4.66
1878	821,466	7,018,257	-1,005,968	6,012,289	1,383,244	4,629,045	5.64
1879	834,030	6,060,737	-957,384	5,103,353	1,414,376	3,688,977	4.42
1880	850,343	9,398,858	-3,578,733	5,820,125	1,954,570	3,865,555	4.55
1881	868,942	9,727,369	-3,892,974	5,834,395	1,853,458	3,980,937	4.58
1882	890,470	8,714,377	-3,321,532	5,392,845	1,938,724	3,454,121	3.88
1883	917,310	8,751,454	-2,376,530	6,374,924	2,208,784	4,166,140	4.54

NOTE.—The minus sign (—) indicates that the exports exceeded the imports by the quantity represented by the figures to which it is prefixed.

* The quantities of flour, bread, and biscuit imported and exported are reduced to their equivalent in bushels, on the assumption that 1 bushel of wheat produces 45 lbs. of either of those articles.

Allowance
for seed,
waste, &c.

924. The figures in the last column but two (For Seed, &c.) are intended to represent the whole quantity of wheat used otherwise than for the food of human beings. This is estimated arbitrarily at 2 bushels per acre of land returned as being under wheat in the year following that to which the figures in any line relate. It is known that the proportion actually sown is generally much less than this; but as a certain quantity of wheat is used for feeding swine, poultry, &c., and some is wasted or becomes spoilt, the allowance made has been thought not too high. If $1\frac{1}{2}$ bushel per acre be considered a sufficient allowance for seed, the quantity in 1883 left for consumption, waste, &c., would be 4,718,336 bushels, equal to 5.14 bushels per head; or, if only 1 bushel per acre be allowed for seed, the residue would amount to 5,270,532 bushels, or $5\frac{3}{4}$ bushels per head.

Consumption
of bread-
stuffs per
head.

925. The estimated average quantity of breadstuffs available for food to each individual of the population is shown in the last column of the table. This will be found to vary in different years, ranging from over 14 bushels in 1852, and between 10 and 11 bushels in 1841 and 1853, to between 4 and 5 bushels in 1843, 1868, 1871, 1877, and in recent years; but in only one year, viz., 1882, was the average less than 4 bushels per head.

Average con-
sumption of
breadstuffs.

926. The quantity of breadstuffs available for annual food-consumption per head has averaged 5.73 bushels over the whole period of forty-four years, but during the last five years it has averaged only 4.39 bushels. In the present state of our population, it may be fair to assume that from $4\frac{1}{4}$ bushels to $4\frac{1}{2}$ bushels per head, irrespective of the quantity required for seed, is amply sufficient to supply the wants of any given year.

Breadstuffs
available
for con-
sumption in
United
Kingdom.

927. In the United Kingdom, animal food, in consequence of its high price, is used much more sparingly than it is in this country, especially by the working classes, and therefore, as a natural consequence, the consumption of breadstuffs in proportion to the numbers of the population is somewhat higher than it is here. The following table shows the estimated mean population of the United Kingdom during each of the eighteen harvest years (or periods extending from the 1st September to the 31st August) ended with 1883-4; also the total number of bushels and number of bushels per head of grown and imported wheat available for consumption, after deducting seed, in each of the same years:—

BREADSTUFFS AVAILABLE FOR CONSUMPTION IN THE UNITED
KINGDOM, 1867 TO 1884.

Year ended 31st August.	Mean Population.	Bushels of Wheat* available for Food.	
		Total Number (000's omitted).	Number per Head.
1867	30,248,936	152,320,	5.03
1868	30,523,478	155,200,	5.08
1869	30,814,914	189,360,	6.14
1870	31,108,133	176,560,	5.68
1871	31,410,776	176,400,	5.61
1872	31,728,316	170,320,	5.37
1873	32,028,317	174,640,	5.45
1874	32,325,778	174,240,	5.39
1875	32,641,568	202,720,	6.21
1876	32,978,682	184,512,	5.59
1877	33,329,099	174,568,	5.24
1878	33,681,904	191,480,	5.68
1879	34,036,546	209,936,	6.17
1880	34,364,077	179,120,	5.21
1881	34,775,970	201,992,	5.81
1882	35,410,040	210,592,	5.95
1883	35,517,510	241,568,	6.80
1884 †	35,848,850	200,000,	5.59

928. As a result of calculations derived from the figures in the table, it appears that in the eighteen years named the average quantity of wheat available for consumption in the United Kingdom was 5.67 bushels per head, or upwards of a bushel per head more than is apparently found sufficient for the requirements of the Victorian population. Average consumption of wheat in United Kingdom.

929. From somewhat similar calculations taken from the official returns of the United States, the estimated consumption of wheat per head of the population of that country ranged, during the fourteen years ended with 1880, from 4.08 Winchester bushels ‡ in 1867 to 6.09 in 1878, the mean during the period being 5.30 Winchester bushels, or about 5.13 Imperial bushels. This result, it will be observed, is somewhat higher than that shown by the Victorian returns for recent years. It should be pointed out, however, that, in the United States returns, no deduction has been made for the wheat required for seed, so that the quantity available for food consumption is considerably less than that shown by the figures. Consumption of breadstuffs per head in United States.

930. The Victorian imports and exports of breadstuffs during the forty-seven years, 1837 to 1883, are set down in the following table. It Imports and exports of breadstuffs, 1837 to 1883.

* The total number of bushels of wheat available for consumption has been taken from an article entitled, "The Harvest of 1883," in the Supplement to the *Statist*, London Journal, of the 26th January, 1884. The calculations have been made in the office of the Government Statist, Melbourne.

† Estimated in advance.

‡ The Winchester bushel is smaller than the Imperial bushel by one thirty-second ($\frac{1}{32}$) part.

will be observed that, after deducting the value of the quantities sent away, there remains a balance amounting to about $7\frac{3}{4}$ millions sterling paid by the colony for breadstuffs imported :—

IMPORTS AND EXPORTS OF BREADSTUFFS,* 1837 TO 1883.

Wheat, Flour, Bread, and Biscuit.	Quantity.	Value.
	bushels.	£
Imported, 1837 to 1883	32,642,678	13,838,782
Exported, „ „	21,781,149	6,044,395
Imports in excess of exports ...	10,861,529	7,794,387

Net imports
of agricul-
tural pro-
ducts.

931. The following are the values of the net imports—*i.e.*, the values of imports after the values of the exports have been deducted—of certain articles of farm and garden produce during each of the six years ended with 1883. All the articles named are capable of being produced, and all, or nearly all, are to a certain extent now produced in the colony :—

NET IMPORTS† OF CERTAIN ARTICLES OF AGRICULTURAL PRODUCE, 1878 TO 1883.

Articles.	Balance of Imports over Exports in—					
	1878.	1879.	1880.	1881.	1882.	1883.
	£	£	£	£	£	£
Oats	80,140	92,176	12,938	74,924	29,621	51,739
Barley	48,328	87,982	21,000	...	3,033	27,356
Pearl barley	1,584	2,907	248	...	...	...
Malt	37,162	54,716	18,661	...	...	...
Maize	164,578	154,717	105,849	105,739	32,379	59,620
Maizena	2,359	3,668	4,171	7,654	5,098	4,899
Beans, pease, and split pease	2,057	2,191	...	...	...	...
Fruit—green, bottled, dried, currants and raisins	88,171	107,319	111,603	154,637	166,059	144,350
Jams, jellies, and pre- serves	...	...	...	...	2,787	...
Nuts, almonds, walnuts	4,565	5,497	3,208	7,349	6,722	6,725
Hops	41,461	20,596	24,637	28,442	31,639	43,639
Chicory	1,906	257	...	...	171	...
Pickles	1,843	6,457	295	5,508	7,371	2,554
Olive and salad oil ...	16,352	16,351	15,562	12,014	17,569	12,285
Tobacco, cigars, and snuff	45,372	24,921	...	31,270	96,206	66,222
Vegetables (preserved)	1,409	498	717	...	...	653
Canary seed	1,228	1,008	1,260	1,248	1,063	549
Grass and clover seed	12,616	13,704	5,226	2,990	9,560	4,769
Total	551,131	594,965	325,375	431,775	409,278	425,360

* The quantity and value of breadstuffs imported and exported during each year will be found in the Statistical Summary of Victoria (first folding sheet) *ante*.

† The total imports and total exports of these articles during 1883 will be found in the table of Imports and Exports in Part Interchange *ante*, chiefly under Order 22.

932. It will be observed that beans and pease are absent from the list for the last four years, pearl barley and malt for the last three years, and jams and chicory for the last year; the last two had been absent from the list for some years, but re-appeared in 1882. They were, however, again absent in 1883. Decreased imports of agricultural products.

933. In addition to the articles named in the above table, eggs, of which it might reasonably be supposed that Victoria would produce sufficient for her own consumption, were imported in 1883 to the value of £6,475, and exported to the value of only £1,604, the difference in favour of the former being £4,871. The value of the imports of eggs in 1882 exceeded that of the exports by £7,959, in 1881 by £6,926, in 1880 by £6,693, in 1879 by £9,479, and in 1878 by £11,597. Net import of eggs.

934. Of every thousand acres cultivated during the past season, 498 acres, or very nearly half, were placed under wheat; 85 under oats; 21 under barley; 18 under potatoes; 137 under hay; 130 under green forage; and 111 under other kinds of crops. Relatively to the whole area under tillage, the tendency of late years has been to crop a larger extent of land with wheat, and a smaller extent with the remaining crops. The following table shows the proportion that the land under different crops has borne to the total area under tillage during each of the last nine years:— Proportion of land under each crop.

PROPORTION OF LAND UNDER EACH CROP TO TOTAL UNDER CULTIVATION, 1876 TO 1884.

Land under—	Proportion to Total Land under Tillage.								
	1875-6.	1876-7.	1877-8.	1878-9.	1879-80.	1880-81.	1881-2.	1882-3.	1883-4.
	per cent.	per cent.	per cent.	per cent.	per cent.	per cent.	per cent.	per cent.	per cent.
Wheat ...	28·52	32·61	39·74	42·98	41·89	48·97	50·87	47·50	49·84
Oats ...	11·01	9·36	7·41	8·35	9·93	6·72	8·07	8·32	8·49
Barley ...	2·80	2·03	1·35	1·42	2·56	3·43	2·67	2·14	2·11
Potatoes ...	3·27	3·29	2·61	2·27	2·46	2·25	2·15	1·68	1·81
Hay ...	13·78	11·97	12·46	10·74	11·93	12·51	11·65	15·16	13·67
Green forage ...	27·37	29·45	27·48	24·94	18·11	13·21	13·28	14·23	12·95
Other tillage ...	13·25	11·29	8·95	9·30	13·12	12·91	11·31	10·97	11·13
Total ...	100·00	100·00	100·00	100·00	100·00	100·00	100·00	100·00	100·00

935. In addition to the principal crops of which mention has been made, various descriptions of minor crops are also raised. It is not, however, presumed that the whole of such crops, or the full measure to which they are grown, is recorded by the collectors. It is certain that they are often raised in gardens, in which case the different kinds would not be distinguished in the returns. It is also probable that Minor crops.

they may be sometimes grown upon allotments of one acre in extent or even less, which are not taken account of. The following list must, therefore, be looked upon as indicating the nature of certain minor crops grown in Victoria rather than the extent to which those crops have been cultivated during the last six years :—

MINOR CROPS,* 1879 TO 1884.

Nature of Crop.		1878-9.	1879-80.	1880-81.	1881-2.	1882-3.	1883-4.
Arrowroot ...	{ acres ...	4	3	9	5	7	17
	{ tons (root)	3	17	37	8	32	53
	{ cwt., manfd.	7	10	8	...	30	...
Artichokes ...	{ acres ...	...	...	3	...	2	2
	{ tons ...	...	...	45	...	16	20
Beet, carrots, parsnips, and cabbage	{ acres ...	402	374	348	286	433	424
	{ tons ...	1,272	2,504	2,403	2,737	3,281	3,874
Broom millet...	{ acres ...	6	1	2	5	9	2
	{ fibre, cwt.	...	...	...	...	10	...
	{ seed, bush.	...	...	...	100	220	40
Buckwheat ...	{ acres ...	...	1	...	...	3	2
	{ bushels ...	...	12	...	...	65	62
Canary seed ...	{ acres ...	4	1	57	127	41	...
	{ bushels ...	150	2	341	1,241	192	...
Cauliflowers ...	{ acres ...	...	...	...	...	...	7
	{ dozens ...	...	...	...	...	...	2,500
Chicory ...	{ acres ...	155	392	230	207	283	283
	{ tons ...	653	1,764	960	781	1,209	1,626
Coriander seed	{ acres ...	...	...	...	2	3	...
	{ lbs. ...	...	...	...	1,008	810	...
Currants ...	{ acres ...	...	...	1	...	...	...
	{ bushels ...	...	...	8	...	...	...
Fenugreek † ...	{ acres ...	...	...	...	...	1	...
	{ lbs. ...	...	...	...	...	300	...
Flax ...	{ acres ...	4	5	13	21	7	21
	{ fibre, cwt.	...	12	31	21	31	38
	{ linseed, bsh.	...	30	67	91	43	152
Garden seeds...	{ acres ...	4	117	29	21	14	24
	{ cwt. ...	6	485	812	119	43	62
Gooseberries ...	{ acres ...	...	...	...	...	1	...
	{ cwt. ...	...	...	...	...	16	...
Grass and clover seeds ...	{ acres ...	2,824	2,237	2,817	2,061	2,290	2,686
	{ bushels ...	34,432	32,031	26,320	32,085	28,740	41,964
Green pease ...	{ acres ...	37	...	...	21	10	...
	{ tons ...	50	...	...	26	25	...
Hops ...	{ acres ...	203	267	428	564	1,034	1,758
	{ lbs. ...	130,816	284,480	307,328	453,040	1,035,216	1,760,304
Kohl-rabi ...	{ acres ...	...	...	...	...	1	...
	{ cwt. ...	...	...	...	...	260	...
Lucerne for seed ...	{ acres ...	3	7	...	...	...	...
	{ bushels ...	16	50	...	...	...	...
Maize ...	{ acres ...	1,939	2,447	1,769	1,783	2,702	2,570
	{ bushels ...	40,754	61,887	49,299	81,007	131,620	117,294
Mangel-wurzel	{ acres ...	888	1,027	1,284	1,044	1,087	1,056
	{ tons ...	8,275	14,897	12,640	14,989	16,656	18,906
Medicinal herbs	acres ...	...	...	2	...	...	1

* Exclusive of those grown in gardens.

† *Foenum græcum*, the *Trigonella* of Linnæus.

MINOR CROPS,* 1879 TO 1884—continued.

Nature of Crop.		1878-9.	1879-80.	1880-81.	1881-2.	1882-3.	1883-4.
Mulberry trees	acres ...	18	4	14	4	3	1
	number ...	12,460	...	...	...	...	1,000
Mustard ...	acres ...	39	92	233	97	81	71
	cwt. ...	121	447	771	444	379	368
Olives ...	acres ...	20	10	17	† 10	2	15
	fruit, cwt. ...	9	...	17	...	35	...
Onions ...	oil, gallons ...	...	...	15	...	...	...
	acres ...	1,069	1,040	1,056	1,134	1,341	1,235
	tons ...	3,600	7,347	4,979	10,190	8,280	6,977
Opium poppies	acres ...	3	5	15	4	9	6
	lbs of opium ...	...	80	171	80	225	120
Oranges ...	heads ...	60,000	...	...	...	...	...
	acres ...	6	2	20	5	...	4
	cases ...	...	30	6	...	...	...
Osiers ...	acres ...	...	...	31	4	4	...
	tons ...	...	...	1	9	2	...
Pease and beans	acres ...	15,153	21,462	23,378	25,937	26,832	30,443
	bushels ...	248,436	574,954	403,321	621,768	689,507	791,093
Prickly comfrey ...	acres ...	...	...	1	8	...	...
	tons ...	...	...	100	160	...	...
Pumpkins, melons, cucumbers, &c.	acres ...	205	99	64	81	35	44
	tons ...	1,190	484	416	842	370	355
Rape for seed	acres ...	2	41	14	...	30	14
	bushels ...	25	...	128	...	468	261
Raspberries ...	acres ...	45	94	132	155	203	235
	cwt. ...	476	1,299	1,591	3,067	4,822	4,595
Rhubarb ...	acres ...	3	...	18	1	9	8
	tons ...	10	...	81	1	40	43
Rye ...	acres ...	1,779	1,236	1,569	972	1,137	1,260
	bushels ...	20,816	18,407	13,978	12,653	23,244	16,727
Sheep's parsley	acres ...	3	...	...	...	...	...
	lbs. ...	1,000	...	...	...	...	...
Strawberries	acres ...	24	19	107	26	16	61
	cwt. ...	323	209	1,421	165	154	766
Sunflowers for seed	acres ...	...	2	7	6	6	1
	bushels ...	...	40	142	77	62	40
Teazles ...	acres ...	...	1	2	...	...	2
	number ...	...	8,000	27,000	...	...	...
Tobacco ...	acres ...	1,936	531	1,990	1,461	1,313	1,325
	cwt. ...	15,662	‡ 1,297	17,333	12,876	5,673	9,124
Tomatoes ...	acres ...	3	...	5	10	15	17
	cwt. ...	220	...	454	1,549	2,265	1,600
Turnips ...	acres ...	310	192	460	151	125	148
	tons ...	1,349	2,054	1,932	1,713	901	1,402
Vetches and tares for seed	acres ...	...	3	23	5	5	10
	bushels ...	...	62	201	71	83	194
Vines §	acres ...	4,434	4,284	4,980	4,923	5,732	7,326
	wine, galls. ...	410,333	574,143	484,028	539,191	516,763	723,560
	brandy, „ ...	1,561	3,284	3,038	1,453	3,377	2,646
Wattle trees ...	acres ...	...	...	30	...	...	...

* Exclusive of those grown in gardens.

† Reported to have failed.

‡ The tobacco crop of 1879-80 failed in most of the districts.

§ The quantity of wine and brandy is for the season prior to that for which the area under vines is returned.

Certain crops
of which
cultivation
increased.

936. The table shows the cultivation of the following crops, also their produce, to have considerably increased of late years:—Beet, carrots, parsnips, and cabbage, chicory, maize, mangel-wurzel, and pease and beans.

Hops.

937. Hops but little inferior to Kentish are grown in Victoria, and the comparative failure for several successive seasons of this crop in the United Kingdom has given a considerable stimulus to that industry. The extent of land under hops increased from 203 acres in 1878-9 to 1,758 acres in 1883-4; and the quantity produced rose from 130,816 lbs. in the former to 1,760,304 lbs. in the latter year.

Raspberries.

938. Raspberries as a field crop are extensively grown in the more elevated parts of the colony, especially about the ranges in which the River Yarra and its tributaries have their source. The quantity returned as raised in 1883-4 was 4,600 cwt. Since the establishment of jam factories, the fruit is in great demand, and much more would be purchased were it forthcoming.

Vines.

939. In 1883-4 the area under vines exceeded that in 1882-3 by nearly 1,600 acres, and was much larger than in any previous year. The quantity of wine returned exceeded that in 1882-3 by over 200,000 gallons, and was also much above that returned in any year since 1875-6, that being the only year in which a greater quantity (*viz.*, 755,000 gallons) was produced in than in the year under review. The falling-off since 1875-6 in the number of gallons of wine produced has been due to the presence of the phylloxera, which appeared about the year 1875. It is right, however, to point out that this part of the statistics is not quite so reliable as the other portions, since, as grapes come to maturity later than the other crops of which returns are made, only the acreage under vines can be returned for the year to which the remainder of the statistics relate, and the grape crop is necessarily that of the previous season. This partial dealing with the returns of two years may sometimes cause confusion in the minds of the vine-growers, who may also not always remember the exact particulars of their previous year's crop.

Phylloxera
vastatrix.

940. An account of the visitation of the phylloxera, and of the measures taken for its suppression, has been kindly contributed by Mr. D. Martin, the Secretary for Agriculture:—

“The vine disease caused by the insect known as *Phylloxera Vastatrix* made its appearance known in the Geelong district by a decadence of vigour in the vines, in small patches in different parts of the vineyard, *i.e.*, by a want of strength, and presenting a sickly appearance. The leaves afterwards became yellow round the edges, the plants sickened still further, and after a few years died completely. It was in or about the year 1875 that the disease commenced to demonstrate itself. As the vines died out, they were frequently replaced by others on the same spot

by the vignerons, and these vines and cuttings likewise died. The origin of the disease is believed to have arisen by the importation of vines. When vines are diseased, the roots become covered with patches of a yellow orange colour, when viewed with the naked eye, and the rootlets have at their terminal points and at other parts nodules or swellings; in the fissures, also, of the bark on the roots may be seen there little bodies. When viewed with the microscope, these spots are seen to be little clusters of insects, having six legs and two antennæ.

“The disease has been confined to the Geelong district, extending from Gheringhap to Germantown, a distance of about fourteen miles. In order, if possible, to prevent the spread of the disease, an Act* was passed providing for the appointment of inspectors of vineyards, with power to enter any lands whereon vines were grown, for the purpose of ascertaining whether the vines were infected, in which case the fact was to be reported to the Chief Secretary, who might authorize steps to be taken to eradicate the disease, either by destroying the vines or otherwise, no compensation being granted to the proprietor for any loss he might sustain in consequence of such measures. In 1878, thirteen vineyards, containing an area of 75 acres, were found to be diseased; some were partially destroyed and others were wholly rooted out. Six vineyards, containing an area of 35 acres, were destroyed in 1879. In November, 1880, a Select Committee of the Legislative Assembly was appointed to inquire into the condition of the disease, and the best means of eradicating or otherwise mitigating it. The committee reported there was no evidence to show that the insect settled on any vegetation other than vines; that so far as experiments have been carried on no remedy or cure for the disease was known; the time most to be dreaded for the spread of the scourge was about the end of December; and that there was no other cure than entire eradication. It was recommended that a cordon, having a radius of 20 miles, should be drawn round Geelong, and that no part of the vines within that cordon, whether cuttings, leaves, fruit, or roots should be removed outside of it; that all vines within that cordon should be inspected, and all reported as diseased, or situated within a three-mile radius of any reported as diseased, should be destroyed by the complete rooting up of such vines, and burning the roots, the owners being awarded a moderate compensation, based, not upon the value of the vines, but of the grape crop which might have been expected during the next three years.

“Consequently upon this report, another Act† was passed, repealing all former ones relating to vines or vineyards, and providing for the proclamation of infected localities as “Vine Disease Districts,” to which inspectors should be appointed, on the receipt of whose reports the Minister might order any diseased vines to be uprooted, as well as all other vines within a radius of three miles thereof whether diseased or not, compensation being given to owners of diseased vines up to the value of one year’s crop, and to owners of vines not diseased up to the value of three years’ crops. Persons were, moreover, prohibited, under a penalty not exceeding £100 or imprisonment for any term not exceeding six months, from removing from a “Vine Disease District” any vine or part of a vine. The Governor in Council was also granted power to restrict the importation of vines, vine cuttings, or grapes, and to make regulations for the purpose of carrying the Act into effect. The question, moreover, formed one of the subjects of discussion at the Intercolonial Conference, held in Melbourne, in December, 1880, when it was agreed by the colonies of New South Wales, South Australia, and Victoria, to contribute jointly to the expense of eradicating the disease.

“With a view of further preventing the spread of the disease, the “*Phylloxera Vine Disease Act 1880*” was amended towards the close of 1881 by the “*Geelong District Vine Disease Act 1881*,” 45 Vict. No. 718 (24th December, 1881), which gave power to the Minister to order the destruction of all vines growing within the boundaries of the Geelong Vine Disease District, as described in the *Government Gazette* of 12th January, 1881. On this Statute coming into operation, immediate steps were taken to arrange as to the amount to be paid as compensation; and, acting on the powers given, all vines found within the district have been destroyed, except those in the parishes of Birregurra and Warrion, which are situated at from 24 to 45 miles from where any diseased vines were growing, and are, consequently, not likely to be reached by the insect.

“Special attention has been given to destroy all shoots from broken roots remaining in the ground of vines which have been destroyed under the several Acts, and from roots of vines destroyed by the occupiers of land to whom

* “*Diseases in Vines Act 1877*,” 41 Vict. No. 595 (18th January, 1878).

† “*Phylloxera Vine Disease Act 1880*,” 44 Vict. No. 684 (28th December, 1880).

compensation was not paid. The roots left in the ground have been, and are, the means of keeping the phylloxera alive. The insects travel along the roots, and from root to root; when the attacked root becomes putrid, they move to another, leaving behind them a trail of decaying roots. After destroying the upper roots, they will penetrate to a considerable depth after succulent roots, and have been found at a depth of three and a half feet from the surface.

“The area of infected ground is yearly becoming less, but it is not yet possible to say how soon phylloxera will be extinct.

“Compensation, in amounts varying from £1,042 10s. to 1s., has been awarded to the owners of about 2,000 separate properties; about half the number of awards is for cottage vines in the town of Geelong and suburbs. The total amount paid for eradication, compensation, and departmental expenses, up to the end of June, 1883, is £34,830.”

Gardens and
orchards.

941. No return is made of the nature of the crops grown or the quantity of produce raised in gardens and orchards. The following table shows the extent of land returned under this description of culture in the last two years:—

LAND UNDER GARDENS AND ORCHARDS, 1883 AND 1884.

Year ended March.				Gardens.	Orchards.	Total.
				acres.	acres.	acres.
1883	...	...	...	9,677	10,048	19,725
1884	...	...	...	9,389	11,365	20,754
	Increase	...	...	...	1,317	1,029
	Decrease	...	...	288	...	...

Land in
fallow.

942. Land in fallow is included in the area under tillage. The number of acres in this condition in 1884 was 174,607, or 15,305 more than in the previous year.

Irrigation.

943. According to the returns of the past season, irrigation was being practised on a more or less extensive scale in 15 shires, viz.:—Bacchus Marsh, Bairnsdale, Beechworth, Bright, Creswick, Echuca, Eltham, Lowan, Marong, Narracan, Newham, Oxley, Strathfieldsaye, Swan Hill, and Yackandandah. The whole number of farms in these shires was 7,145, upon 163 of which irrigation was carried on. Certain crops in these shires covered 205,199 acres, of which 6,935 acres, or about 3½ per cent., were subjected to irrigation. The following table shows the extent of land under these crops, and their gross and average produce; the tillage and produce on unirrigated and on irrigated land being distinguished:—

IRRIGATION IN CERTAIN SHIRES.

Crops.	In Shires practising Irrigation.					
	Extent under Crop on Land—		Gross Produce on Land—		Produce per Acre on Land—	
	Unirrigated.	Irrigated.	Unirrigated.	Irrigated.	Unirrigate	Irrigated.
GRAIN CROPS.	acres.	acres.	bushels.	bushels.	bushels.	bushels.
Wheat	157,721	4,968	2,068,286	81,004	13·11	16·31
Oats	5,492	94	134,198	3,130	24·44	33·30
Barley	934	49	13,734	1,536	14·70	31·35
ROOT CROPS.	acres.	acres.	tons.	tons.	tons.	tons.
Potatoes	1,157	30	3,324	174	2·87	5·80
Beet & Mangolds	19	14	329	270	17·32	19·29
Chicory ... ..	..	18	...	144	5·59*	8·00
HAY, GRASS, &C.	acres.	acres.	tons.	tons.	tons.	tons.
Hay	29,246	781	32,906	1,303	1·13	1·67
Green Forage ...	34	16	...	...	...	...
Artificial Grasses	425	415	...	...	...	...
OTHER TILLAGE.	acres.	acres.	cwt.	cwt.	cwt.	cwt.
Hops	770	398	6,763	4,176	8·78	10·49
Tobacco	283	7	888	28	3·14	4·00
Vines	1,220	103	...	...	...	...
Gardens and Orchards	963	42	...	...	...	...

944. The past season having been one in which there was a sufficient rainfall, the beneficial effects of irrigation were not so marked as they would have been if the season had been one of drought. Still, a comparison between the figures in the last two columns will show that, in the case of every one of the crops named, a considerable advantage was on the side of those grown on irrigated land. Yield on land irrigated and unirrigated.

945. Towards the close of 1883, a measure† was passed with the view of promoting national irrigation on a large scale. To accomplish this object, it was provided that certain areas might, at the request of the residents, be proclaimed "Irrigation Areas," to which trusts might be appointed to carry out the irrigation scheme proposed for the district. The commissioners of these trusts are to have power, under certain restrictions, to borrow money for the purpose of constructing the works included in the scheme, for the repayment of which a sinking fund is to be provided; also to levy rates upon all lands capable of irrigation within the area under their jurisdiction, in order to provide the annual interest on the loan and the necessary payment to the sinking fund; also to defray the current expenses attendant upon the operations of the trust. Statute for promoting irrigation.

* There being no chicory grown on unirrigated land in the shires in which irrigation was practised, these figures relate to other parts of the colony.

† *Victorian Water Conservation Act 1883 (47 Vict. No. 778).*

Up to the time of going to press, no trusts had been actually formed under this Statute. Two trusts, however, were in process of formation—one embracing portions of the shires of East Loddon and Swan Hill, and one in the shire of Echuca. Other applications had been received by the Minister of Water Supply, and were under consideration.

Leases and rental of farms.

946. The average duration of leases of farms from private persons was returned in 1883-4 as averaging from 2 to 7 years; the extreme figures being 1 year and 21 years. The average rental of agricultural land per acre was stated to be from 5s. 9d. to 16s.; the extreme figures being 2s. and 40s. The average rental of pastoral land was said to be from 2s. 3d. to 7s.; the extreme figures being 1s. and 21s.

Prices of agricultural produce.

947. Each collector is required to furnish a statement of the price of the principal articles of agricultural produce in his district at the time he makes his rounds. The prices, being those prevailing in the place where the crops are grown, are generally much lower than those obtaining in Melbourne, which are quoted in Part Interchange of this work. The following is an average deduced from the returns of all the districts during each of the last fifteen years:—

PRICES OF AGRICULTURAL PRODUCE, 1870 TO 1884.

During February and March.			Wheat.		Oats.		Barley.		Potatoes.		Hay.
			per bushel.		per bushel.		per bushel.		per ton.		per ton.
			s.	d.	s.	d.	s.	d.	s.	d.	s.
1870	...	...	4	3	3	7	4	0	75	0	77
1871	...	...	5	4	3	9	4	11	70	0	76
1872	...	...	4	8	2	11½	3	6¼	65	6	64
1873	...	...	4	9	3	5	4	1	67	4	81
1874	...	...	5	9	5	6	5	3	118	3	88
1875	...	...	4	5	4	3	4	6	89	0	89
1876	...	...	4	7	3	3	3	10	87	0	82
1877	...	...	5	10	3	7	3	10	114	0	93
1878	...	...	5	1	4	6	4	4	115	0	87
1879	...	...	4	2	3	6	4	1	92	4	75
1880	...	...	4	0½	2	3½	4	8	69	11	63
1881	...	...	4	1¾	2	3	4	11¼	46	3	60
1882	...	...	5	0	3	3	3	6	70	0	76
1883	...	...	4	9	3	1	4	1	75	4	81
1884	...	...	3	8	2	8	3	6	74	8	67

Prices of turnips and mangolds.

948. Besides the above, the average price per ton in 1883 of turnips was quoted as £1 15s. 5d., and of mangel wurzel as £1 9s. 5d.

Prices of agricultural produce, 1883-4 and previous years.

949. The prices of all articles of agricultural produce were remarkably low in 1884. Wheat was lower than in any previous year named; that of oats was lower than in any, except 1880 and 1881; barley was equalled in two years, viz., 1872 and 1882, but exceeded in no previous year; and hay was lower than in any year except 1872, 1880, and 1881.

950. It will be observed that the price of wheat and hay was highest in 1877, and that of oats, barley, and potatoes in 1874; also that the price of wheat was lowest in 1884, that of barley in 1882 and 1884, and that of oats, potatoes, and hay in 1881.

951. The following statement of the average *Gazette* price of wheat per imperial quarter* during the seven years ended with 1882 has been taken from an official source,† and that of the average price in 1883 has been taken from the *London Statist*:—

AVERAGE "GAZETTE" PRICE PER QUARTER OF WHEAT IN LONDON.

Month.	1876.		1877.		1878.		1879.		1880.		1881.		1882.		1883.	
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
January ...	44	9	51	7	51	11	39	3	45	11	42	5	45	7	40	4
February ...	43	1	51	7	51	4	38	0	43	5	41	9	46	0	41	9
March ...	43	0	51	1	49	7	39	7	45	7	42	7	44	7	42	4
April ...	44	11	53	4	51	3	41	0	48	1	44	6	45	11	42	0
May ...	45	1	65	10	51	11	41	0	45	2	44	5	47	3	43	7
June ...	47	5	64	6	48	0	41	9	45	1	44	6	47	5	42	5
July ...	48	3	62	9	44	11	44	6	43	9	46	5	48	5	42	1
August ...	46	0	64	11	44	9	49	1	43	11	48	6	50	0	43	8
September ...	46	8	59	1	43	8	47	6	41	2	52	3	43	11	41	9
October ...	46	6	53	7	39	7	48	10	41	9	47	1	39	7	40	6
November ...	47	11	52	3	40	4	48	9	43	9	45	11	40	10	40	5
December ...	49	9	51	6	40	3	46	7	44	1	44	7	41	2	39	0
The Year...	46	2	56	9	46	5	43	11	44	4	45	4	45	1	41	8

952. The value of agricultural produce in the year ended 1st March, 1884, may be estimated at over 7½ millions sterling. The following table shows the means whereby such an estimate is arrived at:—

VALUE OF AGRICULTURAL PRODUCE, † 1883-4.

Name of Crop.	Gross Produce and Price.			Estimated Value.		
		£	s. d.	£	s.	d.
Wheat ...	15,570,245 bushels @	0	3 8	2,854,544	18	4
Oats ...	4,717,624 „ @	0	2 8	629,016	10	8
Barley ...	1,069,803 „ @	0	3 6	187,215	10	6
Other cereals ...	925,114 „ @	0	3 6	161,894	19	0
Potatoes ...	161,088 tons @	3	14 8	601,395	4	0
Other root crops ...	31,159 „ @	5	0 0	155,795	0	0
Hay ...	433,143 „ @	3	7 0	1,451,029	1	0
Green forage ...	286,866 acres @	2	10 0	717,165	0	0
Tobacco ...	1,325 „ @	2	16 0	3,710	0	0
Grapes, not made into wine ...	22,402 cwt. @	1	0 0	22,402	0	0
Wine ...	723,560 gallons @	0	4 0	144,712	0	0
Brandy ...	2,646 „ @	0	10 0	1,323	0	0
Other crops ...	5,372 acres @	5	0 0	26,860	0	0
Garden and orchard produce	20,754 „ @	20	0 0	415,080	0	0
	Total ...			7,372,143	3	6

* The imperial quarter is equal to 8 bushels.

† Giffen's Statistical Abstract for the United Kingdom, 1868 to 1882.

‡ For a summary of the value of agricultural produce during a series of years, see table following paragraph 1020 post.

Specific weight of crops.

953. The standard weight of crops in Victoria is reckoned to be 60 lbs. to the bushel for wheat, 40 lbs. for oats, 50 lbs. for barley, and 56 lbs. for maize. The actual weight, however, differs in different districts. Thus wheat, during 1883-4, ranged from 55 lbs. to 65 lbs.; oats, from 35 lbs. to 46 lbs.; barley, from 46 lbs. to 56 lbs.; and maize, 50 lbs. to 60 lbs. In the same year, taking the districts as a whole, the average weight per bushel of wheat was 61 lbs.; of oats, 41 lbs.; of barley, 51 lbs.; and of maize, 56 lbs.

Rates of agricultural labour.

954. The following figures will show that the average rates paid to ploughman and farm labourers were higher in 1883-4 than in 1882-3; whilst mowers, reapers, and threshers, probably in consequence of the competition resulting from the increased employment of machinery, generally received less. Rations are allowed in all cases in addition to the wages quoted:—

RATES OF AGRICULTURAL LABOUR,* 1883 AND 1884.

Description of Labour.	1882-3.		1883-4.	
	s.	d.	s.	d.
Ploughmen, per week	20	2	22	3
Farm labourers, „	18	3	20	1
Married couples, „	25	6	25	5
Females, „	10	6	10	6
Mowers, „	37	4	34	0
„ per acre	5	8	5	5
Reapers, per week	34	0	34	9
„ per acre	12	8	10	7
Threshers, per bushel	0	7	0	6

Plant and improvements on farms.

955. The number and power of steam engines used on farms, and the value of farming plant and improvements, were returned as follow for the year under review and the previous one:—

STEAM ENGINES, IMPLEMENTS, AND IMPROVEMENTS ON FARMS, 1883 AND 1884.

	1882-3.	1883-4.
Steam engines, number	417	466
„ horse-power	3,217	3,571
Value of farming implements and machines... £2,304,735	£2,304,735	£2,572,895
„ improvements on farms	£13,849,370	£15,318,489

Machine labour.

956. The following figures, which have been obtained by means of averages struck from the returns of the collectors in all the districts, show the rates paid for machine labour in the last two years:—

MACHINE LABOUR, 1883 AND 1884.

Average Rates Paid for—	1882-3.			1883-4.		
	£	s.	d.	£	s.	d.
Machine reaping, per acre †	0	5	6	0	4	1
„ mowing, „	0	4	11	0	4	7
„ threshing, per 100 bushels ‡	1	2	10	1	3	7

* See also table of Wages at the end of Part Interchange *ante*.

† Without binding; the average price, with binding, was 8s. 9d. in 1883-4.

‡ Including winnowing; without winnowing, the average price in 1883-4 was 17s. 4d.

957. Information as to the numbers of live stock kept was obtained at the census of 1881, and since that time the figures have been brought on by estimates furnished by the municipal authorities. The following are the census numbers, and the numbers in March, 1884, as derived from the municipal estimates alluded to :—

LIVE STOCK, 1881 AND 1884.

Period.	Horses.	Cattle.			Sheep.	Pigs.
		Milch Cows.	Exclusive of Milch Cows.	Total.		
3rd April, 1881 (enumerated)	275,516	329,198	957,069	1,286,267	10,360,285	241,936
March, 1884 (estimated)	286,779	332,565	964,981	1,297,546	10,739,021	233,525
Increase ...	11,263	3,367	7,912	11,279	378,736	...
Decrease ...	...	...	...	...	...	8,411

Live stock, 1881 and 1884.

958. The estimates for 1884, as compared with the numbers returned at the census, show an increase of all descriptions of live stock except pigs. Too much reliance, however, must not be placed on any statement of the numbers of live stock, except such as is derived from the returns of a general census.

Increase or contrary, 1883.

959. Speaking roughly, there are now in Victoria, 3 horses, 15 head of cattle, 118 sheep, and 3 pigs, or, taking the different kinds together, 139 head of stock of these descriptions, large and small, to the square mile.

Stock per square mile.

960. Besides the live stock returned at the census, as shown in the table, 68,426 goats, 135 asses, and 78 mules were then enumerated. No attempt has been made to bring these numbers on to any later period.

Goats, asses, and mules.

961. Information respecting the numbers of poultry kept is not obtained except at the taking of a census. The following is a statement of numbers of the different kinds, according to the returns of the censuses of 1871 and 1881:—

Poultry.

POULTRY, 1871 AND 1881.

Year of Census.	Number of Owners of Poultry.	Geese.	Ducks.	Fowls.	Turkeys.	Pea Fowls.	Guinea Fowls.	Pheasants.	Ostriches.
1871 ..	81,347	83,025	137,355	1,636,782	69,756	970	3,542	199	16
1881 ..	97,152	92,654	181,698	2,328,521	153,078	1,701	2,307	40	..
Increase	15,805	9,629	44,343	691,739	83,322	731	..	..	..
Decrease	..	..	..	..	..	..	1,235	159	16

Increase or decrease of poultry.

962. It is seen that in ten years an increase of nearly 16,000 took place in the number of keepers of poultry, also a fair increase in all the different kinds of poultry except guinea fowls. Pheasants and ostriches, although not strictly speaking poultry, were returned in 1871, but no ostriches at the latter period; moreover, pheasants fell off in number from 199 in 1871 to 40 in 1881.

Live stock in British and Foreign countries.

963. The following table contains a statement of the number of horses, cattle, sheep, and pigs in the United Kingdom and some of the principal Foreign countries. The information has been derived entirely from official documents :—

LIVE STOCK* IN THE UNITED KINGDOM AND FOREIGN COUNTRIES
(000'S OMITTED).

Country.	Year.	Number of—			
		Horses.	Cattle.	Sheep.	Pigs.
United Kingdom ...	1883	1,899,	10,098,	28,348,	3,986,
Austria ...	1880	1,463,	8,584,	3,841,	2,721,
Belgium ...	1880	272,	1,383,	365,	646,
Denmark ...	1881	348,	1,470,	1,549,	527,
France ...	1880	2,849,	11,446,	22,516,	5,566,
Holland ...	1881	271,	1,434,	792,	376,
Italy ...	1881	...	4,783,	8,596,	1,164,
Hungary ...	1880	1,819,	4,597,	9,252,	...
Norway ...	1875	152,	1,017,	1,686,	101,
Russia ...	1870	16,160,	22,770,	48,132,	9,800,
Sweden ...	1881	459,	2,192,	1,377,	419,
United States ...	1882	10,838,	41,172,	49,237,	43,270,

Live stock slaughtered.

964. The numbers of live stock slaughtered in Victoria are furnished by the local bodies, but it is probable the returns do not in every case include the animals slaughtered by private persons, and on farms and stations, and, therefore, that more were really slaughtered than the figures show. The following were the numbers returned for 1882 and 1883, those for the latter year being in every case larger than those for the former :—

LIVE STOCK SLAUGHTERED, 1882 AND 1883.

Year.	Cattle and Calves.	Sheep and Lambs.	Pigs.
1882 ...	296,562	2,082,845	120,124
1883 ...	245,522	1,926,559	99,513
Decrease ...	51,040	156,286	20,611

* For live stock in each Australasian colony, see third folding sheet *ante*, also Appendix A *post*.

965. The purposes to which the carcasses of the slaughtered animals were appropriated in 1883 were returned as follow :—

Purposes for which stock was slaughtered.

PURPOSES FOR WHICH LIVE STOCK WAS SLAUGHTERED, 1883.

Description of Live Stock.	Numbers Slaughtered for—			
	The Butcher and Private use.	Preserving or Salting.	Boiling down for Tallow.	Total.
Cattle and Calves ...	245,227	194	101	245,522
Sheep and Lambs ...	1,725,608	164,438	36,513	1,926,559
Pigs ...	67,199	32,314	...	99,513
Total ...	2,038,034	196,946	36,614	2,271,594

966. The quantity of wool produced in Victoria during the year 1883 may be set down as 65,930,000 lbs.,* valued at £4,148,500. These figures represent the excess of exports over imports during the year, to which is added the quantity and value of wool used in woollen mills. In the previous year, the quantity produced, similarly estimated, was 56,223,000 lbs., valued at £3,321,000.

Wool produced, 1882 and 1883.

967. The following is a statement of the quantity and value of wool produced in the various Australasian colonies in 1882. The estimate for each of the other colonies has been made upon the same principle as that for Victoria, viz., by substituting the difference between the imports and the exports for the entry as to the origin of the wool made at the Customs :—

Wool produced in Australasian colonies, 1882.

WOOL PRODUCED IN THE AUSTRALASIAN COLONIES, 1882.

(Excess of Exports over Imports.†)

Colony.	Quantity.	Value.
	lbs.	£.
Victoria ...	56,223,000	3,321,000
New South Wales ...	145,035,230	7,383,898
Queensland ...	24,763,149	1,329,019
South Australia ...	40,150,640	1,536,689
Western Australia ...	4,819,758	301,235
Tasmania ...	7,748,542	432,768
New Zealand ...	65,306,591	3,117,805
Total ...	344,046,910	17,422,414

* The quantity of Victorian wool exported in 1883, according to the Customs returns, was 93,075,349 lbs., or considerably more than the total quantity given above as produced in Victoria.—(See footnote on page 319 ante.) There is no doubt, however, that, in order to obtain the higher price generally realized in England and elsewhere for Victorian wool, much wool produced outside the colony is entered at the Customs as Victorian.

† In the case of Victoria, the wool manufactured in the colony has been also taken into account.

Wool pro-
duced in
each colony.

968. It appears by the figures that Victoria, in 1882, did not produce nearly half as much wool as New South Wales, and did not produce so much as New Zealand by 9 million pounds. She, however, produced 16 million pounds more than South Australia, and more than twice as much as Queensland; Western Australia, notwithstanding the immense extent of her territory, did not produce as much as the island of Tasmania.

Value of
pastoral
produce.

969. The following is an estimate of the gross value of pastoral produce raised on holdings of all descriptions in 1883-4 :—

VALUE OF PASTORAL PRODUCE, 1883-4.

Nature of Produce.	Value.
	£
Milk, butter, and cheese, from 332,565 milch cows kept, @ £8 10s. ...	2,826,802
Estimated value of stock produced in 1883 :—	
Cattle, 332,565, viz., 221,710, @ £8, and 110,855 (calves), @ 30s.	1,939,962
Sheep, 2,684,750, @ 7s. 6d.	1,006,781
Pigs, 70,060, @ £2 10s.	175,150
Horses, 13,340, @ £8	106,720
Excess of exports over imports of wool, Customs value	4,010,975
Estimated value of wool used in the colony for manufacturing purposes, 1,833,650 lbs., @ 1s. 6d.	137,524
Total	10,203,914

NOTE.—The principle on which the numbers of “stock produced” have been estimated is as follows:—It has been assumed that the increase of cattle amounted to one to every milch cow, and that one-third of the calves born were slaughtered for veal, the remainder taking the place of the older cattle slaughtered. The increase of sheep has been reckoned at 25 per cent. on the total number of both sexes over six months old in the colony, that being the proportionate increase ascertained by Mr. A. J. Skene, Surveyor-General of Victoria, to have taken place during a series of years on nearly $3\frac{3}{4}$ millions of sheep on 34 stations situated in various parts of the colony. The increase of pigs and horses has been arbitrarily estimated at 30 and 5 per cent. respectively upon the total numbers of such stock. The value per head set down for the different kinds of stock is intended to represent the average value per head of all the stock of each kind in the colony, young and old; for although the stock born in the year would be only six months old, on the average, when the year terminated, and would, consequently, not be of so high a value as the figures indicate, yet all the growing or fattening stock may be considered to have become more valuable during the year, and the increase of bulk, and consequently of value, of such stock may fairly be set down as part of the year's produce as much as the stock actually born therein, the numbers of the latter being taken as a basis whereto such values may be applied. The quantity of wool manufactured in Victoria has been ascertained from the various woollen mills. No estimate has been made of the value of meat, tallow, lard, hides, skins, horns, hoofs, bones, &c., as this is supposed to be included in the value of stock produced.

Flour mills.

970. In 1884, as compared with 1883, a decrease of 7 occurred in the number of mills worked by steam-power, but an increase of 265 in the horse-power of the steam machinery employed; the number of mills employing water-power increased from three to seven; the wheat operated upon increased by nearly $1\frac{1}{2}$ million bushels, but the other grain operated upon fell off by nearly 300,000 bushels. An increase of £3,400 took place in the estimated value of machinery, lands, and buildings, but there was a falling-off of 43 in the number of hands employed :—

FLOUR MILLS, 1883 AND 1884.

Year ended March.	Number of Mills.	Mills employing—		Amount of Horse-power of steam engines.	Number of Pairs of Stones.	Number of Hands employed.
		Steam-power.	Water-power.			
1883 ...	143	140	3	2,695	457	836
1884 ...	140	133	7	2,960	456	793
Increase	...	...	4	265	...	...
Decrease	3	7	...	...	1	43

Year ended March.	Grain operated upon.		Approximate Total Value of—		
	Wheat.	Other.	Machinery and Plant.	Lands.*	Buildings.
	bushels.	bushels.	£	£	£
1883 ...	6,397,738	628,116	223,125	61,757	181,445
1884 ...	7,850,506	337,830	225,520	66,537	177,700
Increase ...	1,452,768	...	2,395	4,780	...
Decrease ...	...	290,286	...	...	3,745

971. In 1881 the statistics were collected by the census sub-enumerators, and consequently it was possible to obtain more complete information than is supplied in ordinary years by the collectors employed by the local bodies, especially in regard to the values of materials operated upon and articles produced, which, in the case of the flour mills, were as follow :—

Value of materials used and produced.

FLOUR MILLS, 1880-81.

Value of materials operated upon	...	£1,412,099
Value of articles produced	...	1,651,351
Increased value	...	<u>£239,252, or 17 per cent.</u>

972. The breweries returned in the year under review were fewer by 8 than those in the former one; the falling-off was chiefly in those employing steam-power, which resulted in a decrease of 80 in the horse-power employed and of 67 in the number of hands at work. In regard to the materials used, an increase occurred in sugar and malt, but not a corresponding increase in hops; whilst a slightly larger quantity of beer was brewed. The value of machinery, plant, and

Breweries.

* The figures in this column apply to purchased lands only. Three of the mills were upon Crown lands. In these cases no valuation of the land has been given.

buildings fell off by over £78,000, which was only to a partial extent counterbalanced by an increase of £18,000 in the value of lands.

BREWERIES, 1883 AND 1884.

Year ended March.	Number of Breweries.	Breweries employing—				Amount of Horse-power of Steam Engines.	Number of Hands employed.	Materials used.		
		Steam- power.	Water- power.	Gas-power.	Manual Labour only.			Sugar.	Malt.	Hops.
1883 ...	78	55	2	...	21	505	927	lbs. 12,048,400	bushels. 594,534	lbs. 695,938
1884 ...	70	46	1	1	22	425	860	12,780,880	596,809	659,322
Increase	...	...	...	1	1	...	...	732,480	2,275	...
Decrease	8	9	1	...	...	80	67	...	...	36,616

Year ended March.	Beer made.	Approximate Total Value of—		
		Machinery and Plant.	Lands.*	Buildings.
1883 ...	gallons. 13,594,214	£ 142,725	£ 80,815	£ 241,120
1884 ...	13,729,371	125,420	98,950	179,890
Increase	135,157	...	18,135	...
Decrease	...	17,305	...	61,230

Value of
materials
used and
produced.

973. The value of the sugar, malt, and hops used, and of the beer made, were returned for the census year, but not since. The following are the figures given :—

BREWERIES, 1880-81.

Value of materials used	...	...	...	£ 442,885
„ of beer made	...	...	...	780,501
Increased value	...	...	...	<u>337,616, or 76 per cent.</u>

Consump-
tion of beer
per head.

974. The beer made in Victoria during 1883-4 amounted to 13,729,371 gallons, and the quantity imported, after deducting exports, was 846,154 gallons. These numbers give a total consumption of 14,576,000 gallons, or an average of 15½ gallons per head. In the previous year, the beer brewed and imported amounted to 14,491,000 gallons, or an average of 16 gallons per head.

Brickyards
and
potteries.

975. The large amount of building carried on in 1881-2, especially in Melbourne and suburbs, and the great demand for bricks resulting

* The figures in this column apply to purchased lands only. Two of the breweries in 1883 and three in 1884 were on Crown lands.

therefrom, led to the opening of a number of new brick-making works in that year. Three of these were closed in 1882-3, but the same number was again opened in 1883-4, and increases occurred in the power of steam engines used, in the number of hands employed, in the out-put of bricks, and in the value of pottery manufactured. Moreover, the valuation placed upon plant, lands, and buildings was higher by over £55,000 than in the previous year. A tendency is also noticed to substitute horses for manual labour. The following are the comparative figures of the last two years :—

BRICKYARDS AND POTTERIES, 1883 AND 1884.

Year ended March.	Number of Brick-yards and Potteries.	Number of Machines in use.		Brickyards employing—			Amount of Horse-power of Steam Engines.	Number of Hands employed.
		For tempering or crushing Clay.	For making Bricks or Pottery.	Machines Worked by—		Manual Labour.		
				Steam.	Horses.			
1883 ...	195	160	83	24	76	95	407	1,442
1884 ...	198	166	73	25	87	86	466	1,582
Increase	3	6	...	1	11	...	59	140
Decrease	...	...	10	...	...	9	...	...

Year ended March.	Number of Bricks made.	Approximate Total Value of—				
		Bricks made.	Pottery made.	Machinery and Plant.	Lands.*	Buildings.
		£	£	£	£	£
1883 ...	95,476,350	187,112	42,325	81,602	79,415	59,252
1884 ...	96,097,000	192,194	45,540	94,924	86,249	94,478
Increase	620,650	5,082	3,215	13,322	6,834	35,226
Decrease	...	...	...	...	...	...

976. Ten establishments for tanning and wool-washing were closed in 1883-4, and the returns show a decrease of 32 in the hands employed, and of £27,553 in the value of plant, lands, and buildings connected with that industry. The work done, however, notwithstanding a decrease in the number of skins stripped, was greater than in the previous year; the hides and skins tanned being larger in number by 143,321, and the wool obtained and washed by over 900,000 lbs. The following are the particulars of the two years :—

Tanneries, fellmongeries, &c.

* The figures in this column apply to purchased lands only. Thirty of the brickyards in 1883 and twenty-four in 1884 were on Crown lands. In these cases no estimate of the value of the land is given.

**TANNERIES, FELLMONGERIES, AND WOOL-WASHING ESTABLISHMENTS,
1883 AND 1884.**

Year ended March.	Number of Establishments.	Establishments employing—					Amount of Horse-power of Steam Engines.	Number of Hands employed.	Number of Tan Pits.
		Steam-power.	Wind-power.	Water-power.	Horse-power.	Manual Labour only.			
1883	166	58	1	1	15	91	653	1,786	3,920
1884	156	54	1	1	18	82	644	1,754	3,614
Increase ... ..	...	...	...	...	3	...	...	...	...
Decrease	10	4	...	...	...	9	9	32	306

Year ended March.	Number of Hides and Skins Tanned.	Number of Skins Stripped of Wool.	Wool obtained from Skins.	Other Wool Washed.	Approximate Total Value of—		
					Machinery and Plant.	Lands*.	Buildings.
			lbs.	lbs.	£	£	£
1883	1,674,108	2,068,745	4,975,225	7,033,213	114,198	64,249	144,611
1884	1,817,429	1,913,055	5,725,286	7,191,664	106,605	58,720	130,180
Increase	143,321	...	750,061	158,451	...	...	...
Decrease ... ..	...	155,690	...	...	7,593	5,529	14,431

Value of materials used and produced.

977. An estimate of the value of the materials used and articles produced in tanneries, fellmongeries, and wool-washing establishments was obtained at the census of 1881, but no later information exists respecting these values. The following are the figures :—

**TANNERIES, FELLMONGERIES, AND WOOL-WASHING ESTABLISHMENTS,
1880-81.**

Value of materials used	£1,008,531
„ articles produced	1,406,274
Increased value	<u>£397,743, or 39 per cent.</u>

Woollen mills.

978. The number of woollen mills in 1883-4 was 2 less than in the previous year, and a general decrease is noticeable in the goods manufactured, hands employed, and value of plant, lands, and buildings. A falling-off of over 200,000 lbs. occurred in the quantity of wool used, of 224,000 yards in the out-put of tweed, cloth, flannel, &c., and of 3,443 in the pairs of blankets made; 119 fewer hands were employed; and the value of the machinery, lands, and buildings was reduced by

* The figures in this column apply to purchased lands only. Nine of the establishments in 1883 and six in 1884 were on Crown lands. In these cases no valuation of the land has been given.

£23,000. The only increases in connexion with woollen mills were 250 in the amount of horse-power employed, and 259 in the number of shawls manufactured :—

WOOLLEN MILLS, 1883 AND 1884.

Year ended March.	Total Number of Woollen Mills.	Horse-power of Steam Engines.	Quantity of Wool used.	Goods Manufactured : Quantity of—		
				Tweed, Cloth, Flannel, &c.	Blankets.	Shawls.
			lbs.	yards.	pairs.	number.
1883 ...	9	495	2,034,654	1,055,015	5,974	...
1884 ...	7	745	1,833,650	830,604	2,531	259
Increase ...	...	250	...	...	...	259
Decrease ...	2	...	201,004	224,411	3,443	...

Year ended March.	Hands employed.		Approximate Total Value of—		
	Males.	Females.	Machinery and Plant.	Lands.	Buildings.
			£	£	£
1883 ...	477	336	159,449	7,082	66,394
1884 ...	398	296	144,594	4,032	60,874
Decrease ...	79	40	14,855	3,050	5,520

979. The value of the raw material used in woollen mills, and of the articles produced, was returned for the census year, but not since, the difference in favour of the manufactured articles being £79,298. The following are the figures :—

Value of articles used and produced.

WOOLLEN MILLS, 1880-81.

Value of materials used	...	...	£89,412
„ articles produced	...	...	168,710
Increased value	...	...	£79,298, or 89 per cent.

980. The soap and candle works returned in 1884 were fewer by 2 than those in 1883, and the hands employed were fewer by 55. The weight of candles made was less by nearly 24,000 cwt. than that in 1883, but the soap manufactured exceeded the quantity in that year by nearly 5,000 cwt.; the value of lands increased by £4,500, but a lower valuation by over £36,000 was placed upon the machinery and buildings :—

Soap and candle works.

SOAP AND CANDLE WORKS, 1883 AND 1884.

Year ended March.	Number of Establishments.	Establishments employing—		Amount of Horse-power of Steam Engines.	Number of Hands employed.	Soap made.	Candles made.	Approximate Total Value of—		
		Steam-power.	Manual Labour only.					Machinery and Plant.	Lands.*	Buildings.
1883 ...	31	23	8	327	472	cwt. 135,576	cwt. 62,158	£ 121,490	£ 19,954	£ 49,015
1884 ...	29	24	5	411	417	140,235	38,530	98,534	24,522	35,490
Increase ...	...	1	...	84	...	4,659	...	...	4,568	...
Decrease ...	2	...	3	...	55	...	23,628	22,956	...	13,525

981. The value of the raw material used, and of the articles produced, in soap and candle factories was returned for the twelve months preceding the census, with the following result. No later information exists on these points :—

SOAP AND CANDLE WORKS, 1880-81.

Value of raw materials used ...	...	£288,340
„ articles produced ...	...	450,924
Increased value ...	...	£162,584, or 56 per cent.

982. In 1884 the number of tobacco manufactories returned was one less than in the previous year, and the hands employed were fewer by 88 ; there was a considerable falling-off in the quantity of tobacco and snuff manufactured, but a large increase in the number of cigars and cigarettes made. The value of lands and buildings increased by £24,000, but the value of plant in use fell off by £8,000 :—

TOBACCO MANUFACTORIES, 1883 AND 1884.

Year ended March.	Number of Establishments.	Establishments employing—			Amount of Horse-power of Steam Engines.	Number of Hands employed.		Quantity of—		Number of Cigars and Cigarettes Manufactured.	Approximate Total Value of—		
		Steam-power.	Water-power.	Manual Labour.		Males.	Females.	Tobacco Manufactured.	Snuff Manufactured.		Machinery and Plant.	Lands.	Buildings.
1883 ..	14	5	1	8	61	592	263	lbs. 1,345,151	lbs. 2,605	6,153,200	£ 42,295	£ 36,313	£ 26,315
1884 ..	13	4	1	8	56	538	229	1,279,671	1,323	7,196,200	34,345	51,800	35,465
Increase ..	..	..	..	..	..	..	..	..	..	1,043,000	..	15,487	9,150
Decrease ..	1	1	..	..	5	54	34	65,480	1,282	..	7,950	..	..

* The figures in this column apply to purchased land only. Four of the establishments in 1883 and three in 1884 were on Crown lands. In these cases no valuation of the land has been given.

Value of articles used and produced.

Tobacco manufactories.

983. According to the census returns, the value of the articles produced in tobacco manufactories in 1880-81 showed an excess over that of the raw materials used of £72,870, which is equivalent to an increase of value by the process of manufacture amounting to 58 per cent. The following are the figures:—

TOBACCO MANUFACTORIES, 1880-81.

Value of materials used	...	...	£126,450
„ articles produced	...	...	199,320
			£72,870, or 58 per cent.

984. Seven distilleries were returned both in 1883 and 1884; but there was a falling-off in the horse-power of engines employed. Moreover, the hands employed were fewer by 10, and the quantity of spirits made was less by 19,000 gallons. An increase, however, of nearly £14,000 occurred in the valuation placed on machinery, lands, and buildings. The following are the figures for the two years:—

DISTILLERIES, 1883 AND 1884.

Years ended March.	Number of Distilleries.*	Amount of Horse-power of Steam Engines.	Number of Hands employed.	Spirits made.	Approximate Value of—		
					Machinery and Plant.	Land.	Buildings and Improvements.
1883 ...	7	150	74	gallons. 227,788	£ 24,850	£ 17,900	£ 22,500
1884 ...	7	96	64	208,450	30,500	24,100	24,300
Increase ...	...	...	...	...	5,650	6,200	1,800
Decrease ...	...	54	10	19,338	...	...	...

985. The manufactories and works, exclusive of those of which mention has already been made—viz., flour mills, breweries, distilleries, brickyards, potteries, tanneries, fellmongeries, wool-washing establishments, woollen mills, soap works, candle manufactories, and tobacco manufactories—were more numerous by 188 than those returned in 1883. It will be observed that increases took place in all the items respecting which the following table affords information, except the number of female workers, which decreased by 80, and the factories employing horse-power, which fell off by 2. The male hands employed were more numerous by 1,513; and the value of machinery, plant, lands, and buildings was greater by over £949,000 than in that year. The returns are subjoined:—

* All these establishments employ machinery worked by steam-power.

MANUFACTORIES, WORKS, ETC., 1883 AND 1884.

(Exclusive of Flour Mills, Breweries, Distilleries, Brickyards, Potteries, Tanneries, Fellmongeries, Wool-washing Establishments, Woollen Mills, and Soap, Candle, and Tobacco Manufactories.)

Year ended March.	Number of Manufactories, Works, &c.	Manufactories, &c., employing—						Amount of Horse-power employed.
		Steam.	Water.	Gas.	Wind	Horse-power.	Manual Labour only	
1883 ...	1,969	829	14	98	...	24	1,004	11,319
1884 ...	2,157	840	19	131	1	22	1,144	11,799
Increase ...	188	11	5	33	1	...	140	480
Decrease ...	...	...	...	...	..	2	...	...

Year ended March.	Number of Hands employed.		Approximate Total Value of—		
	Males.	Females.	Machinery and Plant.	Lands.	Buildings.
1883 ...	30,781	7,712	£ 2,846,154	£ 1,405,195	£ 2,200,266
1884 ...	32,294	7,632	3,137,321	1,961,329	2,302,148
Increase ...	1,513	...	291,167	556,134	101,882
Decrease ...	...	80	...	...	...

Manufactories of all descriptions.

986. By summarizing the returns of manufactories and works of all descriptions, including not only such as are embraced in the foregoing table, but also those excluded therefrom—viz., flour mills, breweries, distilleries, brickyards, potteries, tanneries, fellmongeries, wool-washing establishments, woollen mills, soap works, candle manufactories, and tobacco manufactories—it is found that during 1883-4 the number of establishments increased by 165, those using steam or gas by 24, the amount of horse-power by 990, the hands employed by 1,159, and the value of machinery, lands, and buildings by £895,000. The returns of the two years are contained in the following table:—

MANUFACTORIES, WORKS, ETC., 1883 AND 1884.

(Including Flour Mills, Breweries, Distilleries, Brickyards, Potteries, Tanneries, Fellmongeries, Wool-washing Establishments, Woollen Mills, Soap, Candle, and Tobacco Manufactories, as well as all other Manufactories, Works, &c.)

Year ended March.	Total Number of Establishments.	Number of Establishments using Steam or Gas Engines.	Horse-power of Engines.	Number of Hands employed.	Approximate Value of Lands,* Buildings, Machinery, and Plant.
1883 ...	2,612	1,248	16,612	45,698	£ 8,519,486
1884 ...	2,777	1,272	17,602	46,857	9,414,527
Increase ...	165	24	990	1,159	895,041

* In the case of establishments standing upon Crown lands no estimate of the value of the land is given. The number of such establishments was 238 in 1883, and 235 in 1884.

987. The manufacturing establishments of all kinds respecting which returns are obtained are named in the following table, and their numbers are given for 1880-81 and 1883-4. For the former, which was the census year, are also given the approximate values of the materials used and articles produced, and for the latter the number of hands employed and the approximate value of lands, buildings, machinery, and plant. The establishments are for the most part of an extensive character, the only exception being in cases where the existence of industries of an unusual or interesting nature might seem to call for notice. No attempt is made to enumerate mere shops, although some manufacturing industry may be carried on thereat. Were this done, the "manufactories" in the colony might be multiplied to an almost indefinite extent. It is customary to note all establishments where machinery worked by steam, gas, water, wind, or horse power is used. It is believed that a different system prevails in some of the neighbouring colonies, and that particulars of many establishments which in Victoria would not be considered worthy of notice find place in their returns :—

MANUFACTORIES, WORKS, ETC., 1881 AND 1884.

Description of Manufactory, Works, &c.	1880-81.			1883-4.		
	Number of Establishments.	Approximate Value of—		Number of Establishments.	Hands Employed.	Approximate Value of Machinery, Plant, Lands, and Buildings.
		Materials used.	Articles produced.			
		£	£			£
BOOKS AND STATIONERY.						
Account-book manufactories, manufacturing stationers	7	62,386	100,057	7	661	167,202
Printing establishments * ...	89	202,475	569,797	124	3,084	651,776
MUSICAL INSTRUMENTS.						
Organ-building establishments ...	2	3,500	8,050	3	28	6,725
Pianoforte manufactories ...	5	1,700	4,150	6	28	7,800
PRINTS, PICTURES, ETC.						
Picture-frame makers, carvers, and gilders	13	5,627	11,550	18	77	38,690
CARVING FIGURES, ETC.						
Modelling (architectural and figure), &c., works	11	3,584	8,900	6	23	8,770
Statuary works ...	...	...	...	1	...	...
Wood carving, turnery—works ...	10	4,965	10,800	11	54	13,235
DESIGNS, MEDALS, AND DIES.						
Diesinkers, engravers, medalists, trade-mark makers	6	3,350	9,200	5	51	16,700
Indiarubber stamp manufactories † ...	2	350	1,700	...	...	...

* Including paper-bag manufactories.

† Indiarubber stamps are now generally made by manufacturing stationers. See Books and Stationery above.

MANUFACTORIES, WORKS, ETC.—*continued.*

Description of Manufactory, Works, &c.	1880-81.			1883-4.		
	Number of Establishments.	Approximate Value of—		Number of Establishments.	Hands Employed.	Approximate Value of Machinery, Plant, Lands, and Buildings.
		Materials used.	Articles produced.			
		£	£			£
PHILOSOPHICAL INSTRUMENTS, ETC.						
Electric-lighting apparatus manufactories	...	...	...	2	60	27,441
Philosophical instrument manufactories	1	...	...	5	26	10,430
SURGICAL INSTRUMENTS.						
Surgical instrument, truss—manufactories	6	2,400	5,600	2	10	3,000
ARMS, AMMUNITION, ETC.						
Blasting powder, dynamite, &c.—manufactories	3	9,964	16,737	6	76	30,140
Fuze manufactory	1	...	...	1	...	...
Gunmakers	...	...	...	4	14	4,300
Shot manufactories	...	...	...	2	6	4,350
MACHINES, TOOLS, AND IMPLEMENTS.						
Agricultural implement manufactories	54	91,659	202,535	63	1,352	143,720
Bellows manufactories	1	...	...	2	16	2,100
Cutlery, tool—manufactories	3	800	2,400	7	32	12,486
Engine, machine—manufactories	74	115,069	282,025	69	2,415	401,761
Washing-machine manufactories	1	...	...	3	17	3,550
CARRIAGES AND HARNESS.						
Carriage lamp manufactories	3	900	2,950	2	23	3,390
Coach, waggon, &c.—manufactories	132	99,415	212,615	162	2,124	256,868
Perambulator manufactories	3	1,750	5,000	2	14	1,910
Saddle, harness—manufactories	47	35,792	81,130	62	593	87,054
Saddle-tree, &c., manufactories	4	2,400	6,860	1	...	...
Whip manufactories	3	940	2,950	3	23	2,680
SHIPS AND BOATS.						
Ship, boat—builders	10	3,570	14,614	13	111	15,015
Ships' wheels, blocks, &c.—manufactories	3	505	1,100	1	...	...
Floating-dock	1	...	...	6	191	437,018
Graving-docks	3	...	...	
Patent slips	2	...	...	
HOUSES, BUILDINGS, ETC.						
Lime works	21	6,560	17,216	25	235	8,983
Patent ceiling ventilator manufactories	2	250	1,600	2	11	4,050
Roof-covering composition manufactories	2	944	2,180	...	...	...
FURNITURE.						
Bedding and upholstery manufactories	11	9,000	18,980	13	63	19,030
Cabinet works, including billiard-table makers	63	131,000	258,188	78	1,516	233,254
Earth-closet manufactories	1	...	...	3	30	3,270
Iron-safe manufactories	2	670	970	3	19	3,940
Looking-glass manufactories	2	400	1,300	5	98	23,600

MANUFACTORIES, WORKS, ETC.—*continued.*

Description of Manufactory, Works, &c.	1880-81.			1883-4.		
	Number of Establishments.	Approximate Value of—		Number of Establishments.	Hands Employed.	Approximate Value of Machinery, Plant, Lands, and Buildings.
		Materials used.	Articles produced.			
CHEMICALS.						
Chemical works	6	£ 25,160	£ 43,600	15	217	£ 85,443
Dye works	6	1,130	7,150	14	86	24,097
Essential oil manufactories ...	4	1,825	3,900	5	33	4,440
Ink, blacking, blue, washing-powder, &c.—manufactories	12	37,280	58,560	6	121	36,462
Japanners ... ..	...	...	...	2	15	1,855
Paint, varnish—manufactories ...	1	...	...	3	22	16,229
Salt works	8	4,882	10,810	7	42	7,406
TEXTILE FABRICS.						
Woollen mills	10	89,412	168,710	7	694	209,500
DRESS.						
Boot manufactories	105	355,418	686,922	107	4,088	203,968
Clothing factories	63	370,181	761,401	87	5,552	347,111
Fur manufactories	3	4,300	6,900	6	51	5,545
Hat, cap—manufactories	22	34,753	66,264	21	530	77,675
Hosiery manufactory ... ..	...	...	...	1	...	...
Oilskin, waterproof-clothing—manufactories	5	900	5,700	5	53	3,480
Umbrella and parasol manufactories	9	13,180	24,825	12	168	46,890
Wig manufactory	1	...	...	...	...	...
FIBROUS MATERIALS.						
Rope, twine, mat, bag, sack—manufactories	18	66,975	102,280	13	523	84,573
ANIMAL FOOD.						
Cheese factories	28	17,733	31,586	30	130	25,922
Meat-curing establishments	16	192,150	258,790	26	593	79,905
Milk condensing works ... ..	...	...	...	1	...	...
VEGETABLE FOOD.						
Arrowroot, maizena, oatmeal, starch—manufactories	5	5,620	8,000	3	33	15,315
Biscuit manufactories	13	106,110	181,840	8	495	39,690
Confectionery works	8	61,600	88,800	16	431	72,570
Flour mills	144	1,397,099	1,637,351	140	793	469,757
Jam manufactories	9	67,480	99,230	17	160	31,523
Macaroni works	2	125	230	2	4	615
DRINKS AND STIMULANTS.*						
Aërated waters, gingerbeer, liqueur, &c.—works	114	91,849	196,810	130	823	187,850
Breweries	81	442,885	780,501	70	860	404,260
Coffee, chicory, cocoa, mustard, spice—works	12	235,355	322,786	14	267	136,275
Distilleries	6	26,368	44,500	7	64	78,900
Malthouses	14	67,635	98,000	19	104	64,358
Sauce, pickle—manufactories ...	11	8,450	18,340	9	100	8,410
Sugar, treacle—refineries	1	...	...	2	200	204,000
Tobacco, cigars, snuff—manufactories	16	126,450	199,320	13	767	121,610
Vinegar works	5	8,500	14,600	3	14	4,800

* Places where wine is made are not included. The number of wine presses returned in 1883-4 was 462.

MANUFACTORIES, WORKS, ETC.—*continued.*

Description of Manufactory, Works, &c.	1880-81.			1883-4.		
	Number of Establishments.	Approximate Value of—		Number of Establishments.	Hands Employed.	Approximate Value of Machinery, Plant, Lands, and Buildings.
		Materials used.	Articles produced.			
		£	£			£
ANIMAL MATTERS.						
Boiling-down, tallow-rendering—establishments	15	28,303	77,000	26	169	33,842
Bone mills and bone manure manufactories	15	50,225	70,845	14	56	16,196
Brush manufactories	10	21,900	40,800	10	162	19,145
Comb manufactory	1	...	...	...	...	...
Catgut manufactories	2	800	2,000	1	...	...
Curled hair manufactories	3	1,700	2,565	1	...	...
Flock manufactories	4	4,350	7,900	5	91	19,960
Glue, oil—manufactories	7	8,200	12,700	5	28	16,360
Morocco, fancy leather—manufactories	3	2,480	4,400	2	12	1,280
Portmanteau, trunk—manufactories	7	5,680	9,520	10	58	16,295
Soap, candle—works	38	288,340	450,924	29	417	158,546
Tanneries, fellmongeries, and wool-washing establishments	151	1,008,531	1,406,274	156	1,754	295,505
VEGETABLE MATTERS.						
Bark mills	8	17,000	25,650	5	18	3,440
Basket-making works	9	1,670	4,560	11	43	6,885
Blind (window) manufactories	12	5,500	11,750	11	107	12,265
Broom manufactories *	2	6,200	13,000	2	40	5,600
Chaff-cutting, corn-crushing—works†	165	357,232	516,623	195	886	185,844
Churn manufactories ... ..	...	...	...	3	12	2,650
Cooperage works	24	17,829	35,243	29	200	28,377
Cork manufactories	2	2,100	3,100	3	13	4,820
Fancy-box, hat-box—manufactories	5	3,080	6,745	6	104	10,710
Paper manufactories	3	24,300	47,370	2	193	89,350
Paper-bag manufactories ‡ ... ..	...	...	...	...	...	...
Saw mills, moulding, joinery, &c.—works	174	552,463	973,127	231	4,101	459,788
Tent, tarpaulin—manufactories	12	28,860	47,250	12	64	12,160
COAL.						
Gasworks	19	97,392	226,116	21	561	1,187,648
Patent fuel factory	1	...	...	...	...	...
STONE, CLAY, EARTHENWARE, AND GLASS.						
Artificial stone manufactories ... ..	...	...	...	1	...	...
Brickyards and potteries	165	...	137,834	198	1,582	275,651
Filter manufactories	1	...	...	2	13	4,300
Glass manufactories, works	9	12,705	41,150	5	187	21,250
Stone-breaking, asphalte, tar-pavement—works	9	10,640	27,783	9	281	16,890
Stone and marble sawing, polishing—works	43	50,583	104,614	40	639	81,170

* See also Brush factories under "Animal Matters" *supra*.

† All these establishments used machinery worked by steam, wind, or horse power. They must not be confounded with chaff-cutting and corn-crushing machines in use on farms, which numbered 16,109 in 1883-4.

‡ Included with Printing establishments. See Books and Stationery *ante*.

MANUFACTORIES, WORKS, ETC.—*continued.*

Description of Manufactory, Works, &c.	1880-81.			1883-4.		
	Number of Establishments.	Approximate Value of—		Number of Establishments.	Hands Employed.	Approximate Value of Machinery, Plant, Lands, and Buildings.
		Materials used.	Articles produced.			
WATER.*						
Ice manufactories	2	£ 2,000	£ 7,000	3	52	£ 31,500
GOLD, SILVER, AND PRECIOUS STONES.						
Electro-plating and gilding works ...	5	1,100	4,300	2	4	1,700
Goldsmiths and jewellers (manufacturing)	23	60,920	105,350	31	346	100,237
METALS OTHER THAN GOLD AND SILVER.						
Antimony and tin, &c., smelting works	6	32,396	48,610	5	31	5,460
Asbestos works ... ..	...	...	...	1	...	...
Bell foundry	1	...	...	1	...	...
Copper-smelting works	1	...	...	2	48	12,350
Iron and tin works	61	143,000	247,299	67	1,014	135,385
Iron, brass, and copper foundries ...	73	214,326	441,894	61	2,260	330,589
Lead works	5	17,850	23,800	1	...	...
Pyrites works	1	...	...	1	...	...
Type foundry	1	...	...	1	...	...
Wire-working establishments ...	10	3,650	9,800	7	58	10,450
Total where only one return was received for each of certain descriptions †	...	257,910	400,080	...	139	46,257
Total	2,468	7,997,745	13,370,836	2,777	46,857	9,414,527

988. The difference between the value of materials used and articles produced in 1880-81, as shown by the table, indicates an increase in the value of the former by the process of manufacture of over $5\frac{1}{3}$ millions sterling, or 67 per cent. The following are the exact figures:—

VALUE OF RAW AND MANUFACTURED MATERIALS, 1880-81.

		£
Value of materials operated upon	...	7,997,745
„ articles produced	...	13,370,836
		5,373,091, or 67 per cent.

* Works for the storage and supply of water are not included in the manufacturing tables. A table of waterworks follows paragraph 990 *post*.

† The particulars of these have been combined, in accordance with a promise made that the contents of individual schedules would not be published.

Summary of
manufac-
tories at
three
periods.

989. By comparing the particulars respecting these manufactories, as returned in 1884 and in the first year of each of the two previous quinquennia, large increases at each successive period will be found in all the columns. The number of establishments increased by 30 per cent. between 1874 and 1879, and by 19 per cent. between 1879 and 1884; the hands employed increased by 36 per cent. and 41 per cent. in those intervals respectively; and the value of machinery, plant, lands, and buildings increased by 51 per cent. in the first, and by 38 per cent. in the second, interval. The following is the comparison referred to:—

SUMMARY OF MANUFACTORIES, WORKS, ETC., 1874, 1879, AND 1884.

Year ended March.	Total Number of Establish- ments.	Number of Establishments using Steam or Gas.	Horse-power of Engines.	Number of Hands employed.	Approximate Value of Lands, Buildings, Machinery, and Plant.
1874 ...	1,803	771	11,036	24,411	£ 4,498,209
1879 ...	2,343	908	13,064	33,278	6,798,209
1884 ...	2,777	1,272	17,602	46,857	9,414,527

Waterworks.

990. Extensive works for the storage and supply of water for domestic, mining, and irrigation purposes have been constructed by the Government in various parts of the colony. The most important of these is the Yan Yean reservoir, together with the subsidiary reservoirs at Morang, Preston, and Essendon, by means of which Melbourne is provided with a supply of fresh water at a high pressure. The Yan Yean is an artificial lake situated 22 miles from the city, and 595 feet above its level, which covers an area of 1,360 acres, or rather more than two square miles. To meet the increased demand for water consequent upon the growth of the city and suburbs, a new channel has been formed for the purpose of turning into the reservoir another considerable stream of pure water, by which means all fear of the supply becoming exhausted in seasons of drought will be at an end. The following table contains a list of these works, also a statement of the estimated capacity of each work, and its actual or estimated cost. Some of these works have been completed, and others are in course of construction. It will be observed that the storage capacity of the whole is nearly thirteen thousand three hundred million gallons, and the cost nearly four millions sterling:—

WATERWORKS IN VICTORIA.

Name of Town or District to be supplied.	Reservoir.		Actual or Estimated Cost.
	Where situated.	Storage Capacity.	
		gallons.	£
Melbourne and suburbs	Yan Yean ...	6,400,000,000	1,800,000
	Morang (pipe head) ...	2,800,000	
	Preston (storage) ...	15,000,000	
	Essendon (storage 1) ...	1,000,000	
	" (" 2) ...	5,000,000	
	Caulfield (") ...	10,000,000	
Coliban Scheme, including Reservoirs at—	Malmsbury ...	2,841,000,000	917,419
	Expedition Pass ...	128,000,000	
	Old Post Office Hill ...	2,000,000	
	Barker's Creek, Harcourt	611,500,000	
	Red Hill ...	1,250,000	
	Spring Gully ...	149,000,000	
	Crusoe Gully ...	320,000,000	
	Big Hill ...	68,000,000	
	Taradale (tank) ...	65,000	
	Crocodile Gully ...	5,407,462	
	Spring Gully ...	7,000,000	
	Solomon's Gully ...	1,250,000	
	Big Hill, Pipe Head Reservoir	300,000	
Geelong and suburbs, including Reservoirs at—	Sparrowhawk, Pipe Head Reservoir	1,500,000	329,283
	Stony Creek (Old) ...	354,000,000	
	" (New) ...	143,000,000	
	Lovely Banks ...	6,000,000	
	Anakie (pipe head) ...	900,000	
Creswick ...	Newtown ...	500,000	14,692
	Bullarook ...	45,000,000	
Tarnagulla ...	Ashwell's Gully ...	8,000,000	232
	Adekate Creek ...	18,000,000	
Inglewood { (Old) (New)	Tarnagulla ...	8,000,000	1,401
	Inglewood ...	5,670,000	
Maryborough ...	" ...	13,792,000	4,562
	Maryborough ...	21,000,000	
Maldon ...	Maldon ...	17,500,000	4,037
	Lake Kerferd ...	191,360,000	
Beechworth ...	Barrambogie Springs ...	4,753,869	7,455
	Railway Tank ...	6,000	
Wangaratta ...	Tank at Railway Station	40,000	4,669
	Rutherglen ...	27,000,000	
Rutherglen ...	Oliver's Gully ...	19,615,554	5,000
	Langi-Ghiran ...	15,200,000	
	Mount Cole extension ...	*	
	Opossum Gully ...	24,621,547	
Beaufort ...	Beaufort ...	85,881,110	1,991
	Service Reservoir, Camp Hill	1,200,000	
Ballarat ...	Four and One Weir Basin in Bungaree	638,960,000	362,000
	Newlyn ...	265,000,000	
Clunes ...	Lerderderg River ...	64,441,237	81,784
Blackwood ...			1,090

* No reservoir (running stream).

WATERWORKS IN VICTORIA—continued.

Name of Town or District to be supplied.	Reservoir.		Actual or Estimated Cost.
	Where situated.	Storage Capacity.	
		gallons.	£
Buninyong ...	Buninyong ...	10,462,485	1,047
Ovens ...	Sandy Creek ...	70,000,000	2,835
Indigo ...	Suffolk Lead ...	1,701,562	437
Sandhurst ...	Grassy Flat (1) ...	58,860,375	5,821
	" (2) ...	26,769,369	
Kilmore ...	Kilmore ...	14,466,000	2,996
Myers Creek ...	Myers Creek ...	13,000,000	844
Echuca ...	Echuca (tank No. 1) ...	68,000	7,578
	" (tank No. 2) ...	70,000	4,053
Dunolly ...	Dunolly, Old Lead ...	17,200,000	1,912
	" Township ...	7,500,000	3,000
St. Arnaud ...	St. Arnaud ...	42,000,000	13,843
Redbank ...	Redbank ...	27,100,000	2,785
Lamplough ...	Lamplough ...	9,261,946	1,232
Talbot ...	Amherst ...	13,813,284	11,193
	Evansford ...	182,978,781	15,000
Wedderburn ...	Wedderburn ...	3,100,000	2,372
Chewton ...	Commissioner's Gully ...	7,000,000	1,203
Daylesford ...	Wombat Creek ...	31,284,413	2,527
Moyston ...	Campbell's Reef ...	5,400,000	1,141
Orville ...	Opossum Gully ...	2,000,000	250
	Quartz Reefs ...	9,725,627	1,229
	Pleasant Creek ...	7,905,750	805
	Four Posts ...	3,100,000	802
	Fyan's Creek ...	...	115,434
Service Reservoir ...	2,250,000		
Woodend ...	Newham ...	... *	5,023
Great Western ...	Great Western Dam ...	1,211,662	489
Elaine ...	Lal Lal ...	90,000,000	... †
Sebastopol ...	White Horse Ranges ...	4,830,904	2,862
	Linton ...	8,000,000	2,124
	Haddon ...	3,100,000	1,091
	Happy Valley... ...	2,350,995	623
	Piggoreet ...	600,000	79
	Kangaroo (Berringa) ...	1,000,000	171
	Cape Clear ...	400,000	68
	Staffordshire Reef ...	375,000	232
	Illabarook ...	3,069,000	408
	Rokewood Junction ...	480,000	198
	Lucky Woman's ...	125,000	43
Shire of Leigh ...	Rokewood ...	5,000,000	385
	Break-of-Day... ...	4,500,000	424
	Teesdale ...	4,000,000	313
Shire of Tullaroop ...	Chinaman's Flat ...	2,500,000	2,291
Rushworth ...	Rushworth ...	7,000,000	1,760
Homebush ...	Homebush ...	5,000,000	308
Hamilton ...	Hamilton ...	30,000,000	13,498
Melton ...	Melton ...	2,290,000	800
Barry's Reef ...	Barry's Reef ...	120,000	358
	Total ...	13,292,483,932	3,877,485

* No reservoir (pipe-head tank).

† Cost cannot at present be given.

991. The stone quarries returned in 1884 were more numerous by 14 than in 1883, and a large increase took place in nearly all the items connected therewith. The hands employed increased by 262, or by nearly 50 per cent.; the quantity of stone raised increased by 130,000 cubic yards, and its value increased by £29,000. The following are the figures for the two years :—

STONE QUARRIES, 1883 AND 1884.

Year ended March.	Number of Quarries.	Cubic Yards of Stone raised.					Steam Engines in use.	
		Bluestone.	Slate and Flagging.	Sandstone and Freestone.	Granite.	Limestone.	Number.	Horse-power.
1883	117	323,071	2,479	5,078	1,510	1,043	5	79
1884	131	419,890	1,585	29,900	1,200	10,600	10	118
Increase	14	96,819	...	24,822	...	9,557	5	39
Decrease	...	...	894	...	310	...	...	...

Year ended March.	Number of Hands employed.	Approximate Total Value of—			
		Stone raised.	Machinery and Plant.	Lands.*	Buildings.
		£	£	£	£
1883	610	65,573	12,856	11,983	2,543
1884	872	94,730	20,477	18,228	9,761
Increase	262	29,157	7,621	6,245	7,218

992. According to the estimates of the mining registrars, supplemented by returns of gold purchased in Melbourne from private holders, the gold raised in Victoria in 1883 was 808,530 oz.; but this evidently does not represent the entire quantity, as, by means of returns made to the Mining Department by the managers of banks and others, it has been ascertained that gold was purchased amounting to 1,517 oz. more, or to 810,047 oz. in all, which may be held to be a tolerably close approximation to the whole quantity raised during the year.

993. This quantity is less than that obtained in 1882 by 88,500 oz., representing, at £4 per oz., a value of £354,000. The following are the figures for the two years :—

* The figures in this column apply to purchased land only. Twenty-eight of the stone quarries in 1883 and twenty-four in 1884 were on Crown lands, and in these cases no valuation of the land has been given.

QUANTITY AND VALUE OF GOLD RAISED IN 1882 AND 1883.

Year.	Gold raised in Victoria.	
	Estimated Quantity.	Value, at £4 per oz.
	oz.	£
1882	898,536	3,594,144
1883	810,047	3,240,188
Decrease ...	88,489	353,956

Gold raised,
1871 to
1883.

994. From 1871 to 1879 the quantity of gold raised from year to year had been steadily diminishing, but in the next three years an improvement took place, which, however, was not sustained in 1883, the yield in that year again showing a considerable falling-off, and being less than in any other year since 1851, except 1877, 1878, and 1879. The following figures give an estimate of the quantity of gold raised in 1871 and each subsequent year :—

ESTIMATED QUANTITY OF GOLD RAISED, 1871 TO 1883.

			oz.				oz.
1871	...	...	1,355,477	1878	...	...	775,272
1872	...	...	1,282,521	1879	...	...	758,947
1873	...	...	1,241,205	1880	...	...	829,121
1874	...	...	1,155,972	1881	...	...	858,850
1875	...	...	1,095,787	1882	...	...	898,536
1876	...	...	963,760	1883	...	...	810,047
1877	...	...	809,653				

Cause of
decreased
yield of
gold.

995. The decrease in the yield of gold for 1883 is attributed by the Hon. J. F. Levien, Minister of Mines, "partly to the further exhaustion of the auriferous deposits in the older gold-fields, and to a decrease in the yields from quartz lodes at Ballarat, Stawell, Egerton, and Dunolly, and also to the difficulty encountered in the sinking of shafts and opening up of the more recently discovered auriferous leads beneath the basalts in the Smeaton portion of the Ballarat district."*

Gold raised,
1851 to
1883.

996. Carrying on to the end of 1883 the calculations given in previous years, the following may be estimated as the total quantity and value of the gold raised in Victoria from the period of its first discovery in 1851. The figures give an average per annum during the whole period of about 1,582,000 oz., which is nearly twice the quantity raised in 1883 :—

* See memorandum dated 15th March, 1884, on page 5 of the *Mineral Statistics of Victoria, 1883*; Parliamentary Paper No. 37, Session 1884.

ESTIMATED TOTAL QUANTITY AND VALUE OF GOLD RAISED IN VICTORIA, 1851 TO 1883.*

Gold raised in Victoria.		Estimated Quantity.	Value, at £4 per oz.
		oz.	£
Prior to 1883	...	51,404,103	205,616,412
During 1883	...	810,047	3,240,188
Total	...	52,214,150	208,856,600

997. The quantity of gold raised in all the Australasian colonies, from the period that deposits of that metal were first discovered in 1851 to the end of 1882, is estimated to have amounted to 75 million oz., valued at 295 million pounds sterling. The following table, which has been compiled in the office of the Government Statist, Melbourne, contains particulars of the quantity and value of the gold produced in each colony during that period. Western Australia is absent from the list, since little, if any, gold has yet been discovered there:—

Gold raised in Australasian colonies.

PRODUCE OF GOLD IN AUSTRALASIAN COLONIES.†

Colony.	Gold produced.					
	Prior to 1882.		During 1882.		Total.	
	Estimated Quantity.	Value.	Estimated Quantity.	Value.	Estimated Quantity.	Value.
	oz.	£	oz.	£	oz.	£
Victoria ...	50,505,567	202,022,268	898,536	3,594,144	51,404,103	205,616,412
New South Wales	9,181,269	34,027,114	129,233	491,594	9,310,502	34,518,708
Queensland ...	3,646,170	13,411,511	230,090	829,655	3,876,260	14,241,166
South Australia	101,575	404,378	15,668	62,466	117,243	466,844
Total of Australia	63,434,581	249,865,271	1,273,527	4,977,859	64,708,108	254,843,130
Tasmania ...	240,029	928,047	49,122	187,337	289,151	1,115,384
New Zealand ...	9,822,755	38,461,423	230,893	921,664	10,053,648	39,383,087
Total of Australasia	73,497,365	289,254,741	1,553,542	6,086,860	75,050,907	295,341,601

* For a statement of the estimated quantity and value of gold raised in each year, see Statistical Summary of Victoria (first folding sheet) *ante*.

† The figures for Victoria and New South Wales express the quantity and value of all the gold raised in those colonies since its discovery in 1851; those for Queensland represent the exports of Queensland gold seaward since 1859, when that colony was separated from New South Wales; those for South Australia express the quantity and value of gold from that colony received at the Melbourne and Sydney Mints; those for New Zealand express the total exports of gold from that colony; and those for Tasmania express the quantity raised since 1866, there being no record of the quantity of gold raised prior to that period.

Gold produce
of the
world.

998. According to Mr. Mulhall,* the value of the gold produced in the different countries of the world during the 50 years ended with 1880 was as follows:—

GOLD PRODUCE OF THE WORLD, 1830 TO 1880.

Countries.		Value of Gold raised. (000,000's omitted.)	Percentage.
		£	
Spanish America ...	...	310,	21·5
United States ...	...	286,	19·7
Australia ...	...	258,	17·8
Russia ...	...	173,	12·0
Brazil ...	...	145,	10·0
Africa ...	...	104,	7·1
Austria ...	...	65,	4·4
Other countries ...	...	107,	7·5
Total ...	...	1,448,	100·0

Gold derived
from allu-
vial and
quartz
workings.

999. The returns of the mining surveyors and registrars give an account of 808,530 oz. of the gold which was raised in Victoria during 1883. Of this, 492,823 oz. was obtained from quartz reefs, and 315,707 oz. from alluvial deposits. These figures, as compared with those for the previous year, show a decrease of 19,709 oz. in the yield of alluvial workings, and of 36,371 oz. in that of quartz reefs. The respective proportions of quartz and alluvial gold raised were 59 and 41 per cent. in 1882, and 60 and 40 per cent. in 1883.

Value of gold
per miner.

1000. The value of gold raised in proportion to the number of miners at work † fell to its lowest point in 1879, but since then it had been increasing until 1883, when the proportion was lower than in the two preceding years, but was higher than in any other year since 1875. During the 13 years ended with 1883 the average per miner was highest in 1875, when it exceeded that in 1883 by £8 18s. 0½d., and was lowest in 1879, when it was less than that in 1883 by £19 5s. 1¼d. The following figures, which have been taken from the reports of the Secretary for Mines, express this proportion for each of those years:—

VALUE OF GOLD PER MINER, ‡ 1871 TO 1883.

	£	s.	d.		£	s.	d.
1871 ...	93	6	1½	1878 ...	82	12	11½
1872 ...	93	17	1½	1879 ...	76	1	2¼
1873 ...	93	16	2½	1880 ...	81	18	11¾
1874 ...	99	8	3	1881 ...	95	11	9½
1875 ...	104	4	4	1882 ...	95	19	7¾
1876 ...	89	19	6¾	1883 ...	95	6	3½
1877 ...	82	6	1¾				

* *Mulhall's Dictionary of Statistics*, page 220: London, Routledge and Sons, 1884.

† For the number of gold miners at work in 1883, see paragraph 109 *ante*.

‡ These amounts are sometimes incorrectly spoken of as the "average earnings" of the miners. I have pointed out on former occasions that, as a very large proportion of the miners are working on wages, the gold they raise no more represents their individual earnings than do the products of a manufactory represent the earnings of its operatives.

1001. The same reports show that, in proportion to the number of miners engaged in alluvial and quartz mining, the yield of gold from the latter is generally more than twice as large as that from the former. The following are the figures for the last seven years :—

Value of gold per alluvial and quartz miner.

VALUE OF GOLD PER ALLUVIAL AND QUARTZ MINER, 1877 TO 1883.

	Alluvial Miners.			Quartz Miners.		
	£	s.	d.	£	s.	d.
1877	47	8	0 $\frac{1}{4}$	139	12	0 $\frac{1}{4}$
1878	47	3	6 $\frac{3}{4}$	138	7	7 $\frac{1}{4}$
1879	48	10	1 $\frac{1}{2}$	118	8	7
1880	49	14	2	129	11	7 $\frac{3}{4}$
1881	62	0	9 $\frac{3}{4}$	141	19	2 $\frac{1}{2}$
1882	68	14	1 $\frac{1}{2}$	131	19	5 $\frac{1}{2}$
1883	66	4	4	132	13	2

1002. Up to the end of June, 1883, £57,146 had been expended by the Government on the purchase and working of diamond drills, viz., £76 in 1877-8; £8,724 in 1878-9; £3,448 in 1879-80; £6,858 in 1880-81; £20,000 in 1881-2; and £18,040 in 1882-3. The Government allow the use of the drills and appliances free of all rent charges, and subsidize companies employing them for gold mining to the extent of one-half, and for coal mining to the extent of two-thirds, of the necessary expenses incurred in renewals, repairs, and working the machinery; provided such companies are engaged in prospecting operations and are not working their mines profitably. But the cost of all necessary tubing is borne entirely by the company employing the drill.

Diamond drills.

1003. Of the steam engines employed in connexion with gold mining, about a fifth are used on alluvial and four-fifths on quartz workings. The following is the number of engines in use and their horse-power in each of the last ten years :—

Steam engines used in mining.

STEAM ENGINES USED IN GOLD MINING, 1874 TO 1883.

Number.		Horse-power.		Number.		Horse-power.	
1874	1,141	24,866	1879	1,024	22,509		
1875	1,101	24,224	1880	1,030	22,499		
1876	1,081	23,947	1881	1,034	23,379		
1877	1,067	23,416	1882	1,074	24,692		
1878	1,036	22,711	1883	1,087	25,933		

1004. The number of mining machines of all descriptions decreased from 4,149 in 1882 to 3,768 in 1883; and the value of such machines, as estimated by the Department of Mines, decreased from £1,953,466 in 1882 to £1,897,129 in 1883.

Mining machinery.

Auriferous reefs.

1005. The number of quartz reefs proved to be auriferous as returned by the mining surveyors and registrars is 3,683 in 1882, and 3,779 in 1883. It has been pointed out, however, that these cannot in every case be distinct reefs, as parts of the same reef in different localities are held to be independent veins, and named accordingly; and, moreover, as the lines of reef are further explored, it is found that what were supposed to be separate reefs are in reality not distinct.

Extent of auriferous ground.

1006. The approximate area of auriferous ground worked upon was stated to be 1,305 square miles in 1882, and 1,354 in 1883. The figures are derived from estimates, not from actual surveys, and they vary from year to year. As the shallow alluvia of the older gold-fields are abandoned by the miners, they are often occupied by agriculturists and gardeners, and ground which one year is included in the area embraced in gold-workings is properly excluded in another.

Average yield of quartz.

1007. It is impossible to obtain an exact statement of the yield of auriferous quartz in any year, owing to the fact that many of the owners of machines for crushing quartz are unable to give, or are precluded from giving, information respecting their operations. The officers of the Mining Department, however, succeeded in obtaining particulars respecting the crushing of 1,027,826 tons in 1882, and 924,431 tons in 1883. The average yield per ton of these crushings was 9 dwt. 0·44 gr. in the former, and 9 dwt. 12·82 gr. in the latter, year. From similar estimates, extending over a series of years, and embodying information respecting the crushing of more than 20,000,000 tons of quartz, an average is obtained of 10 dwt. 14·12 gr. of gold to the ton of quartz crushed.

Deep quartz mining.

1008. At least 17 of the shafts sunk in Victoria in search of auriferous quartz have attained depths exceeding 1,000 feet. The deepest shaft in the colony is the Magdala at Stawell, which is 2,409 feet, or nearly half a mile, deep, and other shafts in the same locality are 1,940, 1,830, 1,815, 1,770, 1,565, and 1,326 feet from the surface; at Sandhurst there are shafts 1,993, 1,778, 1,563, 1,490, 1,483, and 1,450 feet deep respectively; at Maldon, there is one 1,220 feet deep; and at Clunes, there is one shaft 1,210 and another 1,193 feet deep.

Yield from deep mines.

1009. The yield of gold from 2,306 tons of quartz obtained at Stawell from a depth of 1,200 feet averaged 8 dwt. per ton; 8,273 tons at Ballarat, at depths varying from 590 to 1,205 feet, averaged from 5 dwt. to 8 dwt. 19 gr. per ton; 87,347 tons at Sandhurst, at various depths between 500 and 1,306 feet, averaged from 7 dwt. 1 gr. to 2 oz. 6 dwt. 14 gr. per ton; 20,521 tons at Castlemaine, at depths varying from 300 to 745 feet, gave a yield of from 6 dwt. 11 gr. to

6 oz. 18 dwt. 1 gr. per ton; 31,987 tons at Maryborough, at depths varying from 300 to 820 feet, gave a yield of from 5 dwt. to 3 oz. per ton; 22,727 tons at Stringer's Creek, in Gippsland, at depths varying from 300 to 723 feet, yielded from 17 dwt. 23 gr. to 1 oz. 17 dwt. 7 gr. per ton; and 5,224 tons at Beechworth, at depths varying from 300 to 600 feet, yielded from 4 dwt. 17 gr. to 17 dwt. 2 gr. per ton.*

1010. The number of gold-mining companies registered in 1883 was 171, the nominal capital of which was £2,262,293, and the number of shares 3,936,990. These figures are smaller than those for 1882 by 83 in the number of companies registered, by £750,000 in the nominal capital, and by over 1½ million in the number of shares. In the seven years prior to 1883 there were, altogether, 1,494 mining companies registered, with a nominal capital amounting in the aggregate to £17,256,358, distributed amongst 27,316,852 shares. Gold-mining companies.

1011. Since the first issue of gold-mining leases, the total number granted has been 13,640, giving the right to mine over an area amounting in the aggregate to 252,686 acres. Of these leases, 613, for 12,524 acres, were granted in 1883, and 1,698, for 32,083 acres, were in force at the end of that year. Gold-mining leases.

1012. At the end of 1883, the following leases of Crown lands, conferring the privilege of working for minerals and metals other than gold, were in force:— Leases for other minerals.

LEASES FOR MINERALS AND METALS OTHER THAN GOLD, 1883.

Metals and Minerals.	Leases in force at end of 1883.	
	Number.	Area.
		acres.
Antimony	16	240
Coal	16	9,022
Copper and the ores of copper	9	1,040
Gypsum	1	18
Lignite	1	471
Manganese	1	42
Slate	2	30
Slate and flagging	2	28
Ironstone	2	653
Tin and the ores of tin	49	4,728
Lead	3	507
Lead and silver	2	440
Red ochreous clay	1	2
Marble	3	30
Total	108	17,251

* See Report of the Acting Secretary for Mines on *Mineral Statistics*, 1883; Parliamentary Paper, No. 37, Session 1884.

Leases for other minerals, 1882 and 1883.

1013. The leases in force at the end of 1883, as shown in the table, were fewer by 27, and the area comprised therein was smaller by 2,369 acres, than at the end of 1882. The leases for antimony mining fell off by 6, and those for tin mining by 27; but those for coal mining were more numerous by 2 than in the previous year.

Minerals other than gold raised.

1014. According to the estimate of the Mining Department, the following are the values of metals and minerals other than gold raised in Victoria from 1851 to the end of 1883. Of these productions, the value in 1883 amounted to £22,334 :—

VALUE OF METALS AND MINERALS OTHER THAN GOLD,
1851 TO 1883.

			£				£
Silver	...	...	59,484	Slates	...	...	940
Tin	...	...	361,074	Gypsum	...	...	7
Copper	...	...	105,559	Magnesite	...	...	12
Antimony	...	...	167,495	Ores, mineral earthy clays, &c., unenumerated	...	...	10,901
Lead	...	...	4,922	Diamonds	...	...	108
Iron	...	...	11,636	Sapphires, &c.	...	...	630
Coal	...	...	14,119				
Lignite	...	...	2,895				
Kaolin	...	...	7,444				
Flagging	...	...	59,761				
				Total	...	...	806,987

Miners for minerals other than gold.

1015. There was a considerable falling-off in the number of men engaged in mining for tin and antimony in 1883 as compared with 1882; but miners for ironstone increased from 60 to 168,* and those for coal from 4 to 48. The following, according to the estimate of the Mining Department, is the number of men engaged in mining for various kinds of minerals or metals other than gold † at the end of 1883 :—

MINERS FOR MINERALS OTHER THAN GOLD.

			Number of Miners.				Number of Miners.
Tin	...	...	19	Slate and flag	...	...	41
Antimony	...	...	20	Lignite	...	...	12
Ironstone	...	...	168				
Kaolin	...	...	10				
Lead	...	...	4				
Coal	...	...	48				
				Total	...	...	322

Value of mining lands leased.

1016. The value of lands held under the by-laws of the various mining districts, and under lease from the Crown, is estimated by the Mining Department to have been £7,394,167 in 1882, and £6,909,033 in 1883.

* A bonus of £1,000 offered by Parliament for the first 500 tons of pig iron produced by the continuous operation of any mine in Victoria was obtained by a Ballarat company in 1880-81. The quantity of iron produced in 1883 was 600 tons.

† For number of gold miners, see paragraph 109 *ante*.

1017. The revenue derived from the gold-fields amounted to £22,543 in 1882 and £21,644 in 1883. The amount in the latter year was made up of the following items :—

Revenue from gold-fields.

REVENUE FROM GOLD-FIELDS, 1883.

					£
Miners' rights	...	...	...	...	5,427
Business licences	...	...	...	...	407
Rents for leases of auriferous mineral lands	...	...	...	...	15,092
Water-right and searching licences	...	...	...	...	718
Total	...	...	...	...	21,644

1018. A statement is subjoined of the amounts advanced from the revenue on loan to companies and individuals in order to assist in the development of the mining industry in the years named; also, of the amount repaid to the end of June, 1883 :—

State aid to mining companies, &c.

					£
Amount advanced, 1875-6	...	...	...	...	1,500
" " 1877-8	...	...	...	...	250
" " 1878-9	...	...	...	...	18,800
" " 1879-80	...	...	...	...	500
Total	...	...	...	...	21,050
Amount repaid, 1880-81	...	£737	}	...	977
" " 1881-2	...	240		...	977
Balance outstanding	...	...	...	...	20,073

1019. The weekly rates of wages paid for different descriptions of mining labour in the year 1883 are thus quoted by the Mining Department :—

Wages of miners, &c.

RATES OF MINING LABOUR,* 1883.

	Per Week, without Rations.		Per Week, without Rations.
General manager	... £2 to £12	Carpenter	... £2 to £3 12s.
Legal manager	... 10s. to £6	Foreman of shift	... £2 to £3
Mining manager	... £2 to £8	Miner	... £1 10s. to £2 15s.
Engineer	... £2 to £5	Surface man (labourer)	£1 10s. to £2 15s.
Engine-driver	... £2 to £3 10s.	Boy	... 15s. to £2
Pitman	... £2 to £4	Chinese	... 12s. to £2
Blacksmith	... £1 15s. to £3		

1020. The estimated value of the produce raised from Victorian mines and quarries in 1883 is summarized as follows :—

Value of mining produce.

VALUE OF MINING PRODUCE, 1883.

					£
Gold	...	...	...	...	3,240,188
Other metals and minerals	...	...	...	...	22,334
Stone from quarries	...	...	...	...	94,730
Total	...	...	...	...	£3,357,252

* See also table of Wages following paragraph 346 ante.

Agricultural,
pastoral,
and mining
produce.

1021. The estimated value of the agricultural, pastoral, and mining produce raised in Victoria during each of the last ten years is given in the following table. It should be borne in mind that the prices of agricultural and pastoral produce, on which the value mainly depends, fluctuate from year to year.* In several of the years the value of the pastoral produce was greater than that of the other two industries combined :—

VALUE OF AGRICULTURAL, PASTORAL, AND MINING PRODUCE,
1874 TO 1883.

Year.	Estimated Value of—			Total.
	Agricultural Produce.	Pastoral Produce.†	Mining Produce.	
	£	£	£	£
1874 ...	4,410,436	9,840,562	4,740,679	18,991,677
1875 ...	4,835,894	9,541,551	4,475,876	18,853,321
1876 ...	5,574,239	10,069,570	3,949,135	19,592,948
1877 ...	5,792,898	8,652,471	3,322,264	17,767,633
1878 ...	4,912,745	8,360,265	3,211,990	16,485,000
1879 ...	5,875,313	6,375,965	3,136,527	15,387,805
1880 ...	5,395,021	9,855,800	3,397,661	18,648,482
1881 ...	5,893,874	8,684,218	3,533,658	18,111,750
1882 ...	6,439,972	9,297,812	3,681,245	19,419,029
1883 ...	7,372,143	10,213,914	3,357,252	20,943,309

Agricultural,
pastoral,
mining, and
manufac-
turing pro-
duce.

1022. The census taken on the 3rd April, 1881, enabled an approximate return to be made of the value of articles manufactured in the twelve months prior to that date, and the net result has already been stated to be £5,373,091.‡ If, on the assumption that the value of manufacturing produce was about the same in 1883 as in the census year, this amount be added to the figures in the lowest line of the last column in the above table, a total of the gross value of agricultural, pastoral, mining, and manufacturing produce will be obtained for the year 1883, amounting in the aggregate to £26,316,400.

Patents

1023. The patents for inventions applied for in 1883 numbered 249, as against 242 in the previous year. Since 1854 the total number of patents applied for has been 3,650.

Copyrights.

1024. The Victorian Copyright Act (33 Vict. No. 350) came into force in December, 1869. Since then the following copyrights have been registered :—

* For prices of agricultural produce in different years, see table following paragraph 947 *ante*.

† The pastoral produce referred to is that derived from the live stock kept by both farmers and squatters.

‡ See paragraph 988 *ante*.

COPYRIGHTS, 1870 TO 1883.

Subject of Copyright.	Copyrights Registered.		
	Prior to 1883.	During 1883.	Total.
DESIGNS.			
Articles of manufacture, chiefly of—			
Metals	202	7	209
Wood, stone, cement, or plaster ...	44	...	44
Glass	8	...	8
Earthenware	3	...	3
Ivory, bone, papier-maché, &c. ...	28	1	29
Woven fabrics	12	1	13
Miscellaneous	15	...	15
LITERARY PRODUCTIONS.			
Literary works	1,107	369	1,476
Dramatic „	64	3	67
Musical „	80	2	82
WORKS OF ART.			
Paintings	4	...	4
Drawings	20	...	20
Engravings	753	81	834
Photographs	901	26	927
Sculpture	2	...	2
Total	3,243	490	3,733

1025. Provision for the registration of trade-marks was established under the Trade-marks Registration Act 1876 (40 Vict. No. 539), which came into operation on the 22nd September of that year. The registration of a person as the proprietor of a trade-mark is *prima facie* evidence of his right to its exclusive use, subject to the provisions of the Act as to its connexion with the good-will of a business. From the period of the commencement of the Act to the end of 1883, 786 trade-marks were submitted for registration, and 596 were registered. During the year 1883, the number submitted was 187, and the number registered 148. Trade-marks.

PART VI.—ACCUMULATION.

1026. The coins in circulation in Victoria are in all respects the same as those used in the United Kingdom. The accounts are kept in sterling money (£ s. d.). Coins and accounts.

1027. A branch of the Royal Mint was established in Melbourne in 1872. The premises occupy 2 acres 1 rood and 26 perches of land, valued in October, 1880, at £8,500; the original cost of the buildings, machinery, fittings, and furniture, was £68,350.* Royal Mint.

* See Amended Return to an order of the Legislative Assembly, Parliamentary Paper C.—No. 4*. Session 1880.